HUMAN GROWTH AND DEVELOPMENT
CONSIDERATIONS IN
REHABILITATION COUNSELING
INCLUDES INSTRUCTOR’S MANUAL WITH DISCUSSION & EXAM QUESTIONS

Edited By
Amos Sales, Ed.D., CRC, NCC
Arizona Licensed Psychologist
University of Arizona

SUBSTANCE ABUSE:
TREATMENT AND REHABILITATION
INCLUDES INSTRUCTOR’S MANUAL WITH DISCUSSION & EXAM QUESTIONS

Edited By
Joseph F. Stano, Ph.D., CRC, LRC
SPRINGFIELD COLLEGE

Aspen Professional Services
jandrew@socket.net
aspenprofessionalservices.com
SECURING ADDITIONAL COPIES
OF
THE DISABILITY HANDBOOK
Two Thousand Twelve Edition

TO OBTAIN ADDITIONAL COPIES OF THE TWO THOUSAND TWELVE EDITION, CONTACT:

Ms. Danielle Sexton
College of Education
University of Arkansas
Fayetteville, AR 72701
(479) 575-4758
(479) 575-3319 FAX
dsexton@uark.edu

OR

Dr. Jason Andrew
Aspen Professional Services
63 Duffers Drive
Linn Creek, MO 65052
(573) 317-0907
(573) 286-0418 Cell
(573) 873-2116 Fax
jandrew@socket.net
aspenprofessionalservices.com

2012 EDITION
# TABLE OF CONTENTS

Ordering Information ........................................................................................................i
Table of Contents ...........................................................................................................ii
Contributors ...................................................................................................................v
Preface .............................................................................................................................vi

**Chapter 1** Affective Disorders (Depression/Bipolar) .................................................1

**Chapter 2** Aging and Disability ..................................................................................6

*Darwin Shane Koch, Rh.D., CRC; Quintin Boston, M.A.; D. Gent Dotson, M.A.*

**Chapter 3** Albinism ....................................................................................................10

*Noel Estrada-Hernandez, Ph.D., CRC*

**Chapter 4** Alcohol and Other Drug Abuse Disabilities .............................................14

*Darwin Shane Koch, Rh.D., CRC*

**Chapter 5** Allergies ..................................................................................................19

**Chapter 6** Amputations ............................................................................................22

**Chapter 7** Arthritis ...................................................................................................26

**Chapter 8** Asperger’s Syndrome .............................................................................30

**Chapter 9** Asthma ....................................................................................................33

**Chapter 10** Autism (Adult) ......................................................................................35

**Chapter 11** Burns ....................................................................................................40

**Chapter 12** Cancer ...................................................................................................42

**Chapter 13** Cardiovascular Disorders ......................................................................45

**Chapter 14** Carpal-Tunnel Syndrome ......................................................................49

**Chapter 15** Cerebral Palsy ......................................................................................51

**Chapter 16** Delusional (Paranoid) Disorders ...........................................................55

**Chapter 17** Diabetes Mellitus ..................................................................................58

**Chapter 18** Eating Disorders ..................................................................................62

**Chapter 19** Fatigue Syndrome, Chronic .................................................................65

**Chapter 20** Fibromyalgia .........................................................................................70

*M. Jean Andrew, J.D.*

**Chapter 21** Fractures ..............................................................................................74

**Chapter 22** Hearing Impairments ............................................................................77
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Hemophilia</td>
<td>82</td>
</tr>
<tr>
<td>24</td>
<td>H.I.V. (Aids)</td>
<td>84</td>
</tr>
<tr>
<td>25</td>
<td>Learning Disorders</td>
<td>87</td>
</tr>
<tr>
<td>26</td>
<td>Chronic Low Back Pain</td>
<td>91</td>
</tr>
<tr>
<td>27</td>
<td>Mental Retardation- Intellectual Disability</td>
<td>94</td>
</tr>
<tr>
<td>28</td>
<td>Motor Neuron Diseases</td>
<td>97</td>
</tr>
<tr>
<td>29</td>
<td>Movement Disorders</td>
<td>100</td>
</tr>
<tr>
<td>30</td>
<td>Multiple Sclerosis</td>
<td>108</td>
</tr>
<tr>
<td>31</td>
<td>Obesity</td>
<td>112</td>
</tr>
<tr>
<td>32</td>
<td>Pain</td>
<td>114</td>
</tr>
<tr>
<td>33</td>
<td>Personality Disorders</td>
<td>120</td>
</tr>
<tr>
<td>34</td>
<td>Post-Polio Syndrome</td>
<td>127</td>
</tr>
<tr>
<td>35</td>
<td>Posttraumatic Stress Disorder</td>
<td>130</td>
</tr>
<tr>
<td>36</td>
<td>Renal-Kidney Disease</td>
<td>134</td>
</tr>
<tr>
<td>37</td>
<td>Respiratory Disorders</td>
<td>137</td>
</tr>
<tr>
<td>38</td>
<td>Schizophrenic Disorders</td>
<td>140</td>
</tr>
<tr>
<td>39</td>
<td>Seizure Disorder (Epilepsy)</td>
<td>148</td>
</tr>
<tr>
<td>40</td>
<td>Sickle Cell Anemia</td>
<td>151</td>
</tr>
<tr>
<td>41</td>
<td>Sleep Disorders</td>
<td>154</td>
</tr>
<tr>
<td>42</td>
<td>Spina Bifida - Myelomeningocele</td>
<td>165</td>
</tr>
<tr>
<td>43</td>
<td>Spinal Cord Injury</td>
<td>169</td>
</tr>
<tr>
<td>44</td>
<td>Stroke</td>
<td>177</td>
</tr>
<tr>
<td>45</td>
<td>Traumatic Brain Injury</td>
<td>182</td>
</tr>
<tr>
<td>46</td>
<td>Visual Impairments</td>
<td>188</td>
</tr>
</tbody>
</table>

**OTHER RESOURCES**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Eligibility Determinations</td>
<td>191</td>
</tr>
<tr>
<td>2</td>
<td>Initial Interview Dictation Guide</td>
<td>197</td>
</tr>
<tr>
<td>3</td>
<td>Glossary of Common Medical Terms</td>
<td>200</td>
</tr>
<tr>
<td>Resource</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Resource 4</td>
<td>Common Drugs In General Use</td>
<td>207</td>
</tr>
<tr>
<td>Resource 5</td>
<td>Overview of Psychotropic Medications</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td><em>William A. Cochran, Ph.D.</em></td>
<td></td>
</tr>
<tr>
<td>Resource 6</td>
<td>Herbal Medicines</td>
<td>217</td>
</tr>
<tr>
<td>Resource 7</td>
<td>Common Abbreviations and Prefixes</td>
<td>219</td>
</tr>
</tbody>
</table>
The editor is very pleased to recognize the growing list of persons who have contributed to the Disability Handbook over the years. The original document owes its existence to the following rehabilitation professionals from the Nebraska and Missouri state rehabilitation agencies, and the Rehabilitation Continuing Education Program (RCEP) at the University of Missouri: Donald Crouch, MPA; Dennis Dunn, Ed.D.; Timothy E. Gaines, M.Ed.; Deborah Keenan, M.S.W; Robert Peters, Ph.D.; C. David Roberts, Ph.D.; James Spring, B.S. In the original edition of the Handbook, the chapter author(s) were not identified. In the newer versions, individual chapter authors are listed in the Table of Contents and the chapter headings.

Jason D. Andrew, Ph.D., CRC/R, NCC
This handbook is written specifically for State Vocational Rehabilitation Counselors, but it is highly applicable to anyone working with persons who experience disabling conditions. The purpose of the handbook is to provide pertinent information about specific disabilities that will aid counselors in providing appropriate services to their clients. An attempt was made to cover all of the primary disabilities encountered by professionals in vocational rehabilitation.

A general list of questions to be considered in an initial interview is provided in Resource 2 of the handbook. These general initial interview questions are those that are used for any potential client, regardless of disability.

Under each specific disability, there are additional questions for the initial interview, along with several other subsections designed to provide information that will allow the counselor to assess the medical condition in vocational terms. These subsections include typical considerations for the disability being addressed. However, the counselor should select and use only those questions that are appropriate for the client’s situation. There is also a subsection dealing with specific disability-related items that should be considered on the Individualized Plan for Employment (IPE).

Finally, some sources are listed at the end of chapters to which the counselor can refer for more information concerning a specific disability.
AFFECTIVE DISORDERS
(Depression/Bipolar)

DESCRIPTION

Affective disorders or affective spectrum disorders are a grouping of related psychiatric and medical disorders that may accompany bipolar, unipolar, and schizoaffective disorders at statistically higher rates than would normally be expected. These disorders are identified by a common positive response to the same types of pharmacologic treatments. They also aggregate strongly in families and may share common inherited underlying physiologic anomalies. Bi-polar and depression disorders are only two disorders in the myriad of disorders included in affective spectrum disorders.

Bi-polar symptoms are most often depression, but elation (mania) also occurs. In DSM-IV, the mood disorders are divided into two types. The depressive disorders include major depression, dysthymic disorders, and depressive disorders not otherwise classified (NOC). The salient feature of these conditions is depression. Bipolar disorders form the second category. These include bipolar I disorder, bipolar II disorders, cyclothymic disorders, bipolar disorders NOC, mood disorders due to (various), and mood disorders NOC; and are characterized by alterations in mood.

SYMPTOMS OF DEPRESSION

Persons with depression usually experience more than one of the following psychological and somatic symptoms and behaviors.

- Depressed mood. The person reports feeling sad, low, blue, despondent, hopeless, gloomy, or down-in-the-dumps. Observed changes in posture, speech, facial expression, dress, and grooming are consistent with self-reports.
- Inability to enjoy usual activities. A person reports that previous sources of gratification, such as food, sex, hobbies, sports, social events, or time spent with the family no longer provide pleasure.
- Fatigue and lethargy. A person reports feelings of being rundown, heaviness in the arms and legs, and energy being drained from the body. These symptoms are associated with reduced family, social, occupational, and sexual activity.
- Psychomotor retardation. There is observed slowness in speech, thought, and movement. Speech is slower and reduced in volume. Thought processes are slowed and answers to questions are delayed, with a prolonged lag between the question and the response. Content of verbal responses is limited. Movement is slowed, with decreased facial expression, fixed gaze, and reduced eye scanning.
- Loss of appetite. The person reports a change in appetite, usually with a weight loss.
- Sleep disturbance. The person reports difficulty falling asleep, being awakened in the night by frightening dreams, or awakening early in the morning.
- Bodily complaints. The person reports multiple complaints involving almost every organ system. Complaints may include headache, neck ache, back pain, muscle cramps, nausea, vomiting, lump in the throat, constipation, heartburn, indigestion, blurred vision, and painful urination. The person may have extensive medical work-ups for these complaints, usually without any significant physical findings.
Agitation. The person complains of being unable to relax, or sit still, or of feeling fidgety, or jittery. Observed behavior includes a variety of tension releasing activities, such as pacing, hand wringing, nail biting, finger tapping, or increased smoking.

Reduced sexual interest. The person reports decreased sexual interest and sexual activity. This is commonly overlooked unless specific questions are asked about it.

Loss of interest. The person complains about a loss of zest for life, and a decreased interest in work, social activities, sports, leisure, recreation activities, hobbies, and family life. Although the person may report loss of interest, his or her actual level of performance and activity may not fall.

Guilt and self-reproach. The person reports feelings of worthlessness, self-reproach, guilt, and shame.

Difficulty in concentration. The person reports slowed thinking, blank mind, poor memory, mixed-up thoughts, and confusion. He or she may also report being preoccupied by inner thoughts (self-doubts, worries about the future, and suicidal urges), with reduced attention to environmental demands. Psychological and vocational testing may show decreased speed and rate of performance, but accuracy is usually retained.

Anxiety. The person reports thoughts of dread, fear, foreboding, or anticipation of danger or harm. Sweating, palpitations, rapid pulse, or butterflies in the stomach accompany these reports.

Low self-esteem. The person reports feeling inadequate, incompetent, and a failure. He or she also believes that family, friends, and co-workers share these views.

Feelings of helplessness. The person complains that he or she cannot cope with basic self-care activities (dressing and grooming). He or she also reports that it is even more difficult to cope with parental, household, or occupational responsibilities.

Pessimism. The person reports fears and worries about health, finances, family affairs, and employment. He or she anticipates that things will get worse in the future and more misfortune will come.

Suicide. The person reports suicidal thoughts. Although the number of depressed persons reporting suicidal thoughts is significantly higher than those who make an actual suicide attempt, there is a risk of suicide, particularly among persons with recurrent depressions.

CLINICAL COURSE

Most depressive episodes are self-limiting. Acute depressive episodes have a good prognosis, with almost complete symptom relief and return to previous levels of family, social, and vocational functioning within about six months. About half of the persons who have a major acute depressive episode will have only a single episode. The other half, however, have a chronic or recurring pattern of depression. In roughly one-third of this group, the depression persists and they continue to experience persistent bodily complaints, irritability, sleep disturbances, fatigue, and pessimism along with depressed mood. These persons do not return to their previous levels of social functioning. The remaining two-thirds have a recurring pattern of depressions. Although they may return to previous levels of social and vocational functioning, this is disrupted by the recurrence of an acute depressive episode. Prophylactic treatment with antidepressants is effective in reducing the rate of recurrence and there have been a number of new drugs introduced over the past years that are particularly affective. The suicide rate among persons with chronic or recurrent depressions is about 30-35%.
ELATIONS (MANIA)

Elations refer to episodes of heightened mood beyond the normal states of happiness, pleasure, and joy. Elations occur much less frequently than depressions.

SYMPTOMS OF ELATION

- Elevated mood. The person reports feeling high, elated, euphoric, or ecstatic.
- Irritability. The person reports being easily irritated by events or activities of others. In some cases, the person becomes hostile and belligerent toward others.
- Increased self-esteem. The person shows increased self-esteem, including his or her feelings of adequacy and confidence.
- Grandiosity. The person reports beliefs of inflated worth, power, knowledge, identity, or special relationships with famous persons.
- Poor Judgment. The person engages in activities or takes actions that show poor judgment. For example, he or she abruptly quits job.
- Over activity. He or she shows heightened motor, social, and sexual activity.
- Flight of ideas. The person shows rapid shifts in thought content and speech. He or she may race from topic to topic and never complete a thought or sentence. Behavior may show a pattern of starting projects and activities, then abandoning them as the person moves off into something new.
- Decreased need for sleep. The person reports a reduction in his or her need for sleep. There may be an actual reduction in the number of hours of sleep, but this does not produce any complaints of fatigue or tiredness.
- Distractibility. The person reports that he or she is easily distracted, with attention shifting from one topic or activity to another.
- Involvement in buying sprees. The person reports going on buying sprees. This is one of the more dramatic symptoms of mania. The person can spend several thousand dollars in an afternoon, often without the knowledge of spouse or family members.
- Social intrusiveness. The person intrudes into the affairs and activities of others, frequently without regard to its social appropriateness and without any sensitivity toward the feelings of others.
- Inappropriate collection. The person inappropriately collects clothes, possessions, or other objects.

COURSE AND OUTCOMES

Almost all persons with manic episodes also have depressive episodes. The first episode tends to occur in adulthood. Elation episodes have a high tendency to recur. However, the risk of recurrence can be reduced with the use of appropriate medication.

During an elation episode, the person has distinctly impaired family, social, and vocational functioning. The person may appear headstrong, manipulative, insensitive, and hostile toward others. Occasionally, the person's excitement becomes so severe that he or she is destructive of property, aggressive, and assaultive. Persons with elation episodes tend to alienate family members and employers. There is a high divorce rate.

COMMON FUNCTIONAL LIMITATIONS

- Interpersonal skills (cooperation, tact, and assisting)
- Dependability
- Decision-making
- Dealing with frequent change
- Stamina
- Strength
- Judgment
- Motivation or initiative
- Follow-through or ability to follow instructions
- Self-confidence/self-image
- Drowsiness from interrupted sleep patterns
- Concentration
- Memory
- Stability and consistency of behavior

**VOCATIONAL IMPEDIMENTS**

Link an individual’s specific functional limitations to that person’s ability to get and keep employment. Often these individuals have lost employment in the past due to the functional limitations they have demonstrated.

- Fully explore the individual's history and the prognosis.
- Consider the individual's willingness to take medications as they are prescribed.
- Explore secondary conditions e.g., depression is often secondary to spinal cord injury, traumatic brain injury, back injury, etc.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Does the person look tired?
- Is the person able to concentrate?
- Does the individual initiate conversation?
- Does the person maintain eye contact?
- Does the individual appear nervous (pacing, hand wringing, nail biting, finger tapping)?

**INITIAL INTERVIEW QUESTIONS**

1. Describe specifically the medications you are taking and their side effects.
2. How do you feel about taking medications?
3. How have you felt recently (e.g., sad, low, blue)?
4. Have you been fatigued or lethargic?
5. Have you had any problems with loss of appetite?
6. Do you have any problems sleeping?
7. Do you feel nervous or agitated?
8. How do you think other people feel about you?
9. Have you had suicidal thoughts recently?

**IPE CONSIDERATIONS**

- Strict compliance with medications prescribed.
- Arranging for a good general support system within the family or with the caregiver.
- Involving the individual with support groups.
- Cognitive behavioral therapy when recommended.
➢ Selective job placement to include interviewing practice and follow-up on employment.

RESOURCES

AGING AND DISABILITY:
21ST CENTURY CHALLENGES
FOR REHABILITATION PROFESSIONALS

D. Shane Koch, Ph.D.
Quintin Boston, M.A.
D. Gent Dotson, M.A.
Southern Illinois University at Carbondale

CHANGING DEMOGRAPHICS

It is very likely that rehabilitation professionals in the United States are aware that the “baby boom”
generation is aging. Additionally, it might be expected that despite having general knowledge about this
phenomenon, many counselors and service providers working in community rehabilitation programs and
the state-federal vocational rehabilitation agencies may not be fully aware of the nature and extent of the
challenges that our field will face as we strive to meet the needs of this emerging consumer group. This
chapter will focus on several topics including:

(a) Identification of the population through providing specific demographic data describing both the
nature of the group of “older Americans” as a whole, as well as information that can assist readers
in recognizing the extremely rich diversity within this group;
(b) the challenges presented by ageism;
(c) issues associated with aging with disabilities; and
(d) other unique challenges that arise when working with this population.

DEMOGRAPHICS OF THE
“BABY BOOMERS”

The U.S. Administration on Aging (AOA) (2006) has described, in detail, the demographics of
individuals over the age of sixty-five in the United States and it has produced an extraordinary quantity of
valuable resources that may be of interest to rehabilitation professionals. While this chapter will
summarize some of the key highlights of material that is available for public use, the reader may wish to
visit the AOA website to utilize all of the available resources (www.aoa.gov).

The AOA (2006) reports that the older population (65+) numbered 36.8 million in 2005, representing
an increase of 3.2 million or just under 10% since the mid nineties. They predict that due to the
extraordinarily large number of individuals in the U.S. between the ages of 45-64, who may be expected
to join the ranks of “older adults” (65 or older), it can be expected that the population of “older adults”
will increase by 40% over the next decade. About one in every eight Americans is currently over the age
of 65, and those individuals have an average life expectancy of between 16 and 18 years, depending on
gender. Women outnumber men in this population, with women accounting for 21.4 million of the older
adult population and men contributing 15.4 million to the total demographic.

In order to fully comprehend the extent of the challenges presented to our human service systems as a
result of the aging of the baby boomers, the AOA (2006) has reported that the population 65 and over will
increase from 35 million in 2000 to 40 million in 2010, and then to 55 million in 2020. Additionally, the
AOA (2006) has predicted that the 85+ population will increase from 4.2 million in 2000 to 6.1 million in
2010, and then to 7.3 million in 2020. Rehabilitation professionals must be prepared for a tremendous
increase in demand for services from this population!
DIVERSITY

When we use the term “older adults,” caution should be exercised in recognizing that this group of individuals is incredibly diverse. For example, due to the fact that the birth dates for this generation spans several decades, it should be obvious that there are multiple cultural cohorts within this population. Individuals born just after world war two are likely to have a very different worldview than those individuals born in the mid fifties or in the early sixties. Rehabilitation professionals should expect to see enormous variations in the attitudes, beliefs, values, and behaviors of these consumers.

It is also likely that many of these values may be quite different from, or even in opposition to, those held by the professionals who may be expected to serve them. In this case, the appropriate response is always to be formal in your approach, and have access to administrative and clinical supervision to assure your professional approach is appropriate and effective with individuals, regardless of which cohort they may represent. While every professional “intends” to be appropriate, intention alone is insufficient to assure that services are equitable and consumers are given a “fair opportunity” to benefit. Rehabilitation counselors and others who work with older adults must have a consistent, structured approach to addressing these issues.

Anderson and Barrett (2001) have recommended a simple strategy for analyzing response to ethical challenges arising from multicultural and disability-specific human differences. Their approach includes, but is not limited to, careful consideration of the professional’s response to the case, review of specific clinical issues with interdisciplinary teams, review of any legal materials that may support or discourage treatment options, and identification of any ethical principles that may obligate professionals to specific courses of action. Given the diversity of the “older adult” population, there will necessarily be cause for making substantial adjustments in our rehabilitation practices. Further discussion of the application of ethical principles and resolution of ethical dilemmas is contained in Miller and Millington (2002). Their approach is to emphasize familiarity with the five ethical principles underlying rehabilitation practice (justice, autonomy, fidelity, beneficence, and non-maleficence) and then allow these principles to guide rehabilitation counselor decision-making.

In addition to what might be called “generational variation,” rehabilitation professionals must be aware that ethnic and racial diversity will have more impact on this population in the coming decade. According to the AOA (2006), in 2005, almost 20% of older adults were minorities with about half (8.3%) of the population identifying themselves as African-Americans and 6% identifying themselves as Hispanic (the authors use this term with some reluctance given that this group is incredibly diverse, and that the label may not describe racial and ethnic diversity appropriately). Additionally, AOA (2006) data indicated that Asian Americans made up another 3% of this population and less than 1% was comprised of individuals with American Indian or Native Alaskan ancestries.

AGEISM

Ageism may be the most significant barrier impeding effective service delivery for older adults. Ageism was first used to describe prejudice and discrimination directed toward older persons by Butler (1969) and he referred to this phenomenon as the third great ism by our society following racism and sexism (Butler, 1965). Palmore (1999) describes the key factors present in ageism as (a) prejudice, (b) discriminatory practices, and (c) negative (and erroneous) stereotypes and attitudes. Erroneous beliefs about older adults typically include stereotypes such as low motivation, resistance to change, inflexibility, lack of creativity, and lack of interest. Palmore (1999) offers further insight into the difficulties of changing individual professional behaviors by observing that in order to satisfactorily correct the effect of ageism, professionals must necessarily change both their thinking (cognitive structures) and emotions (affective processes) if their behavior is going to impact this population.
EMPLOYMENT CHARACTERISTICS

Ageism and stereotypes about older adults may lead rehabilitation professionals to misunderstand the impact of employment on this population. The Bureau of Labor Statistics (2006) reported that in 2005, 5.3 million (15.1%) Americans age 65 and over were in the labor force. This included 3.0 million men (19.8%) and 2.3 million women (11.5%). Surprisingly, older adults made up almost 3.5% of our workforce. Consequently, there is a substantial portion of older adults who are willing and able to contribute to the world of work!

Rehabilitation professionals may need to balance consumer choice (autonomy) with their duty to protect consumers from harm (beneficence) when working to place older adults in employment settings. Typical tools like functional capacity assessment and transferable skills analyses detailing functional individual strengths, limitations, and interests must be utilized to support effective job placement activities. Additional attention should be directed toward helping older adults cope with work environments that might be antagonistic or hostile to these returning workers, recognizing the potential for ageism and other negative attitudes being a substantial barrier to successful re-entry into the workforce.

Finally, rehabilitation professionals should not forget that older adults are well educated and possess considerable knowledge and skills in addition to what may be rich and varied work histories. According to the AOA (2006), educational levels among this population are changing significantly. In fact, between 1970 and 2005, the number of older adults who had completed high school rose from 28% to 74%. Additionally, almost 20% of older adults had completed a bachelor’s degree.

PHYSICAL HEALTH AND HEALTH CARE ISSUES

In contrast to the stereotype of all older adults being medically frail and suffering from multiple medical related limitations, the AOA (2006) reported that in 2005, 38.3% of individuals living independently in their home communities reported that they were either in excellent or very good health. However, many of these individuals did report one or more chronic conditions. The problems most frequently identified in 2004-2005 were hypertension (48%), arthritis (47%), cardiovascular disease (29%), cancer (20%), diabetes (16%), and sinusitis (14%).

The AOA (2007) further reports that in 2004, over 13.2 million older adults had been hospitalized for “short stays.” In order to put this in its proper perspective, this number represented a ratio of 3,629 for every 10,000 older persons or more than 250% greater than the rates among the rest of the U.S. population. These short stays averaged 5.6 days for older adults.

DISABILITY SPECIFIC ISSUES

Due to the tremendous variation within the population of persons with disabilities, it would be a mistake to generalize “older adult issues” and, therefore, foster further stereotypes about this population. Instead, rehabilitation professionals should consider directing attention toward the individual characteristics of each specific disability and its impact across the lifespan. While there may be certain factors that can be considered as a starting point in this review, there is no one formula for analyzing the impact of aging on disability.

Kemp and Mosqueda (2004) have presented a structure that clinicians may wish to utilize in exploring issues that may arise due to aging within specific disability populations. They have suggested that clinicians should consider family members’ perspectives, physiological changes due to aging, the impact of multiple co-occurring conditions, mental health issues (particularly coping skills and mood disorders), and caregiver issues.
SUMMARY

Improved medical technologies and pharmacological therapeutics, as well as the impact of the aging of the “baby boomers,” will contribute to a major shift in the U.S. population that necessitates rehabilitation service systems being prepared to meet the needs of aging Americans. It is a certainty that rehabilitation professionals will be increasingly confronted with the challenge of working with older adults with disabilities.

Ageism is a significant factor affecting all aspects of the lives of these individuals. Despite traditional, erroneous beliefs about the mental and physical limitations of older adults, these persons are typically healthier, and more able than these traditional stereotypes would suggest. Additionally, older adults tend to be better educated than ever before.

Older adults present new challenges and opportunities for our profession, providing us with the opportunity to expand the scope and range of our field through development of new applications of rehabilitation technology to help these consumers achieve greater independence and full participation in our communities. Rehabilitation counselors, in fact, possess a unique set of attitudes, knowledge, and skills with respect to understanding the impact of chronic disabilities, the social models of disability, and a history of application of consumer advocacy models that place them in the perfect position to provide excellent interventions for this population.

REFERENCES


ALBINISM

NOEL ESTRADA-HERNANDEZ, PHD, CRC
THE UNIVERSITY OF IOWA

DESCRIPTION

Albinism is an inherited autosomal recessive trait that affects 16,000 people in the United States (U.S.). The condition is not sex related, and the gene must be present in both parents for albinism to appear in their children (NOAH, 2004). People with albinism exhibit a reduction or absence of melanin pigment in the skin, hair, and eyes. A key consequence associated with the absence of melanin pigment in the eyes is the abnormal development and impairment of the visual system (Oetting & King, 1999). Most people with albinism are considered legally blind (i.e., visual acuity of less than 20/200) and may present various visual conditions associated with albinism. Some of these visual conditions are Nystagmus, which is an irregular rapid alternating movement of the eyes; Strabismus, which is a muscle imbalance of the eye muscles known as “crossed eyes”; and Astigmatism, which is a distortion of the corneal-lens that results in blurred vision and sensitivity to bright light and glare (NOAH, 2004). For a more indepth review of these conditions, please review the chapter on visual impairments included in this book.

TYPES OF ALBINISM

Albinism affects people from all ethnic/racial groups, social classes, and educational backgrounds. In the U.S., the ratio of people with some variation of the albinism condition is 1:17,000 (NOAH, 2004) for a total of approximately 16,000 people (Wan, 2003). The two major categories of albinism are oculocutaneous albinism (OCA), which is present in 1 of every 17,000 people in the U.S. and involves the eyes, hair, and skin; and ocular albinism (OA), which is present in 1 of every 50,000 people in the U.S. and primarily involves the development and performance of the visual system (King, Summers, Haefemeyer, & LeRoy, 2001; NOAH, 2004). Geneticists have documented through DNA analysis different types of albinism and their characteristics (For a more detailed review of this genetics research please refer to King et al., 2001; NOAH, 2004).

Hermansky-Pudlak syndrome (HPS) is another type of albinism, a bleeding disorder caused by mutations on the HPS gene, which is present in 80% of individuals with albinism in Puerto Rico and other parts of the world. HPS is characterized by bleeding tendency and lung disease. HPS may also include inflammatory bowel disease or kidney disease (NOAH, 2004; Oetting & King, 1999; Witcop et al., 1990). The severity of these problems varies from person to person. Since health professionals cannot easily diagnose HPS with usual types of blood tests, it is important to promote awareness about the syndrome.

OTHER HEALTH RELATED CONDITIONS

Other physical conditions may impact the daily lives of persons with albinism, including:
(a) a predisposition to skin cancer because of hypopigmentation and sensitivity to ultraviolet radiation (Oetting & King, 1999);
(b) some persons with albinism develop bowel problems like Crohn’s disease, and
(c) the accumulation of ceroid-like material in body tissues which creates other more complex health conditions such as lung fibrosis, a frequent cause of death in many people with HPS (Murtha, 1998; NOAH, 2004; Oetting & King, 1999; Witcop et al., 1990).
All people with albinism are classified legally blind and may have unique health problems. However, many live a “normal” life span and have social and personal needs similar to those without albinism (NOAH, 2004). Having albinism also has a tremendous emotional impact that varies from person to person. An individual with albinism may experience issues related to self-concept, anxiety, or development of social skills. In their review of the literature (Estrada-Hernández & Harper 2007) concluded that the physical characteristics associated with albinism (e.g. white skin and hair and visual impairment) not only contributed to these emotional reactions, but are responsible for the general stigmatization experienced by these persons.

**COMMON FUNCTIONAL LIMITATIONS**

- Aesthetic appearance
- Employer and peer acceptance
- Self concept
- Development of social skills
- Predisposition to skin cancer due to sun exposure
- Related to Visual Impairments
  - a. Reading
  - b. Writing
  - c. Driving
  - d. Space, form, and depth perception
  - e. Field of vision deficit
  - f. Sensitivity to glare (Photophobia)
- Other potential physical conditions related to albinism
  - a. Bleeding tendencies – related to HPS
  - b. Breathing associated conditions – related to HPS
  - c. Bowel conditions

**VOCATIONAL IMPEDIMENTS**

The assessment of the specific functional limitations must be addressed as they relate to the performance of past, present, and future employment settings. The counselor should examine in detail the extent that functional limitations had an impact on past work experiences and should contemplate their implications on future employment. In the case of a person with albinism, physical appearance may present additional attitudinal barriers on the part of employers, co-workers, or general public.

Visual impairments, particularly the inability to distinguish sizes, shapes, distances, and having problems with depth perception and limited field of vision will definitively cause vocational impediments that may limit employment alternatives for a person with albinism. The person may experience transportation issues if he or she is unable to drive. A rehabilitation counselor should also assess independent living skills such as the degree to which the person with albinism has access to and uses public transportation. In addition, assistive technology aids may be required to compensate for visual difficulties in the completion of any job or independent living task.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Is the person wearing glasses?
- Does the individual have obvious signs of visual impairments?
Does the individual have obvious signs of albinism (either white skin or white hair, or both)?
Does the person exhibit obvious skin burns with freckles? (Usual sites may include face, neck, and arms.)
Does the person exhibit difficulties in reading materials or signing forms?
Does the person need assistance in travel?
Does the person exhibit poor signs of adjustment (e.g. lack of eye contact, orientation, emotional expressions)?

**INITIAL INTERVIEW QUESTIONS**

What type of albinism do you have?
How much do you know about it?
What is your specific visual impairment(s)?
Are you experiencing any other physical or emotional condition secondary to the albinism?
Are you receiving attention for any of these secondary conditions?
How long have you had these conditions?
Do you use any assistive technology aid (e.g. large print, computer with magnification software, talking calculators, scan and read computer applications) to complete any of your daily activities?
Tell me about your social and work related experiences. [Note that this is important, as many individuals with albinism may not have had the same experiences as individuals without albinism in their same age group].

**IPE CONSIDERATIONS**

Before contemplating any IPE considerations it is important to note that, as with any other disability or condition, rehabilitation counselors should become familiar with basic information and medical terminology for the disabilities experienced by their consumers. Development of awareness, knowledge, and skills is highly important.

- Counseling dealing with adjustment or personal and psychological issues should be provided for those persons with albinism.
- Assistive technology services should be considered and provided. Provision of these services will allow persons with albinism to become more independent in doing their work and daily living activities. Training may be required on the use of these technology aids.
- Consider independent living, mobility, and social skills training [This will depend on the person, his/her past experiences, current family and social support, and personality].
- Remember that due to the nature of the condition, the person should avoid work settings in which direct sun exposure is required (e.g. field worker, construction worker). Employment alternatives should be explored in detail.

**RESOURCES**

The following resources could be of great benefit to rehabilitation counselors looking to increase their awareness of albinism and its related characteristics and implications.

National Organization of Albinism and Hypopigmentation of Puerto Rico (NOAH) – www.albinism.org
HPS Network - http://www.hpsnetwork.org/
REFERENCES


INTRODUCTION

Alcohol and other drug abuse (AODA) as both primary and coexisting disabilities significantly impact the rehabilitation process and present considerable challenges for both the persons experiencing these disorders and the rehabilitation professionals who serve them. Whether one experiences pre-existing AODA or onset of AODA after disability, extremely negative medical, vocational, social, and psychological consequences will directly result from the substance abuse as well as from the interaction of the substance abuse with physiological and psychological aspects of the individual’s other disabilities (Benshoff & Janikowski, 2000; RRTC, 2002). The presence of coexisting AODA complicates the rehabilitation process, negatively influences rehabilitation outcomes, necessitates collaboration with other agencies, and, in many cases, requires direct involvement of outside AODA specialists.

SUBSTANCE USE DISORDERS

Given that each individual may experience a variety of potential effects based on the interaction of their individual characteristics, the properties of the substance, and their environment, how exactly can we determine when a person is experiencing an AODA disorder? Rehabilitation professionals ought to be wary in any review of the substance abuse treatment literature since defining what is meant when someone uses the term “addiction” or “alcoholism” can be difficult to ascertain. These labels are but a few of the many that are utilized within both the professional literature and the treatment settings themselves. Any professional helper who wishes to be clear in communicating about the nature and extent of a consumer’s involvement with alcohol and other drugs should rely on the American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders, 4th edition Text Revision (DSM-IV-TR) (2000).

The DSM-IV-TR describes two different types of psychoactive substance abuse problems in the section on substance related disorders. The two types are substance use disorders (SUDS) and substance induced disorders (SIDS). SUDS, the diagnoses of substance abuse and substance dependence, cover the entire classification of "alcohol and other drug abuse" since all AODA are, by definition, due to the misuse of substances. The SUDS criteria are particularly useful since they are valid across the entire drug menu facilitating a consistent set of criteria for measurement of dependence regardless of the substance that may be used. At the same time, these criteria allow for individualized assessment and intervention based on the broad spectrum of symptomology described within the diagnostic criterion.

According to the DSM-IV-TR (2000), substance abuse occurs when individuals use psychoactive substances in such a manner as to produce specific detrimental effects over a period of time. In this regard, two criteria must be met.

The essential feature of substance abuse is a maladaptive pattern of substance use manifested by the recurrent and significant adverse consequences related to the repeated use of substances. There may be repeated failure to fulfill major role obligations, repeated use in situations in which it is physically hazardous, multiple legal problems related to substance use, and recurrent social and interpersonal problems (criterion A). APA, 2000, p.198.
Additionally, the *DSM-IV-TR* specifies that a person must never have met the criteria for substance dependence for the specific substance being abused (criterion B) (APA, 2000).

The *DSM-IV-TR* (2000) provides a list of psychoactive substances that can be abused. These substances include alcohol, amphetamines, cannabis, cocaine, hallucinogens, inhalants, opioids, phencyclidine, and sedatives, hypnotics or anxiolytics. Substances noticeably absent from this list include caffeine and nicotine. The *DSM-IV-TR* does not refer to the abuse of nicotine but does describe nicotine dependence as a clinical disorder. Additionally, caffeine abuse and dependence are not described as clinical disorders.

The *DSM-IV-TR* (2000, p.192) states that:

The essential feature of substance dependence is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues use of substances despite significant substance-related problems. There is a pattern of repeated self-administration that usually results in tolerance, withdrawal, and compulsive drug-taking behavior. The symptoms of dependence are similar across the various categories of substances.

There are seven criteria possible under this diagnostic classification, three of which are necessary to make the diagnosis of substance dependence. The seven criteria utilized in making the diagnosis of substance dependence can be described as follows:

- Tolerance;
- Withdrawal;
- Taking the substance in larger amounts or over a longer period than intended;
- Persistent desire to cut down or unsuccessful efforts to cut down or control substance use;
- Much of the individual's time is spent in activities necessary to obtain the substance or recover from the effects of the use of the substance;
- Important social, occupational, or recreational activities are given up or reduced because of substance use; and
- The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (APA, 2000).

All classifications of drugs that are considered candidates for abuse are also capable of producing dependence.

While rehabilitation counselors typically will not be called upon to diagnose consumers, it will be important for them to be familiar with the criteria used to identify AODA disabilities so that they can communicate effectively and coordinate services among interdisciplinary teams that likely will be involved in serving consumers with coexisting disabilities. If professionals cannot specifically identify the disorders with which they are working and are unfamiliar with the diagnostic labels utilized for these interdisciplinary communications, case management activities will likely be ineffective. Additionally, familiarity with the *DSM-IV-TR* (2000) diagnostic criteria may support rehabilitation counselors:

- determination of consumer eligibility for receiving rehabilitation services;
- completion of individual screening and assessment; and
- establishment of the legitimacy of this particular class of consumers as a legitimate disability group.

### EXAMPLES OF BIOMEDICAL CONSEQUENCES FOR THE MOST FREQUENTLY ABUSED SUBSTANCES

<table>
<thead>
<tr>
<th>Substance</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Traumatic Injuries</td>
</tr>
<tr>
<td></td>
<td>Cardiovascular Disease</td>
</tr>
<tr>
<td></td>
<td>Stoke</td>
</tr>
<tr>
<td></td>
<td>Peripheral Vascular Disease</td>
</tr>
<tr>
<td></td>
<td>Liver and Pancreatic Injury</td>
</tr>
<tr>
<td>Substance</td>
<td>Complications</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cocaine</td>
<td>Stroke, seizures</td>
</tr>
<tr>
<td></td>
<td>Cardiovascular Disease</td>
</tr>
<tr>
<td></td>
<td>Substance Induced Clinical Disorders</td>
</tr>
<tr>
<td>Marijuana</td>
<td>Possible Memory Impairment</td>
</tr>
<tr>
<td></td>
<td>Cognitive Disorganization</td>
</tr>
<tr>
<td></td>
<td>Substance Induced Clinical Disorders</td>
</tr>
<tr>
<td>Amphetamine and MDMA (Ecstasy)</td>
<td>Hypertension, Stroke</td>
</tr>
<tr>
<td></td>
<td>Brain Hemorrhage</td>
</tr>
<tr>
<td></td>
<td>Neuropathy</td>
</tr>
<tr>
<td></td>
<td>Cardiovascular Disease</td>
</tr>
<tr>
<td></td>
<td>Substance Induced Clinical Disorders</td>
</tr>
</tbody>
</table>

**OTHER FUNCTIONAL LIMITATIONS**

<table>
<thead>
<tr>
<th>Consequences</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Consequences</td>
<td>Post Traumatic Stress</td>
</tr>
<tr>
<td></td>
<td>Generalized Anxiety Disorders</td>
</tr>
<tr>
<td></td>
<td>Depression</td>
</tr>
<tr>
<td></td>
<td>Guilt, Grief</td>
</tr>
<tr>
<td></td>
<td>Impulse Control</td>
</tr>
<tr>
<td></td>
<td>Low Frustration Tolerance</td>
</tr>
<tr>
<td></td>
<td>Lack of Time Perspective</td>
</tr>
<tr>
<td>Social Consequences</td>
<td>Lack of Social Skills</td>
</tr>
<tr>
<td></td>
<td>Loss of ADL Skills</td>
</tr>
<tr>
<td></td>
<td>Immersion in Drug Culture</td>
</tr>
<tr>
<td></td>
<td>Need for Positive Peer Supports</td>
</tr>
<tr>
<td>Spiritual Consequences</td>
<td>Hopelessness</td>
</tr>
<tr>
<td></td>
<td>Despair</td>
</tr>
<tr>
<td></td>
<td>Loss of Direction</td>
</tr>
<tr>
<td></td>
<td>Need for Values Clarification</td>
</tr>
</tbody>
</table>

**SCREENING AND IDENTIFICATION**

Within the role of rehabilitation case management or as a direct service provider, the ability to recognize when an individual is experiencing complications due to alcohol and other drug abuse disorders is an essential skill. Familiarity with the DSM IV-TR criteria and knowledge about the continuum of substance dependence are a good foundation upon which to develop the ability to screen for and identify AODA disorders. A few other simple tools may be easily used to enhance rehabilitation professionals’ ability to identify when there is a problem.

Perhaps the simplest AODA screening tool utilized today is the CAGE questionnaire. The CAGE asks four simple questions. Those questions are:
Have you ever tried to Cut down your use of alcohol?
Do you become Annoyed when persons complain about your drinking?
Do you ever feel Guilty about your drinking?
Do you ever drink an Eye-opener in the morning to relieve the shakes?

Whenever two or more questions are answered affirmatively, the CAGE has been found to accurately predict alcohol dependence as well as identify those who are not substance dependent (Benshoff & Janikowski, 2000).

Chestnut Health Systems have created new instruments for AODA screening and assessment that are also very useful for rehabilitation professionals. The Global Assessment of Need (GAIN)-Quick is a 15 page (15-20 minute) version for a basic assessment of a targeted population that is designed to identify the eligibility and need for referral to specialty health, mental health, and/or substance use systems, and/or to support motivational interviewing related to substance use (Chestnut Health Systems, 2007). The GAIN family of instruments has been shown to be reliable and valid across very diverse populations including some groups of persons with specific disabilities (HIV and Deafness). In addition to the GAIN-Quick, there are instruments that are more comprehensive and available to professionals who wish to perform AODA assessments.

Identification of potential problems using screening instruments is just that: identification of potential problems. Although there is some correlation between the results of screening instruments and formal diagnoses, these instruments should not be used for diagnostic labeling. Rehabilitation professionals must receive specialized training, and in most states become licensed or certified as professional counselors or psychologists, before they are qualified to determine diagnoses. Screening instruments are utilized to determine whether there is a need to refer consumers to specialists with these credentials for further testing and evaluation.

**VOCATIONAL ISSUES**

<table>
<thead>
<tr>
<th>Work History</th>
<th>Lack of Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Multiple ‘short term’ jobs</td>
</tr>
<tr>
<td></td>
<td>History of Job Loss</td>
</tr>
<tr>
<td></td>
<td>Lack of Positive References</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Issues</th>
<th>Anger and Resentment Toward Employers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fear of Failure</td>
</tr>
<tr>
<td></td>
<td>Lack of Education, Training</td>
</tr>
<tr>
<td></td>
<td>Lack of Transferrable Skills</td>
</tr>
<tr>
<td></td>
<td>Lack of Critical and Adaptive Skills</td>
</tr>
<tr>
<td></td>
<td>Transportation Issues</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Future Issues</th>
<th>Scheduling Support Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scheduling Ancillary Services</td>
</tr>
<tr>
<td></td>
<td>Dealing with Work Related Stress</td>
</tr>
<tr>
<td></td>
<td>Relapse Prevention</td>
</tr>
</tbody>
</table>

**KEY ISSUES FOR THE IPE**

<table>
<thead>
<tr>
<th>Case Management</th>
<th>Are Ancillary Services Accessible?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Do the AODA Providers Understand</td>
</tr>
</tbody>
</table>
Are AODA Programs and Support Groups Accessible and Appropriate for Your Consumer?

Be Aware of Confidentiality Regulations Specific to Substance Use Disorders (CFR 42 pt. 2)

Assessment

Assure Accurate Assessment of Other Mental Health Disorders (Co-occurring Disorders)

Assure that AODA Providers are Using Appropriate, Standardized Assessments

12 Step Fellowships

Be Aware that 12 Step Groups May Not Be Appropriate for Every Client

Be Aware of Which 12 are Appropriate for Your Customer

RESOURCE


REFERENCES


ALLERGIES

DESCRIPTION

Allergies are an abnormal response of the immune system. People who have allergies have an immune system that reacts to a usually harmless substance in the environment. This substance (pollen, mold, animal dander, etc.) is called an allergen. Allergies affect at least two out of every 10 Americans.

What happens during an allergic reaction: First, the person is exposed to an allergen by inhaling it, swallowing it, or getting it on or under their skin. Then the body starts to produce a specific type of antibody called IgE to bind the allergen. These antibodies attach to a form of blood cell called a mast cell and the allergens then bind to the IgE that is attached to the mast cell. This causes the release of a variety of chemicals into the blood such as histamine (the main chemical) which causes symptoms of an allergic reaction.

There are many possible allergens. Examples are pollen, mold, and house dust; animal dander (skin shed by dogs, cats, horses, rabbits, et cetera); feathers, wool, dyes, and industrial chemicals; foods and medicines; and insect stings.

Common symptoms include: itchy, watery eyes, sneezing, itchy, runny nose, rashes, feeling tired or ill, hives (a rash with raised red patches).

Food allergies can cause stomach cramps, vomiting, or diarrhea.

Insect stings from a bee or other insect cause local swelling, redness and pain.

The severity of allergic reaction symptoms vary widely from mild which may be almost unnoticeable to severe that are extremely uncomfortable, even incapacitating.

The most severe allergic reaction is called anaphylaxis. In anaphylaxis, allergens cause a whole-body allergic reaction that can include:

- Hives and itching all over (not just in exposed areas)
- Wheezing or shortness of breath
- Hoarseness or tightness in the throat
- Tingling in the hands, feet, lips, or scalp

Anaphylaxis is life-threatening and requires immediate medical attention. Symptoms can progress rapidly.

COMMON TYPES OF ALLERGIES

- Hayfever is caused by allergy to the pollen of trees, grasses, weeds, or molds. It causes sneezing, itching, weepy eyes, runny noses, and a burning sensation in the palate and throat.
- Allergic rhinitis is a general term. It applies to anyone with nasal congestion, sneezing, and a runny nose caused by allergies. This may be a seasonal problem, as with hayfever, or it may be a year-round problem caused by other allergens such as house dust, animal dander, and perhaps some foods.
- Asthma is a condition characterized by coughing, wheezing, and difficulty breathing. For the purposes of this handbook, it is treated as a separate disability.
- Allergic dermatitis, or eczema, is a noncontagious, itchy rash that often occurs in the creases of the arms, legs, and neck although it sometimes covers the entire body. This condition is usually caused by certain foods.
接触性皮炎是皮肤直接接触任何物质而引起的一种皮炎，如动物、植物、化学物质或矿物。最常见的原因是毒葛。

荨麻疹，或称为风团，是一种皮肤上的突发性、大小不一的瘙痒性斑块。这些斑块可能发生在面部、嘴唇、舌头、喉咙、眼睛、耳朵，甚至内部。食物或药物的过敏反应是众所周知的，但有时很难确定确切的过敏原。

### COMMON FUNCTIONAL LIMITATIONS
- Outside work
- Wet, humid conditions
- Fumes and dust
- Stamina
- Fatigue
- Pain
- Sleepiness
- Motor coordination

### VOCATIONAL IMPEDIMENTS

多数过敏症不会导致职业障碍。治疗通常包括避免过敏原和可能的药物使用。对于资格用途，必须表明个体不能从事过去工作，或职业选择真正受限于必须避免的条件。与那些在建立工作历史后才出现过敏症的人建立这种关系会更容易。对于那些从未工作或工作经历有限的人，如高中生，除非过敏症非常严重，严重影响他们的职业选择，否则很难建立这种关系。

药物的副作用可能会导致职业障碍。副作用可能影响运动协调、精细运动协调、操作设备的能力，并可能导致困倦。

避免已知的过敏原并遵循其规定的药物管理，可期待极少的问题。关键是在最大程度上避免导致过敏的物质的适宜工作环境。

### OBSERVATIONS DURING INITIAL INTERVIEW

是否有明显的身体症状，如皮肤刺激、鼻涕、打喷嚏、咳嗽或喘息？

### INITIAL INTERVIEW QUESTIONS

- 你具体对什么过敏？
- 你有哪些过敏反应？
- 这些反应通常在何时发生，持续多久？
- 你正在服用药物，它们如何影响你？
- 描述过去工作场所中过敏症的影响？

第 20 页
In what way does the allergic condition affect your ability to obtain or maintain employment?

How do you compensate for the allergen in the work place, e.g., protective clothes, goggles, etc.?

**IPE CONSIDERATIONS**

- The most important consideration is the vocational goal chosen. The environment in which the individual will work should be as free of responsible allergens as possible.
- The individual should adhere to the regimen of medications as prescribed.
- Job place accommodations (e.g., air purifiers) should be considered.

**RESOURCES**


AMPUTATIONS

DESCRIPTION

The need for amputation may result from a congenital limb anomaly, or may be acquired. If acquired, the origin is usually traumatic, ischemic, or surgical. The most common reasons for amputation are:

- **Vascular disease or vascular accident.** In this situation, especially in the lower limbs, the blood supply may be destroyed either suddenly by a blood clot or gradually by peripheral vascular disease such as arteriosclerosis. When this occurs and the blood supply cannot be maintained, gangrene will develop and amputation becomes necessary.

- **Trauma.** When severe trauma has destroyed the blood supply and damaged the tissues of a limb that gangrene is inevitable or reconstruction is impossible, amputation is indicated.

- **Infection.** In massive, overwhelming, severe infections that endanger life i.e., gas gangrene in an infected extremity, amputation is the only possible solution.

- **Tumor.** Amputation is frequently indicated when an extremity is the site of a primary malignant tumor i.e., osteogenic sarcoma. In rare cases, extensive benign tumors of the limbs will require amputation.

- **Congenital abnormalities.** Some types of congenital anomalies are best treated by amputation. For example, when there are more fingers or toes than normal. The congenital absence of a part of a limb may require amputation in order to make a satisfactory stump for a prosthesis.

TYPES OF SURGICAL AMPUTATION

If an amputation is performed through a joint, it is called a disarticulation. An amputation performed to create a stump that can be effectively used for a prosthesis is called a closed amputation. Amputations performed on the foot below the ankle joint, involving the toes or small bones of the foot are called minor amputation. At this level an artificial limb will not be worn and the stump is planned so that as much as possible of its function is retained. Amputations above this level of either the wrist or ankle are termed major amputations. They are always designed primarily to produce a stump that is suitable for an artificial limb.

The most common types of minor amputations include those involving the lower extremity. In this category, one sees the transmetatarsal amputation that goes across the middle part of the foot in which a stump is not created for a prosthesis. Below the knee amputation (BK) and above the knee amputation (AK) are the most common types of major amputation involving the lower extremity. In these instances, the stump is prepared for the use of an artificial limb or prosthesis. If, because of severe disease or injury, the entire lower extremity needs to be removed, then a disarticulation is done that removes the lower extremity from the hip joint.

As far as the upper extremity is concerned, the most common type of amputation would be an above the elbow amputation (AE) in which a stump is prepared for the use of an artificial arm.

Difficulties most commonly encountered following an amputation are with the amputation stump. One complication is development of an ulceration of the stump. Usually this is associated with local circulatory problems as well as secondary infection. It usually can be treated effectively. Frequently, prolonged and consistent treatment is required to clear up the underlying problem in order to produce a
healthy stump for the prosthesis. Another common situation involving the scar tissue and the end of a cut nerve is the development of a painful amputation neuroma. When this occurs (extremely painful), surgical excision of the neuroma and the scar is indicated. Another complication commonly encountered is the "phantom limb." The "phantom limb" is ordinarily painless and in time will usually disappear. On the other hand, the painful "phantom limb" is a serious complication of amputation. The cause is not known and the treatment is very unsatisfactory. Hyperesthesia is another problem that may occur. There is extreme sensitivity of the stump and the treatment is frequently very difficult. Treatment is more successful, however, than with the painful "phantom limb."

Proper application of the prosthesis depends on good cooperation between the provider of the prosthesis, the attending surgeon, and the patient. It requires considerable patience and frequently a number of adjustments in order to get a correctly fitting, adequately performing prosthesis. In most instances, this can be achieved and the person can continue with a productive life even though changes in type of occupation may sometimes be necessary. In some cases, in spite of concerted efforts on the part of all involved, extremely long-term complications of ulceration, infection, and pain continue and result in long-term disability.

### COMMON FUNCTIONAL LIMITATIONS

- **Upper extremity**
  - Grasping
  - Fingering
  - Pinching
  - Bimanual activities
  - Carrying
  - Lifting
  - Holding
  - Pushing

- **Lower extremity**
  - Balancing
  - Climbing
  - Walking (even and uneven surfaces)
  - Stooping
  - Pushing
  - Pulling
  - Carrying large objects
  - Lifting heavy or bulky objects
  - Jumping

- **Upper or lower extremity**
  - Sudden jarring/trauma to stump area
  - Extreme environmental conditions (heat, cold, humidity, dirt) with prosthesis wearers

### VOCATIONAL IMPEDIMENTS

If the disability is a result of a recent injury, the counselor should assess the resulting limitations as they relate to the individual returning to former employment. Will the person be able to resume former work activities? Will the person need to rely on newly acquired prosthetic devices that will in turn require adjustment?

If the disability is of a long-standing nature, the counselor should determine whether the individual could perform job duties adequately in past jobs. If the individual could perform the necessary job duties,
it would be difficult to show a vocational impediment unless there are other factors, e.g., the condition is worsening, or the job is aggravating the condition.

If the individual has little or no work history, the counselor should assess the specific limitations and determine how they affect the individual's work future.

- Is the person willing to use a prosthesis or appliance as needed to attain employment?
- What is the condition of stump and the prognosis?
- Are there other vascular complications that do or could cause additional barriers?
- Is the individual willing to control complicating factors e.g., caring for stump; diet for obesity; diet for related disabling conditions (diabetes)?
- Are driving aids available to solve potential transportation problems?

**OBSERVATIONS DURING INITIAL INTERVIEW**

- If the individual wears a prosthesis, is it utilized adequately?
- Does the individual appear to have acceptable hygiene and cleanliness?
- What is the individual's self-image and general affect?

**INITIAL INTERVIEW QUESTIONS**

- Do you have a history of diabetes?
- Do you have a history of vascular disease?
- Do you wear a prosthesis? If so:
  - When was it fitted?
  - What is its condition?
  - Does it fit properly?
  - Have you received training on mechanics/usage of the prosthesis?
  - What is the condition of the stump (swelling, sores)? Have you been instructed in stump care?
  - What is the length of stump (above or below the joint)?
  - Does this affect the dominant extremity? Is there a need to learn to do things with non-dominant extremities?
  - Have you had physical and/or occupational therapy?
  - Can you operate a vehicle? Are there modifications?
  - Has there been a fluctuation in weight recently, and is the weight within the normal range?

**IPE CONSIDERATIONS**

- Proper stump care/cleansing is essential to prevent irritation and infection. A physician should train the client in this procedure.
- The provision of necessary prosthesis should be individualized and fitted to a person based on that person’s particular needs. The client should be sent to a physician (physiatrist or orthopedic surgeon) who is especially skilled and familiar with prosthesis fitting/prescription. Fabrication of this prosthesis should be performed by a certified prosthetist.
- The counselor should remember that lower limb amputees who use a prosthesis for ambulation expend great amounts of energy when walking. Therefore, consideration could be given to suggesting a wheelchair for employment, if mobility is important.
RESOURCES

UAB Medicine, http://www.health.uab.edu/15050/
ARTHRITIS

DESCRIPTION

Arthritis is inflammation of one or more joints. The main symptoms of arthritis are joint pain and stiffness, which typically worsen with age. The two most common types of arthritis are osteoarthritis and rheumatoid arthritis.

Osteoarthritis is usually caused by normal wear and tear, while rheumatoid arthritis is an autoimmune disorder. Other types of arthritis can be caused by uric acid crystals, infections, or even an underlying disease, such as psoriasis or lupus. Treatments vary depending on the type of arthritis. The main goals of treatment are to reduce the symptoms and improve the quality of life.

COMMON TYPES OF ARTHRITIS

Rheumatoid arthritis is a chronic disease characterized by a nonspecific and usually symmetric inflammation of peripheral joints. It frequently results in progressive destruction of the articular structures and may be accompanied by generalized manifestations. The following are the signs and symptoms of rheumatoid arthritis: The onset of the disease may be sudden and acute with marked pain, swelling, and increased heat and redness about the involved joints, often the fingers or wrists of one or both hands. It also may come on more insidiously and chronically with stiffness slowly developing and increasing in severity. The disease is characterized by having periods of remission in which the symptoms are relatively quiet, and flare-ups in which there is recurrence of severe pain, swelling, increased heat and redness as described above. The inflammation may migrate from one part of the body to another. The most commonly affected joints are the fingers, the hands, the wrists, elbows and shoulders, ankles, feet, toes, knees, and hips.

Juvenile rheumatoid arthritis (Still's Disease) is simply rheumatoid arthritis occurring in children. In addition to the severe arthritis, these children may have an enlarged spleen, an inflammation of the iris of the eye, pericarditis, or abnormal enlargement of the lymph nodes. The treatment for juvenile rheumatoid arthritis is quite similar to that of the adult type.

Osteoarthritis or degenerative joint disease is probably the most common form of arthritis. This type of arthritis is characterized by degenerative loss of the cartilage in the joint and a reactive proliferation of the joint margins with osteophyte formation. The cause of degenerative arthritis is not known. Many different factors have been suggested, however, it is certainly an arthritis that is associated with advancing age. Pain is the most common symptom, followed by stiffness and limitations in joint motion. Clinical signs of inflammation, such as heat, redness, and swelling are not common but may occur. Enlargements of the distal interphalangeal joints are termed Heberden's nodes. The knees and hips are commonly involved; producing pain and difficulties with ambulation, but any joint may develop arthritic changes with attendant pain and restriction of movement.

Osteoarthritis of the spine is very common, but can be present without any symptoms and discovered incidentally on x-ray examination. Quite frequently, however, vertebral arthritis may be associated with pain and limitation of movements of the trunk.

Bacterial or infectious arthritis is usually secondary to bacterial infection. It is commonly blood-borne from infections elsewhere in the body, such as pneumonia, gonorrhea, or tuberculosis. If the underlying organism is discovered promptly, appropriate antibiotic therapy may result in a cure. If treatment is not instituted, the joint can be destroyed by the infection.
Reiter's Syndrome is an uncommon type of arthritis associated with conjunctivitis and non-bacterial urethritis. Ankylosing spondylitis is a form of arthritis involving the spine and sacroiliac joints. It is most common in young men, is frequently quite severe, and can be disabling.

Gouty arthritis can accompany gout, a disease caused by the faulty metabolism of the amino acid purine. This results in excessive levels of uric acid in the blood. It is a relatively uncommon type of arthritis but it is by no means rare. Gouty arthritis can be quite painful. The feet and knees are most commonly affected.

Traumatic arthritis results from injury. This type of arthritis can be acute or chronic. The injury may precede the obvious manifestations of arthritis by months or years.

Arthritis may be associated with chronic intestinal disease, collagen disorders, neurological diseases, and many other conditions. About 100 different clinical types have been described. "Rheumatism" is a non-articular (not involving joints) form of arthritis involving ligaments, tendons, and bursal sacs. Included in the rheumatic disorders are fibrositis, tenosynovitis, and bursitis. These conditions may cause considerable pain and much disability, either temporarily or long term.

**COMMON FUNCTIONAL LIMITATIONS**

- **Upper extremities**
  - Fine hand movements
  - Fingering
  - Manual dexterity
  - Grasping
  - Working over the shoulders
  - Tactile discriminations

- **Lower extremities (including back)**
  - Stooping
  - Bending
  - Twisting
  - Lifting
  - Crawling
  - Sitting
  - Balancing
  - Kneeling
  - Climbing
  - Turning
  - Carrying
  - Standing

- **Either upper or lower extremities**
  - Abrupt extremes of weather/temperature conditions
  - Strenuous activities without frequent rest periods
  - Trauma/jarring/overuse of affected joints
  - Pain
  - Mobility
VOCATIONAL IMPEDIMENTS

These diseases display frequent undefined periods involving exacerbation or remission of symptoms. During remission, the client may have periods with few limitations. The counselor should be aware of which joints are affected, and counsel the client toward vocations that utilize less affected joints.

An arthritic patient should have certain evaluations performed to aid in diagnosis and treatment. An internist, especially a rheumatologist, is best equipped to provide this. If an individual has multiple range-of-motion difficulties, it could also be effective to consult a physiatrist to evaluate these. The counselor should always insist, however, that the physician in attendance provide information about the client's range-of-motion, muscle strength, and weakness of affected joints.

The counselor needs to tie the specific functional limitations to the individual's problems in handling past job duties or show how the limitations would impede future employment opportunities. Specifically you could look at:

- Does pain accompany task performance?
- Are there mobility restrictions in performing tasks?
- Is the client able to drive or access other modes of transportation?
- Side effects of medications may cause illness that interfere with daily work routine.
- Jobs with temperature extremes must be avoided.

OBSERVATIONS DURING INITIAL INTERVIEW

- Are there obvious signs of swelling, redness, or joint deformity?
- Does the individual have noticeable restriction of motion in walking, signing forms, bending to sit in the chair, standing, etc.?
- Is the individual in obvious pain?
- (Back conditions) How long the individual sat and the degree of difficulty in tolerating this position?
- Does the individual appear to be overweight?
- Does the individual exhibit any signs of chronic emotional stress, e.g., depressed mood?

INITIAL INTERVIEW QUESTIONS

- What is your prognosis?
- What type of arthritis do you have (i.e. rheumatoid, osteoarthritis, etc.)?
- Which joints are affected? Explain your affected range of motion.
- What activities produce pain/stiffness?
- Are there environmental conditions that produce pain/stiffness?
- What type of treatment have you received (surgery, physical therapy, prosthesis) and how successful was it?
- Have you had x-rays taken? When? Where?
- What medications do you take and what are the side effects?

IPE CONSIDERATIONS

- Participate in PT and/or OT as prescribed.
- Take medications as prescribed.
- Consider adaptations/modifications of home environment.
- Consider job engineering and job site modification.
Consider independent living needs.
Consider referral to support groups.

RESOURCES
ASPERGER’S SYNDROME

DESCRIPTION

Asperger’s syndrome is a developmental disorder that affects a person’s ability to socialize and communicate effectively with others. It is often considered a high functioning form of autism and is called autistic spectrum disorder or pervasive developmental disorder. Asperger’s syndrome is thought to be at the milder end of this spectrum. It has been diagnosed in Europe since the 1940’s but not included in medical diagnostic manuals in the United States until 1994. As a result, many children and adults remain undiagnosed. It also means that there is limited research to use as a guide in treating and counseling individuals with AS as they reach adulthood and try to live on their own.

AS individuals are of average to above average intelligence and some have unusual gifts and creativity. There is no cure for Asperger’s syndrome but the condition can be treated so that the person can learn how to interact more successfully in social situations. Boys are more likely to develop Asperger’s syndrome than are girls.

Children with AS usually develop language skills by the age of two and phrases by three years old. Toddlers and school-age children with AS may show no interest in friendships. They will often have developmental delays in walking, catching a ball, or playing on playground equipment. In early childhood, children with AS may be quite active, but as they age they may experience depression or anxiety.

Many individuals with AS have been incorrectly diagnosed with attention deficit disorder, hyperactivity disorder (ADHD) or obsessive-compulsive disorder, possibly because the symptoms of some of these conditions are similar to those of Asperger’s. These other conditions may also coexist with Asperger’s, which can delay the diagnosis.

Although Asperger’s syndrome cannot be cured, many individuals grow into happy and well-adjusted adults.

COMMON FUNCTIONAL LIMITATIONS

- Difficulty choosing a topic of conversation,
- Engaging in one-sided, long-winded conversations,
- The inability to recognize that other people think and feel differently than they do,
- The inability to understand nonverbal cues, such as facial expressions, or body language, or to understand humor,
- Appearing not to understand, empathize with, or to be sensitive to others’ feelings,
- Speaking in a voice that is monotonous, rigid, or unusually fast,
- Moving clumsily, with poor coordination,
- Displaying unusual nonverbal communication, such as lack of eye contact, few facial expressions, or awkward body postures and gestures,
- Showing an intense obsession with one or two specific, narrow subjects, such as baseball statistics, train schedules, or weather.

VOCATIONAL IMPEDIMENTS

It is very difficult for AS individuals to develop normal friendships. They frequently remain dependent upon their parents or family members and suffer from separation anxiety and insecurity when they try to live on their own.
If they have not had social skills and language skills training called social “scripts” through special training and repetition as children or adolescents, it is unlikely that they would be able to become successful in the workforce. This is said with a caveat in that every individual is unique. The severity of Asperger’s syndrome and other conditions that may be present, and the signs the individual presents will determine what steps can be taken to move this person into a work setting. There are those who have successfully completed training for advanced degrees and are now teaching in university settings. This shows that with the right kind of physical and speech therapy some individuals with AS can become productive members of society.

Individuals with AS may be able to learn the unwritten rules of socialization and communication when taught in an explicit and rote fashion, much like learning a foreign language. They may also learn how to speak in a more natural rhythm and to interpret communication techniques, such as gestures, eye contact, tone of voice, humor, and sarcasm.

The individual with AS may also need cognitive behavioral therapy to help curb interrupting, obsessions, meltdowns or angry outbursts, and develop skills in recognizing feelings and coping with anxiety. They will need to learn to recognize and deal with new places or events with lots of social demands and then select a strategy to cope with the situation. Individuals with AS like routine, so if you need to change their schedule do so gradually.

**INTERVIEW CONSIDERATIONS**

More than likely the people you will be interviewing will have less severe cases of AS with normal to above average intelligence. They will probably have had some communication and social skills training as well as cognitive behavioral therapy (this will be particularly true in younger adults). These treatments may have allowed the person to develop normally and may have reduced some of the undesirable behaviors. However, the person may still have problems with verbal and nonverbal communication.

Be sure you are on time for the interview and that each appointment is in the same room and with the same people present, if possible.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Significant language delays
- A lack of eye to eye contact
- Unusual body posture
- Few facial expressions
- A preoccupation with one subject
- An inflexible attitude toward change
- Difficulty choosing a topic of conversation
- Speaking in a voice that is monotonous, rigid, or unusually fast
- Unable to understand humor
- Engaging in one-sided, long-winded conversations
- Inability to understand nonverbal cues

**INITIAL INTERVIEW QUESTIONS**

- Do you have close friends?
- Do you get frustrated in social settings? Why?
- What makes you happy?
- What makes you angry?
Tell a joke and then ask the individual if it was funny. If not, why not?
Would you like to live in another city or apartment? If not, why not?
Tell a sad story and ask the individual for their reaction.
Do you have any problems with your emotions (anger, anxiety, depression)? (Each of these emotional problems needs to be pursued).
Do you have problems with activities of daily living? What kind of problems? How do you resolve these problems?
What activities interest you? (Pursue their passions, abilities, and needs).
What kinds of special education have you received? At what age did you receive special education? For how long?
Have you received speech, physical therapy, or social skills training? How old were you? How many years did you receive this therapy?
Are you currently taking medications? What, how often, how long?
What is your job expectation and what does your family expect?
Do you have a close supportive caregiver?

**IPE CONSIDERATIONS**

Working as a team is very important. Include family members, rehabilitation professionals (counselor, evaluator, placement specialists, independent living specialists), and other people who are closely involved with the client.
- Provide speech and language therapy to help with any existing language or communication problems,
- Provide a speech coach who may be able to help with tone of voice and speech rhythms,
- Provide counseling to assist with behavior and coping skills. Cognitive behavioral therapy encompasses many techniques aimed at curbing problem behaviors that AS individuals experience.

**RESOURCES**


ASTHMA

DESCRIPTION

Asthma affects millions of people in the United States and causes thousands of deaths each year. It is a complex disorder in which stimuli such as smoke, irritants, cold air, histamines, or drugs cause reactions in the airway, which obstruct airflow. Stressors such as viral respiratory infection, exercise, or situational emotional stress may also precipitate an asthma attack. Some asthmatic attacks are due to allergic reactions.

Individuals affected by asthma may have a feeling of tightness in the chest, labored breathing, wheezing, coughing, gasping, and fatigue. Required medications, such as corticosteroids may cause weight gain, brittle bones, and lead to diabetes. Bronchodilators may cause nervousness or cardiac arrhythmia. The obstruction of airflow is usually reversible, which means that with appropriate medication, the patient's breathing condition will improve and eventually become normal. If lung damage has occurred, however, some effects of asthma may well be irreversible and the individual may never be able to breath as well as before.

COMMON FUNCTIONAL LIMITATIONS

- Walking
- Climbing
- Lifting
- Stamina
- Cold
- Temperature changes
- Wet, humid conditions
- Fumes and dust

VOCATIONAL IMPEDIMENTS

It is important for the individual to avoid allergens that cause the reaction, or to avoid the nonallergenic stressors that precipitate the asthma attacks. Therefore, because of the conditions related to former employment, services may be needed to redirect the person’s vocation. In addition, there may be limited types of jobs available because of the conditions that must be avoided. A vocational impediment may also exist, based on the recovery time necessary after experiencing an asthma attack.

The fact that asthma creates impediments to employment is usually not an issue with this disability group. Successful employment is identifying the job for which the individual has potential and one that offers an appropriate work environment in which the allergens or stressors can be avoided. The frequency of asthma attacks and the recovery time are issues to consider but rarely rule out employment.
OBSERVATIONS DURING INITIAL INTERVIEW

- Does the individual have shortness of breath?
- Does the person wheeze or cough during the interview?
- Are inhalants or other medications used during the interview?

INITIAL INTERVIEW QUESTIONS

- Do you have excessive coughing attacks or shortness of breath?
- What activities cause shortness of breath?
- What relieves the shortness of breath e.g., medication, rest?
- What specific activities are difficult because of the disorder (climbing stairs, walking)
- How often do you experience asthmatic attacks?
- What medications do you take?
- Do you know if you are allergic to pollens, dust, mold, or fumes?
- Do you have difficulty in temperature extremes, especially cold?
- How incapacitating are the attacks and how long is the recovery period?
- How do you respond to the fear of a potential attack?
- Do you smoke?
- What is your work history?

IPE CONSIDERATIONS

- The allergen or the stressors causing the reaction must be avoided. The vocational goal should be chosen with that in mind to assure an appropriate work environment (e.g., to avoid extreme temperatures, or to avoid smoke).
- The individual should adhere to the medication regime prescribed by the physician.
- In some cases, relaxation therapy and/or assertiveness training may help relieve stressors that precipitate asthma attacks.

RESOURCES

American Academy of Allergy, Asthma, and Immunology, http://www.aaaai.org
ADULT AUTISM

DESCRIPTION

Autism is a symptom, not a disease. It affects six out of every 1000 children. Most of these children survive to adulthood. Since autism has been portrayed as a childhood disease the focus on children has influenced the marketing, research, and treatment of autism. For this reason, few programs and resources are allocated for adults with autism. Given this fact, we have limited information to guide us as we counsel and prepare autistic adults to become contributing adults in the workplace.

Children typically exhibit signs of autism during the first three years of life and as early as birth. Other children may develop normally for a few months only to exhibit symptoms when they are 18 to 36 months old. Boys are four times more likely to develop autism than girls, and race, ethnicity, social and educational levels of parents have no affect on the chance of a child having autism.

There are different types of autism, referred to as autism spectrum disorders (ASD):

- **Autistic disorder.** The typical name for autism and refers to problems with social interactions, communication, and limited scope of interests.
- **Asperger’s syndrome.** People with this syndrome have normal communication skills and test normal to above-average in intelligence, but have the same problems with social interactions and limited scope of interests as people with autistic disorder.
- **Pervasive developmental disorder or PDD (atypical autism).** People with PDD have some autistic problems, but do not have all of the characteristics of autism. They usually have normal to above-average intelligence.
- **Rett’s disorder.** This disorder affects only females. Women with Rett’s disorder develop normally, but gradually lose their communication and social skills. Between the ages of one to four years they begin to exhibit repetitive hand movements.
- **Childhood disintegrative disorder.** Children with this disorder develop normally for at least two years, and then begin to lose their communication and social skills.

A person diagnosed with any one of the above disorders may elicit one or more behaviors within the autism spectrum. Thus, an autism diagnosis tells very little about that person since there are so many variables within the spectrum.

Many people with ASD are mentally challenged and have repeated body movements such as rocking or hand flapping. They may have unusual responses to other people since they may have trouble understanding what other people think and feel which makes it hard for them to express themselves in words or through gestures, facial expressions, or touch. Autistic people may be very sensitive to or pained by sounds, touch, smell, or sights.

People with autism exhibit uneven skill development. They may not be able to communicate or relate to others, but they may have unusually developed skills in drawing, creating music, solving math problems, memorizing facts, or computer skills. For this reason they may test higher than average on nonverbal intelligence tests.

What all individuals diagnosed with ASD have in common are delays or limitations when it comes to social skills, i.e. ordinary conversation, eye contact, sharing, friendships, emotional understanding of others. These issues are likely to lead to impaired social interaction, i.e. problems with verbal and nonverbal communication, unusual or limited interests.

A 2007 study at the University of Wisconsin revealed that autism symptoms and behaviors are less severe as persons with autism age. It was found that those with normal to above average intelligence and
some degree of language competence were likely to improve throughout their lives. This does not mean that autism disappears or that a person recovers from this disabling impairment. It merely means that some people with autism can continue to change and improve throughout their lives, given the right support and environmental accommodations.

**COMMON FUNCTIONAL LIMITATIONS**

- Extreme difficulty in learning language
- Problems with verbal and nonverbal communication
- Impaired social interaction
- Inappropriate response to people. May avoid eye contact or seem tuned out
- Extreme resistance to change
- Extreme hyperactivity or unusual passivity
- Unusual, repetitive, or severely limited activities and interests
- Repetitive body movements; i.e. pacing, hand flicking, twisting, spinning, rocking, or hitting oneself
- Unusual attachment to inanimate objects
- Abnormal responses to light, sound, touch, smell, taste, movement

**VOCATIONAL IMPEDIMENTS**

The extreme diversity of people with ASD and the enormous variations of features and behaviors among people with ASD do not provide vocational rehabilitation professionals with clear diagnostic criteria with which to understand a particular individual with ASD. Autism ranges in severity from a handicap that limits an otherwise normal life to a devastating disability requiring institutional care. Autism is a broad spectrum disorder with the range and grade of symptoms varying from one individual to another. One cannot assume that one person with ASD is just like another.

An adult who has not had the benefit of treatment, therapy, and/or social training will often be unable to work or hold a job. An adult with ASD, even mild autism, may have reclusive tendencies and not want an association with others. They are unable to comprehend the intricacies of social behavior and relating to others in a work environment. They may want relationships with others, but they lack the ability to enter into personal relationships.

They may be obsessed with one subject or object. They may repeatedly bring a conversation back to the subject of their interest in inappropriate situations or stare for hours at an inanimate object or thing. If they are forced away from a routine or schedule or put in a social situation without preparation, they will often panic or become angry.

An adult with ASD may experience great anxiety in situations that would be acceptable to people without ASD. It may be something as simple as moving an object they have designated as its “place” or taking them to a different location from the one to which they are accustomed.

They may have repetitive body movements that are disruptive to their fellow employees. At times they may act as if they are deaf, unwilling to react to the spoken word. An adult with ASD may be unusually sensitive to light, sound, touch, smell, taste, or movement.

More than likely the person you will be interviewing will have mild autism with normal to above average intelligence. They will probably have had some special education, behavior modification therapy, and/or speech, physical, or occupational therapy (this will be particularly true in younger adults). These treatments may have allowed the person to develop fairly normally and may have reduced some of the undesirable behaviors. However, the person may still be reclusive and unable to relate to others. They may also have problems with verbal and nonverbal communication.
You may consider breaking the interviews into several sessions. The person may not be able to handle during one session all of the questions you will want to ask.

The person may be unusually sensitive to light, noise, smell, or movement. For this reason, you may want to conduct the interview in a room with dim lighting. The room should be buffered from ringing telephones, employee chatter, and other noises that may impact the person. It would be best if there were no windows so that sunlight or movement from outside does not draw the attention of the interviewee. The interview should probably not be conducted in a coffee room, in or near a cafeteria, or other places that emit strong smells. For this interview, you may want to avoid personal use of perfumes or other strong scents.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Does the person refuse to make eye contact?
- Does the person refuse to shake hands?
- Is it difficult to elicit a response from the person?
- Does the person’s body language suggest they do not want to be in the interview?
- Has it been difficult to get the person to come in for an appointment?
- Is the person fixated on one subject?
- Does the person have repetitive body movements?
- Does the person exhibit language problems?
- Does the person appear sensitive to light, noise, touch?
- Is there a problem with social maturity or awkwardness?
- Does the person appear angry, depressed, or anxious?
- Is the person’s dress and grooming appropriate?

**INITIAL INTERVIEW QUESTIONS**

- Do you mind being touched? If not, why not?
- Do noises bother you? What noises? How do these noises make you feel?
- Do you have a problem with smells and odors? If yes, which ones? What is your reaction to these smells or odors?
- Do you dislike certain tastes? If yes, what tastes? What is your reaction to these tastes?
- Are you troubled by the movement of objects? If yes, which ones? What is your reaction?
- Does light bother you? What type of light? How do you react and feel?
- Is your life structured and do you like to have definite rules to follow?
- Do you have any cognitive problems (memory, writing, organizational and planning ability, communication, attention, reading)? *(You will need to delve into and pursue each of these cognition problems).*
- Do you have problems taking initiative, inflexibility, irritability, social judgment, maturity, social awkwardness, impulsiveness, aggressiveness? *(Again, you will need to exhaustively pursue each of these problems).*
- Do you have any sensory or motor problems (vision, coordination, pain, perception, hearing)?
- Do you have any problems with your emotions (anger, anxiety, depression, suspiciousness)? *(Each of these emotional problems needs to be pursued).*
- Do you have problems in activities of daily living? What kind of problems? How do you resolve these problems?
- What activities interest you? *(Pursue their passions, abilities, and needs).*
Do you experience seizures? How often and under what conditions?
What kinds of special education have you received? At what age did you receive special education? For how long?
Have you received speech, physical, or occupational therapy? How old were you? How many years did you receive this therapy?
Are you currently taking medications? What, how often, how long?
What is your job expectation and what does your family expect?
Do you have a close supportive caregiver?

IPE CONSIDERATIONS

Working as a team is very important. Include the family, rehabilitation professionals (counselor, evaluator, placement specialists, independent living specialists), and other people who are closely involved with the client.

- Provide counseling to assist with behavior and coping skills. Some of these treatments include applied behavioral analysis (ABA), Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH), and sensory integration.
- You may want to find a buddy or mentor for the person who can offer advice on social and communication challenges that may arise.
- Provide occupational therapy for any motor problems that impact daily activities.
- Provide speech and language therapy to help with any existing language or communication problems.
- There are support groups for people with autism that may prove helpful to the client.
- Remember that people with autism often need and respond to a strict structure very similar to what is found in the military, a hospital, or laboratory.
- People with mild autism may be able to acquire a GED or a college education which opens up many work opportunities.
- It is important to remember that persons with autism are not typical and, therefore, the jobs they are qualified for may not be typical, i.e. lab technician, researcher, gemologist, antiques appraiser, art historian, gardener or horticulturist, paleontologist, a self-employed artist or writer, manager of things, animals, or systems, archaeologist, computer aided design are just some examples. Finding employment for someone with ASD requires innovation, creativity, thinking outside the box, and finding and supporting the training so that they can be productive contributors to society.
- Persons with ASD frequently see the parts but not the whole (trees but not the forest). This ability to see subtle differences in details can be a significant asset on some jobs.
- The person may be very rules oriented, which can be a virtue in settings such as the military, doing precise lab work, or any job that requires following detailed processes or sequences.
- Persons with ASD are often very focused on a single topic. This single mindedness can be a virtue when the job is a reflection of the area of interest.

RESOURCES

BURNS

DESCRIPTION

Burns are an injury to the flesh caused by fire, heated objects or fluids, electricity, chemicals, the sun, radiation, or friction. Most burns only affect the skin. Rarely deeper tissues such as muscle, bone, and blood vessels are injured. Currently burns are classified according to the depth and size of the burn as first (superficial), second (partial-thickness), third (full-thickness), or fourth degrees. First and second-degree burns usually heal within two to three weeks without any complications or scarring. These burns are frequently from thermal sources such as hot liquids, or radiation such as sunburn. Third degree burns, in which there is damage to the full thickness of the skin, are slow healing, produce severe scarring, and result in loss of normal range of motion. Fourth degree burns occur where there is damage to the fat, muscle, or bone below the level of the skin as well as the full thickness of the skin itself. Third and fourth degree burns usually result from fire, flame, or electrical causes. It is important to consider the amount of body surface burned, in addition to the depth of the burn. Another factor for consideration is the location of the burn site(s). While large burns can be fatal, modern treatments developed in the last 60 years have significantly improved the prognosis of such burns.

About 85% of those who have burn injuries return to their former activities within six months. The remaining 15% require extensive intermittent reconstructive or cosmetic surgery for a period of about two years. These persons may require vocational rehabilitation services to attain or regain employment.

COMMON FUNCTIONAL LIMITATIONS

Burn injury most commonly limits mobility. This results from contractures caused by shortening of tissues or scarring. Burns to the lower extremities may interfere with walking, climbing, or balancing. Those to the upper extremities may interfere with reaching, fingering, and handling. In some cases, upper extremity impairment also results in problems with self-care activities such as eating, dressing, hygiene, and grooming.

Cosmetic disfigurement is also a common result of burn injury. Family members, coworkers, and the public may reject the person. This can present a barrier to employment in occupations requiring interpersonal relationships. Other common functional limitations include:

- Tolerance to extreme heat conditions
- Aesthetic appearance
- Ability to meet the public
- Activities causing trauma/irritation to injured skin and/or joints
- Range-of-motion if joints are affected (see arthritis limitations)
- Self-image
- Employer/peer acceptance

VOCATIONAL IMPEDIMENTS

The specific functional limitations must be addressed as they relate to the performance of past jobs or potential future jobs. Cosmetic appearance can be an employment barrier resulting in rejection by coworkers, employers, and the public.

The counselor should assess the extent of functional limitations as they relate to performing past jobs.
If unable to perform past work, an assessment must be made as to the individual's potential for further training to qualify for employment consistent with existing limitations.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Are there obvious signs of disfigurement (i.e. facial characteristics, hair loss, contractures, eye/eyelid dysfunction)?
- Is scarring evident on visible areas (i.e. face, neck, hands, arms)?
- Does the person exhibit signs of depression or problems with self-image?

**INITIAL INTERVIEW QUESTIONS**

- What parts of your body were burned and what was the degree of the burns?
- As a result of the burn, do you have limitations of activity? Describe.
- As a result of the burn, do you have limitations in upper extremity function (reaching, grasping, picking up objects, touch)?
- As a result of the burn, do you have limitations in mobility (walking, sitting, standing, and climbing)?
- What joints and extremities are limited? How?
- How significant is your pain?
- Describe your treatment (past and present). Dates of treatment? Where?
- Are you required to wear compressive garments? What type? Length of wear?
- Who is your primary care physician? Type of physician? Date last seen?
- Are you being treated for psychological problems associated with the burns?

**IPE CONSIDERATIONS**

- If compressive garments are worn, vocational training or work environments with high temperatures or humidity should be avoided.
- Hand and finger dexterity will be affected if the person is required to wear protective gloves.
- The client should be knowledgeable about garment care and conditions to avoid that would reduce the life of the garment(s).
- Rehabilitation planning should take into account potential needs for physical therapy and possible reconstructive surgery, to treat contractures. Similarly, cosmetic surgery may be needed to reduce disfigurement.
- In some cases, adaptive equipment and devices may be needed to compensate for lost or impaired functioning. Burned skin is not as strong as normal skin and, depending on the area of the body involved, occupations that are likely to irritate exposed areas might need to be avoided.
- Burned skin does not insulate well, so the person may need to avoid occupations with exposure to very high or very low temperatures.
- Disfiguring burns are likely to cause reactions from family, friends, and the public. Psychological assistance may be an important part of the successful plan.

**Resources**


CANCER

DESCRIPTION

Cancer is a class of diseases characterized by the development of abnormal cells that display uncontrolled growth, and invade and destroy adjacent healthy tissue. The cancer will sometimes metastasis or spread throughout the body via lymph nodes or blood. The causes of cancer are divided into two groups: Environmental causes and hereditary genetic causes with environmental factors being the primary cause. Common environmental factors that contribute to cancer include tobacco, diet and obesity, infections, radiation, lack of physical activity, and environmental pollutants. Only about five to ten percent of cancers are entirely hereditary.

Cancer is the second leading cause of death in the United States. In 2007, cancer caused 13% (7.9 million) of all human deaths worldwide. Rates are rising as more people live longer and lifestyles change in developing countries.

Cancers are classified by the following types:

- Carcinoma – One of the most common cancers, including those of the breast, prostate, lung, and colon.
- Sarcoma
- Lymphoma and Leukemia
- Germ cell tumor – In adults these are most often found in the testicle and ovary, but are more common in babies and young children
- Blastoma – Most common in children.

Signs and symptoms caused by cancer are different for each individual and will vary depending upon what body part is affected. Some of these signs and symptoms may include fatigue, lump or thickening under the skin, weight changes, darkening or redness of the skin, sores that won’t heal or changes to skin moles, changes in bowel or bladder habits, persistent cough, difficulty swallowing, hoarseness, persistent indigestion or discomfort after eating, persistent, unexplained muscle or joint pain.

COMMON FUNCTIONAL LIMITATIONS

- Stamina
- Strength
- Lifting ability
- Climbing ability
- Walking endurance
- Tolerance to temperature changes
- Pain
- Fatigue
- Difficulty breathing
- Nausea
- Diarrhea or constipation
VOCATIONAL IMPEDIMENTS

The key here is to relate the specific functional limitations to the person’s ability to get or keep employment. The results or effects of treatment or therapy are an important consideration. There are times when the cure is worse than the disease in creating vocational handicaps. The emotional status of the individual, including anxiety level and depression, may also play an important factor in determining vocational handicap.

The person’s prognosis is the primary determiner of the impediments to be faced. Tables showing life expectancy rates for specific cancers are helpful, but should not be relied upon exclusively due to the rapidly improving “cure rate” for many forms of cancer. Instead, the medical information should be reviewed individually with the help of a medical consultant.

You may also consider whether side effects of medical treatment will prevent the individual from participation in or completion of other necessary services. At what stage is the individual in the treatment regime? Are amputations or other disfiguring treatments planned?

OBSERVATIONS DURING INITIAL INTERVIEW

- Does the person appear below normal weight?
- Are there signs of loss of stamina or strength?
- Are there visible signs of treatment or surgery (skin coloring, hair loss, and swelling)?

INITIAL INTERVIEW QUESTIONS

- What kind of cancer has been diagnosed?
- Have there been recent changes in your condition?
- What is the physician’s prognosis?
- Is the cancer currently causing problems for you?
- What modes of treatment have been used (surgery, chemotherapy, and/or radiation)?
- What medication and treatment regime have been prescribed for you?
- What are the side effects of treatment and/or medications?
- Are there specific functional limitations?
- How do you view your vocational future?
- Have you been able to meet medical expenses?
- What are the sources of income?

IPE CONSIDERATIONS

- The IPE should include periodic medical evaluations.
- Counseling should be a part of the plan in order to deal with the emotional stages of cancer.
- Treatment (surgery, radiation, chemotherapy) should be planned as recommended by physicians.

RESOURCES

National Cancer Institute, http://www.nci.nih.gov
CARDIOVASCULAR DISORDERS
AND
PERIPHERAL VASCULAR DISEASE

DESCRIPTION OF
CARDIOVASCULAR DISORDERS

Cardiovascular disorders include arrhythmias, atherosclerosis, congestive heart failure, hypertension, persistent left ventricular hypertrophy, mitral valve dysfunction, etc.

Cardiovascular disease is the leading cause of death in the United States due to effects on vital organs such as the brain, heart, kidney, and the extremities. Various associated biochemical, physiological, and environmental risk factors increase the possibilities of an individual suffering from a cardiovascular disorder. The associated risk factors include hypertension, elevated serum lipids, cigarette smoking, diabetes mellitus, and obesity.

Arteriosclerosis is a generic term encompassing those diseases that cause a loss of elasticity to arterial walls, a deposition of atheroma or atherosclerotic plaque on arterial walls, and/or a weakening of arterial walls. Atherosclerosis, a form of arteriosclerosis, results when plaque has deposited and obstructed circulation. A complication of atherosclerosis is the increased possibility of stroke due to embolus material breaking away from the plaque build-up and lodging in and destroying circulation, in smaller arteries. Obstructed circulation can be a cause of elevated blood pressure due to exertion by the heart to provide oxygenated blood to tissues. Obstructions can contribute to ventricular hypertrophy, valvular disorders, and heart failure.

Another complication may be hemorrhage of an artery and a subsequent interference with blood flow. Symptoms can be acute, and can be temporary or permanent. As a general rule, a person suffering a hemorrhage of an artery will regain greater function than a person suffering a restriction of circulation by blockage due to the ultimate destruction of arteries beyond the blockage.

Persons with cardiovascular disorders may present elevated serum lipids (low density lipoproteins, high density lipoproteins), obesity, high blood pressure, chest pain upon exertion, and shortness of breath. Family history of cardiovascular disorder can be helpful in determining the course the disorder may follow.

Heart diseases have many different etiologies that primarily result in inadequate cardiac output for the body's needs. The relationship between cardiac output and a sufficient oxygen supply to the tissues of the body is crucial to normal functioning. Cardiac output may be affected by the elasticity of heart muscle (heart failure), reduced diastolic compliance (left ventricular hypertrophy), the loss of elasticity of tissues around heart valves (mitral valve prolapse), or the body’s electrical discharge to prompt the heart to contract (arrhythmia) and thus supply oxygenated blood to body tissues.

These disorders may also be prone to the development of endocarditis, a bacterial infection of the endocardium, characterized by fever, murmurs, and anemia that may result in valvular incompetence, or other problems.
Peripheral vascular diseases include varicose veins, thrombophlebitis, arteriosclerosis obliterans, and Buerger's Disease. Peripheral vascular disease affects the extremities and involves arteries, veins, and the lymphatic system. As with other vascular disorders various risk factors play an important role. Genetic predisposition and smoking are key factors to consider with persons with these disorders. Peripheral atherosclerotic disease (arteriosclerosis obliterans) is the occlusion of blood supply to the extremities through the deposition of atheroma (atherosclerotic plaque), also referred to as occlusive arterial disease. Ischemia (partial or complete blockage of blood flow to the affected area) may be present in arteriosclerosis obliterans, Buerger's Disease, and thrombophlebitis. The ischemia, if complete, may create pre-gangrenous conditions with presentations of pain, cold, or numbness, and tired feeling when walking, occurring most often in the calf, or foot, less often in the thigh, hip or buttocks. Symptoms are usually relieved with rest of one to five minutes. With compromised blood flow, the affected areas must remain clean and free of debris and/or ulcerations. Additionally, Raynaud's Phenomenon may also be present and rest may be required to relieve the spasms or other symptoms presented. Digits may be cold and/or numb and may be susceptible to small ulcers. Several functional limitations may be present and a cautious approach may be advised.

**COMMON FUNCTIONAL LIMITATIONS**

You need a good definitive description of limitations from the physician.

- Mobility (walking, running, climbing stairs)
- Standing for prolonged periods (Has physician contraindicated standing?)
- Lifting, pushing, pulling, reaching, pressing (Does client have a back problem?)
- Stamina
- Endurance
- Temperature extremes
- Dizziness (under what conditions?)
- Tolerance to environmental changes (gases, fumes, air quality, altitude changes)

**VOCATIONAL IMPEDIMENTS**

Consider those functional aspects of work that are limited, excluded, or contraindicated due to the presence of this disorder. Consider also whether the client fatigues easily or requires long rest periods between exertions. Is this client susceptible to ulcerations or vascular damage due to ischemia when standing?

Consider age, limitations, and training. Many persons with cardiovascular disorders have a good prognosis for employment provided they cease smoking, lose weight, maintain moderate exercise, and reduce stress, per physician recommendations. Life style changes are an important part of the medical management of these disorders. In determining how the individual can reach an employment goal, the counselor must look at abilities and aptitudes in relation to potential goals that are not contraindicated by the restrictions of the disability. Side effects of medications must also be assessed.
OBSERVATIONS DURING INITIAL INTERVIEW

- Does the person exhibit fatigue or shortness of breath?
- Does she/he smoke?
- Is the person overweight? Has the physician recommended weight loss?
- Are assistive devices used (cane, wheelchair, walker)?
- Is there evidence of persistent cough?
- Are the person’s ankles swollen and are varicose veins visible?
- Are ulcerations or skin discoloration apparent?
- Does the person appear to be in pain?

INITIAL INTERVIEW QUESTIONS FOR CARDIOVASCULAR DISORDER

- What are your symptoms? How do you feel (short of breath, chest pain, weakness, fatigue, sleep patterns)?
- What activities cause symptoms? How long do symptoms last? How debilitating are the symptoms (slow down activity, stop all activity)? How do symptoms subside?
- What does the physician specify as your functional limitations?
- Is there a history of high blood pressure? How high?
- How knowledgeable are you about the disorder?
- Are periods of dizziness experienced? Is there rapid or irregular heart rhythm?
- How do you feel emotionally (e.g., fear of further problems, depression)?
- What recent diagnostic studies have been done (ECG, catheterization, chest x-ray, exercise stress tests, blood tests, organ function tests)? When? Where? Who is/was the treating physician?
- Do you take medication(s)? If so, what type and what is the purpose of the medication? Who is the prescribing physician? What type of physician?
- Are drowsiness or other side effects experienced?
- Does climbing a flight of stairs produce pain, discomfort, or shortness of breath?
- What has the physician recommended in regard to the condition (e.g. diet, tobacco use, physical activity)? Is the physician's advice followed?

INITIAL INTERVIEW QUESTIONS FOR PERIPHERAL VASCULAR DISEASE

- Does the client have leg pains in one or both legs?
  - Area of leg affected
  - Frequency of attacks
  - Activity level achievable during pain
  - Duration of pain
- Do certain types of activities initiate pain?
- Does swelling occur at or below the affected area? Skin discoloration? Skin texture changes (rough, smooth)? Loss of leg hair?
- Is medication taken for this condition? For pain? If so, what kind of medication and for what purpose is it taken? Who has prescribed the medication and what type of physician is she/he? How recent are the prescriptions?
- What activities relieve pain (rest, exercise, heat, elevation)?
What has the physician recommended in regard to the condition (e.g., diet, tobacco use, physical activity)? Is the physician's advice followed?

**IPE CONSIDERATIONS**

- Assure that the physician has cleared the person to work, and clearly identified activities to be avoided.
- Make sure the client has an adequate understanding of his/her disorder. Accomplish this through counseling, if necessary. These individuals often have great fear of exacerbations. Assure that the client’s support system is in place and activated to assist with medical management and support of the individual.
- In planning consider what are the best exertion/rest patterns and what time of day should they occur (morning, afternoon, evening, combinations)?
- Give first consideration to returning the individual to their former employment. Consider job site modifications.
- In the job placement effort, consider work environment restrictions (gases, fumes, dust, stairs, hard surfaces for walking, frequent cuts, bruises).
- In the job goal and in the placement effort give full consideration to the activities that must be avoided. The individual ultimately needs to be placed in a position that does not include duties or environmental conditions advised against by the physician.

**RESOURCES**


For further information, contact the American Heart Association in your region.

http://dir.yahoo.com/health/diseases_and_conditions/heart_diseases/organizations/American_heart_association_AHA_1
CARPAL-TUNNEL SYNDROME

DESCRIPTION

Carpal-tunnel syndrome is a hand and wrist disorder caused by obstruction or compression of the median nerve in the area of the wrist. It is normally caused by repetitious tasks in which there is repeated forceful wrist flexion. Injuries often occur in meat and poultry industries, some types of assembly-line work, and any work that requires repetitive use of the hands and wrists. Symptoms vary but include pain, loss of strength, a burning sensation in the fingers, and unpleasant tingling in the hand.

The individual usually recovers rapidly with treatment; however, symptoms may recur if the cause is not avoided. In addition, recovery may not be complete, with residual sensory motor limitations and, in severe cases, chronic muscular atrophy as well. Individuals may be encouraged to discontinue tasks causing the problem as conservative treatment. Nerve suture or nerve transplant may be advised in severe cases. Surgical decompression of the nerve may also be beneficial. It is usually advisable for the individual to avoid the activity that caused the disorder, even if the condition has been surgically corrected.

COMMON FUNCTIONAL LIMITATIONS

- Fingering
- Lifting
- Strength
- Pain
- Grasping
- Dexterity
- Reaching
- Endurance

VOCATIONAL IMPEDIMENTS

Most individuals with carpal-tunnel syndrome apply for services because the functional limitations caused by the disability make it very difficult or impossible to continue with a current or previous job. Often the physician has recommended a new vocation. In these cases, the vocational impediment seems apparent.

Previous vocational history must, however, be explored to see if there are transferable job skills. Other employment may be consistent with the person’s capacities and abilities, but would not require duties that affect the disability.

- Would it be possible for the individual to continue in his/her previous occupation with job accommodations or job modifications?
- Does the individual have the ability or potential to enter other occupations that do not require additional education, if assisted by vocational rehabilitation?
- If it appears that retraining will be necessary, does the individual have the motivation and capability to succeed in a training program?
OBSERVATIONS DURING INITIAL INTERVIEW

- Is the individual able to grasp and hold objects in the affected hand?
- Has the person’s ability to write been affected?
- Is there observable scarring from a previous surgery?

INITIAL INTERVIEW QUESTIONS

- What types of problems prevail in a work situation or in other situations because of the disorder?
- What types of jobs have you held in the past? (A detailed job history is necessary.)
- How has the disorder been treated and what additional treatment is planned?

IPE CONSIDERATIONS

- The client should follow medical treatment as recommended by the physician.
- Consider restructuring job duties or redesigning the workstation to help clients return to their employment.
- Carefully analyze the specific job requirements of potential employment goals to ensure that they are compatible with client limitations.

RESOURCES

CEREBRAL PALSY

DESCRIPTION

Cerebral Palsy (CP) is a loose descriptive term applied to a number of non-progressive motor disorders resulting from gestational or perinatal central nervous system damage and characterized by impairment of voluntary movement (static spastic paresis, incoordination, or involuntary movements). The term is not a diagnosis, rather a general therapeutic classification for stable cerebral lesions that occur in the early developmental process, usually at or before birth, but rarely occurring through the age of eight to twelve. Cerebral Palsy occurs in 1 out of 1,000 normal births and 1 in 100 premature births. It is non-progressive but the symptom severity is highly associated with the degree of medical and psychosocial management.

The commonly associated syndromes in cerebral palsy are spasticity in 70% of the cases, (a sudden involuntary contraction of a muscle which interferes with function) athetoid type symptoms in approximately 20% of cases, (involuntary slow and writhing movement) and ataxia (difficulty in controlling muscles in a coordinated manner) in about 10% of the cases. It can be assumed that areas are affected in the brain in addition to the motor cortex, i.e., the disorder is in most cases diffused. In many ways, it can be considered similar to traumatic brain injury. However, cerebral palsy occurs early in the developmental process.

The symptoms associated with cerebral palsy, i.e., spasticity, increase with emotional stress, and generally disappear with sleep. The affected limbs are generally underdeveloped and weak. Dysarthria is commonly associated with quadriplegia and is due to difficulty with rapid or fine movements required for speech and eating. Convulsive disorders occur in approximately 25% of these cases, and rehabilitation caseloads can be expected to have a higher than 25% incidence rate of seizure disorder because of the significant effect upon vocational adjustment. Most individuals with CP will have cognitive impairments ranging from mental retardation to learning disabilities. Some will have no cognitive impairment.

Be aware that most psychologists are not skilled in diagnostic assessment for CP. In general, the medical workups will be complete and thorough but with little attention to vocational adjustment and community integration. Manifestations of the disorder are dependent upon the location and severity of the brain damage and, while the medical records will go into great detail on physical limitations, there may be little or no attention given to cognitive and psychosocial status.

Treatments most often discussed will be physical therapy, occupational therapy, bracing, orthopedic surgery, anticonvulsive medications, and speech therapy. Because of the diffuse nature of the disorder, the rehabilitation counselor can expect that there will be unresolved issues as to other areas of behavior that are affected by the cerebral palsy, and the family's adjustment and support of the client in the rehabilitation process.

COMMON FUNCTIONAL LIMITATIONS

1. Physical limitations can include:
   - Stamina
   - Pushing, pulling, pressing
   - Muscular control, coordination, balance, speed
   - Ambulation, standing, stooping, bending, climbing
   - Writing, driving
   - Bowel and bladder, pulmonary, pain
➤ A personal care attendant for daily living activities (eating, cooking, dressing, personal hygiene).

2. Language and communication (75% of the cases will have some affected language communication disorders):
   ➤ Hearing disorders
   ➤ Auditory and visual comprehension disorders
   ➤ Distractibility
   ➤ Weakness or incoordination of speech mechanism

3. Psychosocial limitations can include:
   ➤ Cognition (verbal perception, verbal reception, verbal expression, visual perception, visual motor)
   ➤ Memory
   ➤ School achievement
   ➤ Acquisition retention, interpretation and application of information
   ➤ Social isolation
   ➤ Egocentricity (dependency and self-centeredness)
   ➤ Lack of initiation in taking responsibility

4. Complications:
   ➤ Contractures (joint limitations)
   ➤ Bowel and bladder incontinence
   ➤ Dental problems
   ➤ Osteoporosis
   ➤ Degenerative joint disorders due to poorly aligned joints
   ➤ Scoliosis
   ➤ Respiratory infections due to inefficient swallowing and compromised cough reflex

5. Other commonly associated problems or disabilities:
   ➤ Learning disabilities (visual/auditory processing)
   ➤ Mental retardation
   ➤ Visual and hearing problems
   ➤ Independent living skills
   ➤ Seizures
   ➤ Fatigue
   ➤ Problem-solving deficits
   ➤ Lack of support systems

**VOCATIONAL IMPEDIMENTS**

Generally, because of the diffuse nature of this disability, the individual will have many functional limitations and the connection between functional limitations and vocational problems is easy to make. The counselor can show the difficulties the individual has had in past vocational endeavors because of the specific functional limitations, or show how the limitations will impact on the person’s vocational choices in the future. In addition, preparation for employment (attainment of post-secondary training, for example) may be quite difficult. The counselor might also tie limitations to the general area of vocational goals stated by the client. There is a host of ways to make this connection.

If the individual has a seizure disorder, all of the limitations associated with seizure disorders and working with machinery, driving, etc. must be taken into account. Generally, you will find that physical problems will be the easiest for which to establish vocational impediments. The cognitive and psychosocial issues are equally important in establishing vocational impediments and reasonable expectation. The major cognitive and psychosocial issues relate to memory, attention, ability to acquire vocational skills, communication and language, family support, community opportunities, and realistic
vocational choices. A general consideration relates to the fact that, in most cases, individuals with cerebral palsy have restricted social opportunities and, therefore, may appear to be somewhat dependent and egocentric. In addition, the counselor needs to be sensitive to a family dynamic of protection of the individual from some of the problems in daily living.

It is important to assess the extent of physical limitations as they relate to the necessary skills in jobs for which the individual may qualify. When individuals lack the necessary functional ability for jobs they might be qualified for, the counselor needs to look at potential training programs that might allow the individual to enter occupations consistent with limitations. The key at that point is an assessment of whether the individual has the aptitude to complete the necessary training.

Another major issue in determining impediments to employment is the support/expectations of the family, and their willingness to allow the individual to experience increasing levels of independence and separation from the family.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Does the person appear to be knowledgeable about what he/she can and cannot do?
- How much prompting or leading is necessary in carrying out basic interview questions?
- Is the individual able to process information and answer questions in a relevant fashion (correctness, understanding of VR process, etc.)?
- What is the person’s physical appearance? Can he/she sit or stand for an extended period? How well does he/she ambulate?
- Does he/she use assistive devices - what type?
- Are there problems with speech clarity?
- Are grooming, dress, and hygiene appropriate?

**INITIAL INTERVIEW QUESTIONS**

- Describe any specific difficulties you have in muscle/reflex control (hip, feet, wrists, elbows, fingers, facial).
- Do you have problems with speech?
- Do you experience specific difficulties in ambulation, coordination, sitting balance, standing, and dexterity?
- What do you do in a typical day?
- What kind of assistance do you receive in carrying out these activities?
- What kind of accommodation strategies do you use to overcome difficulties?
- What does your family expect of you?
- What do you expect of yourself?
- What barriers do you need to overcome?
- What do you expect to do in terms of a job?
- What do you see as your assets for achieving your vocational goal?
- What types of assistive devices do you use?
- Has your wheelchair been properly fitted by a professional (if one is used)?
- What types of physical accommodations have been made?
- Do you have a personal care attendant, and if so, for what activities?
- How quickly do you become fatigued?
- What do you do socially?
- What difficulties do you have with activities of daily living (e.g. grooming, bathing, food preparation, eating, and dressing)?
- Have you had respiratory, bowel and/or bladder difficulties?
Are you able to operate a motor vehicle? What modifications are necessary?

IPE CONSIDERATIONS

- Thoroughly evaluate and arrange for necessary assistive devices (e.g. speech, mobility, computers, electronic aids).
- Promote healthy activity levels and routine exercise/physical therapy programs. This is very important for primary body functions as well as mental health.
- Consider job accommodation and rehabilitation engineering.
- Provide relocation assistance to an independent living setting or to a location closer to the work site.
- Provide counseling to help develop realistic goals and, possibly, necessary work related behaviors.
- Restricted work or volunteer experience may be needed to build work stamina.
- Arrange for personal care attendants as needed.

RESOURCE

Contact the United Cerebral Palsy Association at the city, state, or national level, www.ucp.org
National Institutes of Neurological Disorders and Stroke,
Delusional disorders are a psychiatric diagnosis indicating a psychotic mental disorder in which the individual holds one or more non-bizarre delusions in the absence of any other significant psychopathology. Non-bizarre delusions are fixed beliefs that are certainly and definitely false, but that could possibly be plausible, i.e. they are under police surveillance. The delusions are unique to the individual and are not due to the effects of drugs, medications, or a general medical condition. A person with delusional disorder may function very well in daily life and may not exhibit odd or bizarre behavior aside from the paranoia and delusions.

There are six subtypes of delusions:
- **Persecutory Type.** This is the delusion that one is being conspired against, spied upon, or mistreated. It is the classic symptom of paranoid disorder. In contrast to the delusion of persecution found in schizophrenia, this delusion is commonly elaborate, highly systematized, and logical. Generally, the person can explain the delusion down to small details and will take pains to do so. In other areas of functioning, the person may be impressively intact and show no evidence of difficulties in perception, thinking, or emotion. In fact, the emotion attached to the delusion is usually appropriate. This, coupled with the fact that the delusion relates to real life experiences that could be possible, sometimes complicates diagnosis. Litigation is common among persons with persecutory delusions. However, threats of violence and violent activity itself are very uncommon.
- **Jealousy Type.** This is characterized by extreme suspiciousness and possessiveness directed at one's lover or spouse. The person believes that the love partner is cheating on him or her. The person misinterprets trivial or casual events, such as phone calls or opening of one’s mail, then uses these events as evidence. Such a person typically inflicts a humiliating relationship on the lover or spouse. With the exception of this, however, there is good reality conduct and the person functions well. In fact, the person with the delusion may conceal the jealous attitude so well that the spouse or lover is considered the one with abnormal behavior.
- **Erotomanic Type.** In this delusion, the person believes that someone, and usually a famous person, is in love with him/her, but for reasons known only to the two of them, this love cannot be openly acknowledged. The person usually actively pursues the loved one.
- **Somatic Type.** In this delusion, the person believes that he or she has some physical defect, disorder, or disease, or that his or her physical appearance (such as the nose, face, or hair) has changed. These delusions are rare.
- **Grandiose Type.** This is also known as “megalomania” and “delusions of grandeur.” This delusion is characterized by a person's belief that he or she is the greatest, strongest, fastest, most intelligent person ever. There is little or no objective evidence of these talents.
- **Mixed Type.** These are delusions with characteristics of more than one of the above types, but no one theme predominates.
COMMON FUNCTIONAL LIMITATIONS

- Dependability
- Conformance to rules
- Judgment
- Logical thinking
- Cooperation
- Tact

VOCATIONAL IMPEDIMENTS

Delusional disorders seldom result in a vocational impediment. The exceptions are situations where the object of the delusion is a boss or co-worker in the workplace. For example, the person believes he is being persecuted by his employer and may quit or be fired because of it. Similarly, if jealousy delusions involve a loved one or spouse who is employed in the same setting or that one's coworkers are involved with the spouse or loved one, work difficulties may result. Ordinarily, however, persons with paranoid delusions are suspicious and keep their secrets to themselves. Even when others become aware of the person’s delusions, there is a tendency to view the person as merely a crank. Much depends on the object of the delusion. The businessperson who believes he is being persecuted by the IRS, or the coworker who has a two-timing spouse, is likely to be viewed with sympathy by others.

Available research indicates that approximately half of the persons with delusional disorders experience a remission and the other half have a chronic or persistent pattern. The prospects for treatment of those with chronic patterns are bleak. Delusional disorders do not respond to anti-psychotic medication. Individual psychotherapy is generally unsuccessful because the therapist cannot penetrate the elaborate, systematic, and logical construction of the delusion. Consequently, delusional thinking remains.

OBSERVATIONS DURING INITIAL INTERVIEW

- Does the individual appear to be suspicious of the counselor's intentions?
- Does the person freely share information, or appear to withhold personal information?

INITIAL INTERVIEW QUESTIONS

- How has your disorder specifically affected past ability to work?
- How does this disorder affect your daily routine?
- How do you get along with others, such as at a work site?
- What types of situations or work tasks do you need to avoid on the job?

IPE CONSIDERATIONS

Because these individuals do not respond to anti-psychotic medication, and psychotherapy is generally unsuccessful, vocational rehabilitation built around sensible and realistic goals consistent with the client’s delusional beliefs is most likely to be successful.
RESOURCES

Encyclopedia of Mental Disorders, http://www.minddisorders.com/Ob-Ps/Paranoid-personality-disorder.html
http://easywel.easynet.co.uk/simplepsych/paranoia.html
DESCRIPTION

Diabetes Mellitus is a chronic and incurable disease in which the process of moving glucose from the blood into the cell is not functioning correctly. The body changes food into glucose (a form of sugar) that is then carried by the blood to all of the cells in the body. The hormone insulin moves the glucose from the blood into the cell. Each cell uses glucose as its energy source and without glucose the cell begins to starve. Diabetes occurs when the body does not make enough insulin or when the cells cannot use the insulin that is made. When glucose cannot enter the cell, it begins to accumulate in the blood. The symptoms of diabetes are the result of the body attempting to deal with both starving cells and an abnormal buildup of sugar in the blood.

The signs of diabetes include fatigue, frequent urination, weight loss, extreme thirst, and hunger. If diabetes is not treated, the starving cells will turn to the body’s supply of fat and protein from the muscles as an emergency energy source. This creates another problem because the wastes from fats and proteins are acids (ketones) and these begin to build up in the blood. This can result is diabetic ketoacidosis (DKA), which is a medical emergency that may put a person into a coma if not treated immediately.

Although diabetes is incurable, it is controllable. Some diabetics achieve control by the use of diet and exercise, some require oral medications to stimulate the production of insulin, and some require the injection of insulin. Many diabetics use a glucose-monitoring device to get the information to help them control their disease. Because this disease affects the metabolism of every cell of the body, the treatment involves the artificial maintenance of this complex process. Maintaining good diabetic control is frequently difficult and frustrating.

TYPES OF DIABETES

Insulin Dependent Diabetes Mellitus (IDDM) is a chronic condition in which the pancreas makes little or no insulin. Onset of symptoms appears to be abrupt. To treat the disease, the person must inject insulin, follow a special diet, and exercise daily. Use of the home blood glucose monitor allows the person with diabetes to make adjustments as needed to maintain good diabetic control, but the process is complex. IDDM usually occurs in children and in adults who are under the age of 30. This type of diabetes used to be known as “type I diabetes,” or juvenile-onset diabetes.

Non-Insulin Dependent Diabetes Mellitus (NIDDM) is the most common form of diabetes. About 90% of persons with diabetes have this kind. Unlike IDDM in which the pancreas makes no insulin, persons with NIDDM secrete either very small amounts of insulin or the cells in the body are resistant to the action of insulin. Generally, persons with NIDDM tend to be overweight and over forty. Treatment includes diet management and exercise. Sometimes oral medication is necessary. Many persons with NIDDM also take insulin injections as needed to help keep the diabetes under control. NIDDM used to be called “type II diabetes,” “adult-onset diabetes,” “maturity-onset diabetes,” or “stable diabetes.”

People who take insulin, IDDM or NIDDM, may experience an insulin reaction. An insulin reaction is a sudden and severe drop in blood sugar. If not treated immediately the person may quickly become non-responsive, slip into a coma and die. THIS IS A LIFE THREATENING EMERGENCY. The person must be given sugar in the form of candy, juice, or glucose tablets. If a client becomes unusually shaky, emotional, incoherent, or asks for sugar, evaluate for a possible insulin reaction!
Gestational Diabetes Mellitus (GDM) is a type of diabetes mellitus that occurs in pregnant women. In the second half of pregnancy, the woman may have abnormally high blood glucose levels, but when the pregnancy ends, the glucose levels return to normal. This type of diabetes is transitory and not significantly limiting.

Brittle Diabetes is a term used to describe diabetes where the person’s glucose level swings quickly from one extreme to the other. It is a sign of poor diabetic control and is a serious complication. This type of diabetes is also called “labile” or “unstable diabetes.”

Impaired Glucose Tolerance occurs when an individual’s glucose levels are higher than normal, but below the level of someone with diabetes. This used to be called “borderline,” “subclinical,” or “latent” diabetes. This disability is not functionally limiting.

Diabetes Insipidus is a disease of the pituitary gland and is not diabetes mellitus. Diabetes insipidus is often called “water diabetes” to set it apart from “sugar diabetes.” The causes and treatments are not the same for the two diseases, although many people who have diabetes insipidus show many of the same signs as do people with diabetes mellitus—they have to urinate often, and tend to feel weak, thirsty, and hungry. These people are not to be considered under the Diabetes Mellitus disability.

The most important consideration in working with persons with diabetes is the level of diabetic control that the individual is able to maintain rather than the type of diabetes that he or she has. Poor diabetic control produces the uncomfortable symptoms and serious complications of diabetes. This control is dependent on many different factors such as the severity of the disease, self-care, stress, and other health problems. A blood test called the HbA1c is a very good measure of the average level of diabetic control over the last several months. Test results below 7 show good diabetic control, but results with higher numbers indicate less and less control. An HbA1c of 11 or 13 is quite serious.

The management of diabetes requires complex and difficult self-care on a daily basis. The person is trying to keep the very complicated and delicate processes of cell metabolism going and many things can and do go wrong. Consequently, frustration and depression are very common among persons with diabetes mellitus.

COMMON FUNCTIONAL LIMITATIONS

- Physical stamina/endurance
- Standing
- Walking
- Motor coordination
- Heavy exertion
- Tactile discrimination
- Finger dexterity
- Handling
- Grasping
- Manual dexterity
- Tolerance to extremes in temperature
- Tolerance to long hours without rest/food intake
- Tolerance to occupations that pose unusual injury hazards (cuts, burns, skin injuries)
- Concentration
- Visual acuity
VOCATIONAL IMPEDIMENTS

- Do the specific functional limitations prevent the person from performing the jobs performed in the past?
- Do the specific functional limitations restrict the type of jobs the person might qualify for in the future?
- Will a need for rest during the workday, level amounts of physical exertion, and regular meal times affect the person’s chances for employment?
- Consider the client’s degree of control of the diabetic condition, including eyes, and circulatory system.
- Ultimate control/adjustment to this disease involves:
  - Proper knowledge of diet and self-care (care of feet, syringe use, hygiene).
  - Understanding and adherence to proper diet and exercise.
  - Proper usage of medications.
  - Management of complications.
  - The diabetic client who does not have good knowledge of the above factors, and does not illustrate established control would be an extremely poor candidate for successful rehabilitation.
  - Vocational goals or occupations requiring irregular work hours or long work periods without rest should be avoided.

OBSERVATIONS DURING INITIAL INTERVIEW

- Does the person exhibit problems with ambulating?
- Does the person seem in obvious pain; complain of pain in extremities (especially legs and feet)?
- Is the individual overweight?
- Does the person seem to be alert?
- Does the individual give logical oral responses?
- What is the person’s energy level?

INITIAL INTERVIEW QUESTIONS

- Please describe the onset and history of the problem.
- Please explain/describe the following:
  a. Method of control (pills, injections, diet)
  b. Amount of medication (insulin units)
  c. When taken
  d. Problems with control (Give recent example, dates, and HbA1c results.)
- Do you have difficulty with any of the following? If so, describe:
  a. Vision (Does the client wear glasses or contact lenses?)
  b. Urination (bladder and/or kidney infections)
  c. Hypertension
  d. Circulation (leg pains or numbness? If so, see cardiovascular section).
  e. Tingling or loss of sensation in extremities
  f. Abnormal vomiting or diarrhea
  g. Dizziness or fainting spells
  h. Becoming easily fatigued
  i. Concentration
  j. Healing of cuts or skin conditions
- Do you follow an established routine of diet, exercise, rest, and sleep? Describe.
Please discuss any activities and/or environmental conditions that cause fatigue or complications.

**IPE CONSIDERATIONS**

- Maintain medical control through diet, medications, etc.
- Maintain weight control.
- Avoid jobs with irregular hours, long hours of work without breaks, and irregular physical exertion.
- In discussions of job goals, give some consideration to potential long term complications, e.g. visual problems, amputations, kidney problems.

**RESOURCES**

EATING DISORDERS

DESCRIPTION

Five separate eating disorders are defined in Diagnostic and Statistical Manual IV. These are anorexia nervosa, bulimia, pica, rumination disorder, and feeding disorder of infancy or early childhood. The two most common will be dealt with here.

Anorexia nervosa is a disorder popularly known as “the starvation syndrome.” This disorder is characterized by a disturbed sense of body image and morbid fear of obesity, manifested by abnormal patterns of handling food, self-induced marked weight loss, and amenorrhea (cessation of menstruation) in women. Individuals with this disorder relentlessly pursue thinness. They crave food but stubbornly refuse to eat or retain it, preferring to starve to the point of illness and quite possibly death. Females are affected predominantly, with onset usually occurring in adolescence. A high percentage of patients are reported to be in the middle and upper socio-economic families.

Bulimia is known as the binge and purge disorder. Individuals with bulimia go on periodic eating binges followed by self-induced vomiting, laxative and diuretic abuse, rigorous dieting, or fasting. Binge eating can cause acute gastric dilatation and even rupture. Induced vomiting is associated with erosion of dental enamel, parotitis, esophagitis, and esophageal rupture. Individuals with bulimia tend to be more aware of, and remorseful or guilty about, their behavior than those with anorexia. They appear to be less introverted than patients with anorexia nervosa are and more prone to impulsive behavior and overt depression.

Neither condition (anorexia nervosa or bulimia), in the absence of secondary conditions, will normally present functional limitations sufficient to cause a vocational handicap. These individuals normally have little or no post-treatment, long lasting effects from the condition. In terms of eligibility, secondary or other disabling conditions should be explored.

COMMON FUNCTIONAL LIMITATIONS

Bulimia or anorexia nervosa, as disabling conditions in and of themselves, normally pose little or no functional limitations after medical treatment. Often, any limitations are the result of secondary conditions, e.g., compulsive disorders, depression, schizophrenia, or personality disorders.

- Stamina
- Strength
- Cold
- Decisions-judgment (persons experiencing bulimia are frequently associated with impulsive behavior such as alcohol/drug abuse, stealing/shoplifting and suicidal behavior).

VOCATIONAL IMPEDEMENTS

Impediment to employment is the key eligibility issue for eating disorders. The counselor must determine whether the medical condition causes or results in a reasonably long-lasting impediment to employment for the person. Many of the problems associated with eating disorders are acute medical problems requiring medical services.
Eating Disorders

Chapter 18

- Are any of the functional limitations long lasting or permanent? Once medical control has been gained and the body weight normalized, do any of these functional limitations remain?
- Are there underlying emotional or behavioral problems which will affect the individual’s ability to gain or maintain employment?
- Are there associated secondary medical conditions or disabilities that are vocationally limiting?
- Will the client comply with the prescribed medical treatment?
- What is the person’s history of treatment and results?

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Does the person appear markedly under weight (this would be true for individuals with anorexia nervosa although individuals with bulimia tend to maintain average weight)?
- Does the individual appear confused in any way?
- Does there appear to be any obvious loss of physical strength or stamina?
- Does the individual appear hyperactive or sleepy?
- Do you notice thinness of scalp hair?
- Does the individual appear cold?
- Does the individual appear angry or depressed?

**INITIAL INTERVIEW QUESTIONS**

- Please describe your eating disorder (i.e., how does your eating pattern differ from the normal eating pattern)?
- How has your eating pattern affected your ability to work?
- What sort of treatment have you had in the past or are you currently receiving?
- Are you on any medications and what are the effects?
- Do you exercise? If so, describe what you do.
- Do you have trouble sleeping?
- Do you have trouble breathing or swallowing?
- Do you have frequent headaches?
- Do you at times feel confused or hallucinate?
- Do you have any problems with alcohol or drugs (this is a common related addiction)?
- Have you experienced any problems with strength or stamina?
- Do you sometimes have stomach cramps or sore throats?
- Do you ever have sores that do not heal well?
- Are you involved in shoplifting or other forms of theft?

**IPE CONSIDERATIONS**

- Medical stabilization should come first.
- Client should follow treatment as prescribed through psychological evaluation.
- Client should follow a regime of medications as prescribed.

There is a belief that the best therapy for eating disorders is the chemical dependency treatment. With that in mind, it would be strongly recommended that individuals with eating disorders routinely attend Overeaters Anonymous (OA), just as alcoholics are encouraged to attend Alcoholics Anonymous (AA).
RESOURCES

CHRONIC FATIGUE SYNDROME

DESCRIPTION

Chronic fatigue syndrome (CFS) is a complicated disorder characterized by debilitating fatigue that bed rest does not improve and may be worsened by physical or mental activity. It was first defined by the Center for Disease Control in 1988. As many as 800,000 people have CFS, and of these, 90 percent have not been diagnosed and are not receiving proper treatment. Most of these individuals were leading normal, productive lifestyles before they became ill with chronic fatigue syndrome.

Women are diagnosed with CFS more often than men are, but this may be due to their reporting their symptoms to a doctor. People in their 40s and 50s are more likely to have CFS, but it can affect all ages.

The cause(s) are unknown and no blood test or imaging study can diagnose the disorder, thus it is diagnosed by exclusion. Many of its symptoms overlap other conditions including depression. However, the person with CFS is highly motivated, which is not true with a person who is depressed.

The symptoms include:
1. Severe chronic fatigue for at least 6 months or longer that is not relieved by rest and not due to medical or psychiatric conditions associated with fatigue; and
2. Concurrently have four or more of the following symptoms:
   - Loss of memory or concentration
   - Sore throat
   - Painful and mildly enlarged lymph nodes in the neck or armpits
   - Unexplained muscle pain
   - Pain that moves from one joint to another without swelling or redness
   - Headache of a new type, pattern, or severity
   - Unrefreshing sleep
   - Extreme exhaustion lasting more than 24 hours after physical or mental exercise

Other Signs and Symptoms: Abdominal pain, alcohol intolerance, bloating, chest pain, chronic cough, diarrhea, dizziness, dry eyes or mouth, earaches, irregular heartbeat, jaw pain, morning stiffness, nausea, night sweats, depression, irritability, anxiety, panic attacks, shortness of breath, skin sensations, such as tingling, weight loss. These symptoms are not part of the official definition of CFS.

COMMON FUNCTIONAL LIMITATIONS

- Overwhelming fatigue that completely destroys one’s energy and strength
- Cognitive problems, lack of concentration, or mental malaise (brain fog)
- Sleep disorder, wakefulness, unable to go back to sleep
- Persistent muscle discomfort and migratory joint pain
- Nagging scratchy and sore throat
- Enlarged lymph nodes in the neck or armpits that are tender and painful
- Mild to severe headaches, nausea
Depression and anxiety
Side effect and reactions to medications
Muscle atrophy due to lack of activity
Social isolation caused by fatigue
Lifestyle restrictions
Inability to work

VOCATIONAL IMPEDIMENTS

The following scenario, based upon an actual person with CFS, demonstrates the serious impact of this disorder and how it impacts every component of a person’s life.

She did it! She just won her biggest case and now it was time to celebrate with her team of fellow lawyers.

For years, 45-year-old Marla Patterson has lived life as a highly successful lawyer in a large corporate law firm. She has been driven by her love of the law and works 70 to 80 hours per week. Words, both spoken and written, are the foundation of her work.

For some time she has noticed that she is not sleeping well and that she is constantly tired to the point of exhaustion. She has been experiencing mild to severe headaches that she cannot explain. Her muscles and joints ache. One day, as she is preparing a legal brief, the right words elude her. She feels as if she is in a “brain fog.”

The debilitating fatigue has caused her to miss work numerous times and the senior partners are becoming concerned. She consulted a doctor about her symptoms. Blood work and a CT scan were done. The doctor told her he could find nothing medically wrong with her.

She decided to take a four months disability leave so that she could rest and recover her stamina and start to feel better. After four months, she eagerly returned to work. Within eight weeks, her fatigue and cognitive problems forced Patterson into long-term disability. She has never returned to the practice of law.

Now, Patterson squeezes work in between naps as she battles chronic fatigue syndrome. This illness has turned her life upside down. For a time, she lost her identity. Patterson was so tied up in her work that she spent almost four months in counseling to deal with her inability to return to the law firm. Patterson went through the four distinct phases that chronic illness patients experience: crisis, stabilization, resolution, and integration. Within these phases, they experience changes in the physical/behavioral, psychological, and social components of their lives.

In the crisis phase, Patterson’s symptoms worsen. She was able to work around symptoms up to this point. Then she realized she could no longer hide the fatigue, the confusion, and the pain of CFS. The crisis phase ends with a diagnosis.

In the stabilization phase, Patterson experienced a sense of psychological relief. She finally had a name for her condition, but she also understood that she must learn to live with this condition. With this realization came fear, despair, and depression.

Patterson realizes that she needs to know as much as she can about her condition. What exacerbates my symptoms and fatigue? She begins to understand the limits of CFS while struggling to be who she was.
In the Resolution phase, Patterson comes to realize that relapses will recur and she is grief-stricken and wonders if she should just give up. She has a wonderful support team made up of phase-by-phase counselors, physical and occupational therapists, and a supportive family. As she works with her support team, she gains a sense of control and comes to respect herself again.

During this time, Patterson has found a new passion. She has always had an interest in nonprofit organizations and has decided there must be small ones that need a manager. She has started to advertise and has her first client. Patterson can work from home and do the work needed by the organization between needed naps. Thus, Patterson has moved into the final phase of integration.

**TREATMENT ALTERNATIVES**

There is no specific treatment for CFC. Doctors will attempt to relieve signs and symptoms by using a combination of treatments as follows:

- **Moderate daily activity** – Slow down and avoid excessive physical and psychological stress. Too much rest will cause weakness and worsen long-term symptoms. Gently increase stamina over time.
- **Gradual but steady exercise** – Physical Therapist will advise an exercise program that slowly becomes more challenging.
- **Cognitive behavior therapy**
- **Treatment of depression**
- **Treatment of existing pain** (Tylenol, aspirin, ibuprofen, Advil, Motrin, etc.)
- **Treatment of sleep problems**
- **Treatment of allergy-like symptoms** – Allegra, Zyrtec, Sudafed
- **Treatment of low blood pressure** – Florinef, Tenormin
- **Treatment for problems of nervous system** - dizziness, extreme skin tenderness (klonopin, Ativan)
- **Xanax to relieve anxiety.**

**INITIAL INTERVIEW QUESTIONS**

- What are your specific symptoms? How long have they lasted?
- Describe your fatigue. Does physical and/or mental exercise cause the fatigue to worsen? For how long?
- Do you experience loss of memory or concentration? Do you feel like you are in a “brain fog?”
- Do you have a sore throat? Is it often or only occasionally? What medication(s) do you take for your sore throat?
- Are the lymph nodes in your neck or armpits enlarged and painful?
- Do you have muscle pain? Do you know what causes this pain? Do you take medications for the pain? Type and dosage?
- Do you have pain in your joints? Describe this pain? Does it move from one joint to another? Is there swelling or redness in the joint? Do you take medications for the pain? Type and dosage?
- Do you have headaches? Are the headaches similar to ones you have had in the past? Please describe them. How severe are they? Do you take medications for your headaches? Type and dosage?
How well do you sleep? (Have the individual describe in detail their sleep habits.) Do you take medications to help you sleep? Type and dosage?

What changes have you noticed in your daily life as a result of your condition?

Are you being treated by a physician or receiving some other medical care?

Have you received or are you receiving treatment from a physical therapist, cognitive behavior therapist, psychologist, phase-by-phase counselor.

Have you applied for Social Security Disability Benefits? If so, what were the results?

What is your current employment status?

How have your symptoms affected your employment?

IPE CONSIDERATIONS

The counselor needs to become familiar with all of the symptoms and problems the individual with CFS is suffering from before attempting to schedule IPE activities. It would be very beneficial to talk to a cognitive behavioral therapist, a physical therapist, and the person’s physician. Any schedule that is developed must include time for the individual to rest or take a nap periodically as the need arises. Special attention needs to be given to the pain “management” component while the person is engaging in vocational rehabilitation services. Involving the person in the decisions about their pain management is vitally important. Medication compliance would also be included in these decisions.

The person could be encouraged to keep an energy diary. This can serve as a guide to the limits the person should set on their activities and how to plan their day accordingly. They may also be encouraged to confront discouraging thoughts which will help them move from the idea that “I’m not strong enough” to the idea that “I will find a way.” They will also need to learn to set limits. Many people with CFS need to learn how to pace themselves to avoid over-exercising and bringing back their fatigue. They must learn to prioritize and delegate tasks and most important, they must learn to accept relapses.

The counselor can help the individual with the following self-help steps:

- Reduce stress – Develop a plan to avoid or limit overexertion and emotional stress. Allow enough time each day to relax. Learn how to say no without guilt.
- Get enough sleep – Allot enough time for sleep, practice good sleep habits, go to bed and get up at the same time each day, and limit daytime napping.
- Exercise regularly- Start slowly and build up gradually, but regularly.
- Keep activity levels on an even keel. Do not overdo it on the good days.
- Maintain a healthy lifestyle. Eat a balanced diet, drink plenty of fluids, limit the caffeine intake, stop smoking.

Some people may find it helpful to join a support group and meet other people with CFS with whom they can share their symptoms and feelings.

REFERENCES


http://www.mayoclinic.com/health/chronic-fatigue-syndrome/DS00395
FIBROMYALGIA

M. JEAN ANDREW, J.D.

DESCRIPTION

Fibromyalgia syndrome (FMS) is a chronic and disabling pain that affects all of the soft fibrous tissues throughout the body. These include the muscles, ligaments, and tendons. People with fibromyalgia ache all over, they state that their muscles feel like they have been pulled or overworked. Sometimes, the muscles will twitch or burn. People with fibromyalgia feel sick and miserable. They usually have no history of injury, no fever, and physical examinations are normal and reveal no apparent cause for the pain.

Fibromyalgia afflicts over 6 million people in the United States, mostly women between the ages of 20 and 40, but shows up in people of all ages. It can be confused with chronic fatigue syndrome (CFS) because of its substantial symptom overlap. The similarities between FMS and CFS have led experts in the field to believe that these two syndromes are one and the same.

The symptoms include:

- **Severe flu-like pain** – a deep muscular aching, throbbing, shooting, stabbing, or intense burning pain. Patients state that they ache all over. Often the pain may be worse in the morning.
- **Specific tender points that hurt** - these are specific areas of the body that hurt when probed. They are different from lumpy or ropey muscular knots or inflammations. With tender points, a physician cannot feel any apparent abnormalities or detect the presence of inflammation or disease. However, when a tender point is probed, the patient will wince, cringe, or cry out in pain.
- **Constant feeling of exhaustion** – the fatigue has been described as brain fatigue in which patients are completely drained of energy. They feel as though their arms and legs are tied to concrete blocks and they have difficulty concentrating or mental malaise (brain fog). They may suffer from insomnia or other sleep disorders. They wake repeatedly during the night and show signs of sleep disturbance. They can usually fall asleep quite easily, but their deep level (or stage 4) sleep is constantly interrupted by bursts of awake-like brain activity. The fatigue can be mild in some patients and incapacitating in others.
- **Irritable bowel syndrome** - diarrhea, constipation, frequent abdominal pain and gas, and nausea. These symptoms are found in roughly 40 to 70% of FMS patients. Acid reflux or gastroesophageal reflux disease also occurs with the same high frequency.
- **Chronic headaches** – People with fibromyalgia often suffer from periodic migraines or from tension-type headaches. Recurrent headaches are seen in about 70% of FMS patients.
- **Mood disturbances** - these disturbances include depression, anxiety, negativity, frustration, guilt, and low self-esteem. The cause of these mood swings may include the length of time from the onset of symptoms to correct diagnosis; factors such as chronic pain, fatigue, and sleep disorders; lack of acceptance of symptoms by family and co-workers; inadequate emotional support; and fear of job and relationship losses.
- **Jaw-related face and head pain** – Temporomandibular Joint Dysfunction Syndrome (TMJ or TMD) is found in nearly 75% of FMS patients in varying degree of jaw discomfort. The syndrome is related to the muscles and ligaments surrounding the joint and may be caused by the clenching of the jaw muscles or by grinding of the teeth.
➤ **Other symptoms** – sore throat; sensitivity to changes in temperature, bright lights, odors, and loud sounds; premenstrual syndrome and painful periods, chest pain, numbness and tingling sensations, dizziness; the skin has a mottled look.

### COMMON FUNCTIONAL LIMITATIONS

➤ Constant pain, ranging from a dull ache to severe and debilitating
➤ Fatigue frequently resulting from insomnia or sleep disturbances such as apnea
➤ Lack of concentration or mental malaise (brain fog)
➤ Frequent need to use restroom caused by irritable bowel syndrome
➤ Recurrent tension-type headaches and migraines that can be accompanied by nausea and vomiting, extreme sensitivity to light and noise
➤ Depression and mood swings
➤ Low self-esteem
➤ Sensitivity to changes in temperature, bright lights, odors, and loud sounds
➤ Painful period and premenstrual discomfort
➤ Numbness and tingling sensations in the extremities
➤ Dizziness

### VOCATIONAL IMPEDIMENTS

Fibromyalgia sufferers have a low threshold for pain; they feel pain more strongly; and their pain lasts for longer periods of time. Fibromyalgia symptoms vary from day to day and hour to hour. Changes in weather patterns can even have a major effect on the severity of the pain. Sometimes, the symptoms can be almost in remission and other times the symptoms are very active, called flare. Flare is a time of high-intensity pain and grief. One or more activities or stressors trigger flares. It can be a virus, a severe yeast infection, or a traffic accident. It might be caused by a major family crisis or something as simple as participating in an athletic event. It can be triggered by a menstrual period, a draft or sudden temperature change, or the onset of the allergy season.

People who suffer from fibromyalgia are subject to many and varied stimuli that may cause fibromyalgic symptoms, thus making them potentially unreliable employees. They may have high occurrences of absenteeism or have to leave work abruptly and often. Job tasks that require sustained, strenuous physical labor or working in damp or cold conditions may prove problematic. Work that requires them to cope with environmental conditions such as noise or emotional stressors such as production demands may prove difficult. FMS sufferers are at risk for developing repetitive motion injuries such as carpal tunnel syndrome and they have less strength and endurance than other workers.

### TREATMENT ALTERNATIVES

The pain can be controlled but can rarely be eradicated completely. A holistic strategy with sound nutrition, exercise, biofeedback and cognitive behavioral therapy, healthy lifestyle adjustments, and other nonmedicinal options must be employed with medications.

The most effective treatment for fibromyalgia is regular exercise such as aerobic-type exercise, walking, swimming, stretching exercises and yoga that work the areas of the body most affected. The most widely used medications that provide temporary relief are amitriptyline (Elavil). Elavil is an antidepressant and prolongs the deep level sleep thus raising the person’s deficient serotonin levels. Other drugs proven to be effective are Flexeril, Tofranil, and Desyrel. Some antidepressants also raise the level
of serotonin but may interfere with sleep. Nonsteroidal anti-inflammatory drugs such as ibuprofen, Celebrex, tramadol, and other painkillers may also provide relief from pain.

A medical procedure whereby Human Fetal Stem Cells are transplanted into a Fibromyalgia patient is a new form of treatment. The stem cells are usually administered intravenously and subcutaneously (under the skin). The procedure, which is painless and takes about an hour, has no known negative side effects. The Fetal Stem Cell searches out, detects and then attempts to repair any damage or deficiency discovered, as well as releases growth factors, which stimulate the body's own repair mechanisms. Positive changes are seen between three to six months post treatment in Fibromyalgia patients. Changes can occur in as little as weeks or even days.

**OBSERVATIONS DURING INITIAL INTERVIEW**

Observe any signs or expressions of discomfort or pain consistent with the person’s description of their chronic pain. The counselor should also be alert to the person’s posture, problems with sitting for long periods of time, often changing position of body, or other outward signs of pain or discomfort.

**INITIAL INTERVIEW QUESTIONS**

- Can you recall the initial onset of the condition and connect it to a specific physical or emotional event?
- Describe the pain. Is the pain constant in severity or does it change during the day?
- Do you have specific areas that hurt when you touch or rub them? Describe them.
- What things make the pain worse?
- Do you take medications for the pain? Type and dosage?
- Does your pain affect your sleep? Do you take medications to help you sleep? Type and dosage?
- Do you have pain free days or days when you are hardly aware of pain?
- What effect does fibromyalgia have on your daily living activities?
- What time do you wake up in the mornings?
- What is the best time of day for you?
- Do you ever feel depressed? Do you take medications for depression? Type and dosage?
- Do you have headaches? How severe are they? Do you take medications for your headaches? Type and dosage?
- Do you feel anxious, frustrated, guilty, or have mood swings? How often? What do you do when you feel that way?
- Do you have problems with your bowels? Have them explain.
- What changes have you noticed in your daily life as a result of your condition?
- What things do you do that relieve the pain e.g., exercise, biofeedback, aerobics, yoga, etc.?
- What affect does the pain have on your energy levels during the day?
- Are you sensitive to changes in temperature, bright lights, odors, and loud sounds?
- If the person is a woman, does she have problems with her menstrual periods? Have her describe.
- Do you have chest pains, numbness and tingling sensations, dizziness, or problem with your skin? Have them explain.
- Are you being treated by a physician or receiving some other medical care?
- Are you receiving treatment from a psychologist/psychiatrist or some other type of counseling?
- Have you applied for Social Security Disability Benefits? If so, what were the results?
The counselor should attempt to contact family members so that relevant information can be obtained such as views of the fibromyalgia sufferer’s abilities and strengths, family relationships and dynamics, family support in the home, the family’s views of the person’s condition, family expectations of the person, and the changing client role in the family since the onset of the condition.

**IPE CONSIDERATIONS**

The counselor should take into account the cyclical nature of fibromyalgia in scheduling IPE activities. If the person functions better in the afternoon, the counselor may want to schedule appointments or training in the afternoon. Prior to enrolling the person in any vocational programs, the counselor may benefit from a visit to the site to check for environmental issues such as temperature, odors, noise, bright lights, etc. that could trigger a flare up of symptoms. At the same time, the job site can be evaluated to determine if special accommodations are necessary.

Special attention needs to be given to the pain “management” component while the person is engaging in vocational rehabilitation services. Involving the person in the decisions about their own pain management is vitally important. Medication compliance would also be included in these decisions. It is important to stress the need to establish a daily regimen of proper nutrition and exercise. The person should also be encouraged to attend a fibromyalgia support group and/or educational classes on fibromyalgia when available. These groups will give the person an opportunity to share their concerns and problems with people who are experiencing the same condition. In writing the IPE, the counselor may benefit from a special evaluation by an occupational therapist or rehabilitation technologist in identifying special assistive aids/devices or equipment that may be helpful to the person.

**RESOURCES**


Chapter 21  Fractures

FRACTURES

DESCRIPTION

A fracture is defined as a break in the continuity of bone. The term “fractured bone” is generally used interchangeably with the term “broken bone.” There are several types of fractures. A fracture that occurs where there is a communication between the bone and the outside is called an “open” or “compound” fracture. A fracture in which there is no communication between the bone and the outside is called a “closed” or “simple” fracture. The third most common type of fracture is called a “pathologic” fracture. This is a break occurring in bones involved with disease such as tumors (which may be benign or malignant), cysts of bone, infections such as osteomyelitis, or softening of the bone called osteoporosis. If the bone is broken into several pieces (usually three or more), the fracture is described as comminuted. It is usually easy to diagnosis a fracture. It consists of examining the patient who has had an injury of some type and complains of pain. There may also be deformity that is evident to the naked eye. The fracture type is determined by a physical examination and the X-ray examination that will delineate the exact type of fracture that has occurred.

The treatment of fractures varies greatly depending on the type involved. In the case of a “simple” or “closed” fracture, manipulation with reducing the fracture by realigning the fragments of bone in proper alignment is sufficient, followed by casting. In those “simple” and “closed” fractures where there is no displacement of the fracture sites, simply casting or splinting the fracture site suffices. In more severe injuries where there is a comminuted and/or compound open fractures, surgery is usually the treatment of choice. In any event, following the healing of the fracture and the removal of the cast, various forms of physical therapy are important so that the patient may regain function of the involved extremity (most commonly involved is the arm, hand, wrist, leg, foot, etc.).

Complications of fractures are rather common and important to recognize. They include:

- **Delayed Union** is said to be present when a fracture fails to heal in the usual required time for union to take place. In a delayed union, the processes of the bone repairing itself are slowed but still going on and will produce a firm union, with adequate time. For example, in a fracture of the tibia, if healing has not occurred within 20 weeks, it is considered a delayed union. In general, delayed union calls for a relatively long period of immobilization and for patience on both the part of the patient and the doctor.

- **Non-Union** is present when the processes of bone repair have failed to produce a firm union and the process of healing has ceased completely. Unless this situation is changed by treatment, the non-union will continue as a permanent, and in most instances, a severely disabling condition. General statements may be said concerning non-union; for example, no fracture should be considered a non-union until at least 6 months have elapsed from the date of injury. Sometimes, even after 8 months or more have elapsed, firm union will finally take place without surgical aid. In the event non-union does occur, then treatment is usually in the form of braces and/or surgery. The use of surgery has become more commonplace in recent years. Usually what this involves is the use of orthopedic hardware being inserted across the fracture site with or without the use of bone grafts from the patient or from a bone bank. In the presence of a non-union, operative treatment greatly extends the time of treatment necessary and usually the period involved varies with the site of the graft and the bone involved (from 12 to 24 weeks following the operation). The common locations for non-unions to occur are the femoral neck (hip), femur (the shaft), tibia, humerus, radius and ulna, and scaphoid (a wrist bone).

- **Malunion** may occur as a complication of fractures. In this situation, the condition is usually caused by inability to secure accurate reduction of the fracture, and inability to
maintain effective mobilization for a sufficient amount of time. This is seen quite commonly in a situation where the patient has suffered multiple severe injuries and because of this, it may be impossible to treat that particular fracture in an ideal manner. A principle evidence of malunion is shortening of a limb due to the overriding of fragments, or deformity from angulations of the fragments. Very commonly, the treatment for a malunion is the surgical approach, using metallic internal fixation at the sight of the fracture.

If a patient is left with malunion of a fracture due to any cause, such as non-union that fails to respond to treatment, then a period of residual disability is usually present for that person. Many times, especially with periods of long immobilization or complications from severe multiple injuries or a severely comminuted fracture where infection has been present and where osteomyelitis infection of the bone has developed, the person is left with post-traumatic arthritis. This is especially true if the fracture is at or near a joint. Besides arthritis, there can be thickening, and contractures, and scarring of the muscles and tendons, and of the joint lining itself secondary to prolonged immobilization. These factors produce marked stiffness and pain and a certain degree of disability. Usually this may be greatly improved with judicious use of physical therapy. Sometimes repeat surgery is necessary. It is in the cases of failed treatment that one sees evidence of disability. Where there has been a severe malunion of a fracture, in spite of the best treatment, the person is frequently left with some degree of residual disability. This does not necessarily mean they are totally disabled. Ordinarily, they can adjust their work or vocational goals to live productive lives.

**COMMON FUNCTIONAL LIMITATIONS**

- Upper extremities: finger and manual dexterity, grasping, overhead activities
- Lower extremities: walking, bending, stooping, lifting, climbing, carrying, weight bearing on leg(s), pushing, pulling
- General limitations: loss of strength, stamina, and restriction of mobility

**VOCATIONAL IMPEDIMENTS**

The counselor needs to focus on the remaining permanent functional limitations and show how they have affected the individual in work, school or other activities, and/or show how the limitations will affect the individual in future job selection.

The counselor needs to determine if the individual has the ability to retrain or otherwise acquire needed skills for jobs he/she can handle with the remaining functional capacities?

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Is the client's height and weight within normal ranges?
- Does the client have difficulty ambulating?
- Are there obvious deformities because of the fracture?
- Does the client need assistive devices for mobility (cane, crutches, brace, etc.)?

**INITIAL INTERVIEW QUESTIONS**

- What has your physician told you about your prognosis?
- Do you have any problems with weight bearing?
➢ Is the fracture healing?
➢ Are there any known complications? Infections?
➢ Is there loss of feeling? Strength? Any problems lifting?
➢ Are there difficulties with range of motion? Describe.
➢ Have x-rays been taken? Where can medical records be found?

IPE CONSIDERATIONS

➢ Consider occupational therapy.
➢ Consider physical therapy.
➢ Consider the provision of necessary prosthetic appliances.
➢ Consider goals that will not exacerbate the condition.

RESOURCES

DESCRIPTION

Hearing impairment refers to a reduction in sensitivity to sounds. The impairment may be accompanied by some loss in the ability to interpret auditory stimuli, even when the stimuli are amplified. Hearing impairments vary by degree, locus of pathology, and cause. They may be permanent or transient.

Since hearing impairments lack a common etiology confusion in terminology are difficult to avoid. Hearing impairment means any degree and type of auditory disorder, while deafness means an extreme inability to discriminate conversational speech through the ear. Deaf persons are those who cannot use their hearing for communication. Persons with lesser defects are called hard-of-hearing.

There are three categories of hearing impairments: conductive, sensor neural, and mixed. Conductive impairments arise from defects in the auditory system that interfere with sound waves reaching the cochlea. The locus of the lesion in conductive losses lies in the outer or middle ear, while sensor neural impairments are caused by defects to the auditory path waves within the central nervous system, beginning with the cochlea auditory nerve and including the brain stem and cerebral cortex. Lesions in these locations prevent or disrupt interpretation of the auditory signal. Mixed impairments involve both conductive and sensor neural defects. This classification system has considerable value for the rehabilitation counselor because the client's type of impairment is an important factor in determining the direction of his rehabilitation.

The later in life the hearing loss occurs, the less severe are its consequences. In general, born-deaf persons tend to present the greatest challenge to rehabilitation because, in addition to being unable to hear, they usually have poor or absent speaking ability and serious deficiencies in language.

The extent to which a hearing impairment disables an individual depends heavily upon two factors: the degree of impairment of auditory discrimination in the speech frequencies (500 to 2000 hz), and the affected individual's age at onset of the impairment.

The clinical evaluation of hearing should include both otological and audiological examination with thoughtful merging of the results. The audiologist administers various tests under carefully controlled conditions. These tests determine the intactness of the sensorineural apparatus, the presence of conductive impairments, the degree of loss at specific frequencies under various circumstances, and the ability to discriminate speech. Audiologists also evaluate the client's potential benefits from different types of hearing aids.

The treatment for hearing loss may involve surgery and/or hearing aids. Conductive impairments arise from defects in the outer or middle ear that interfere with the sound waves reaching the cochlea. These obstructions can usually be removed. There are surgical procedures that can improve the mechanical parts of the ear to improve hearing, or to prevent further loss.

The purpose of the hearing aid is to amplify sounds so that they become audible to the user. Persons with conductive loss receive the greatest benefit from the electronic hearing aid. The obstacles to sound transmission causing these losses can usually be overcome by the hearing aid. Recent advances in hearing aid technology have made it possible for persons with sensor neural losses to derive benefit from hearing aids. The audiologist or otologist works with the hearing aid dealer to select the instruments most likely to be optimal for the individual.

There are many different types of hearing aids on the market. Some examples include the behind the ear aids (BTE) that are small, made of plastic and the case sits behind the ear with the tube coming down into the earmold. The case contains the amplification devise. This type of hearing aid can be used for mild to profound hearing loss. In the ear aids (ITE) fit in the outer ear bowl and can be seen when standing face to face with the wearer. They can be used for mild to severe hearing loss. They have a
tendency to squeal/whistle caused by high frequency sound and background noise is amplified. The feedback can be regulated or cancelled in some modern circuits. Receiver in the canal/ear (RIC/RITE) are markedly different from the BTE aid in that the receiver of the hearing aid is placed inside the ear canal and thin electrical wires replace the acoustic tube of the BTE aid. The RITE hearing aid is free of distortion and because it is very small, it is inconspicuous. It is also suited to “open fit” technology so it can be fitted to the person’s ear, offering relief from occlusion. In-the-ear hearing aids are much more expensive than behind the ear aids because they are custom made to fit comfortably into the person’s ear.

Bone Anchored Hearing Aids (BAHA) is an auditory prosthetic that can be surgically implanted. The skull is used as the pathway for sound to travel to the inner ear. For people with conductive hearing loss, the BAHA bypasses the external auditory canal and middle ear, stimulating the functioning cochlea. With unilateral hearing loss, the BAHA uses the skull to conduct the sound from the deaf side to the side with the functioning cochlea.

Hearing aids can be compatible with the telephone, i.e. when they connect to each other in a way that produces clear, easily understood sound. Telephones include wired, cordless, and mobile and they connect with hearing aids acoustically and electromagnetically. The electromagnetic (telecoil) mode is more effective than the acoustic method because the microphone is automatically switched off when the hearing aid is operating in telecoil mode so background noise is not amplified. With an electronic connection to the phone, the sound is clearer and distortion is less likely. To make this work, the phone must be hearing aid compatible. The American National Standards Institute has a ratings scale for compatibility between hearing aids and phones. The best possible rating is M4/T4, the phone works well in both modes. Devices rated below M3 are unsatisfactory for people with hearing aids. US mobile phone providers have pages on their websites where they list hearing aid compatible models.

**TERMINOLOGY**

- **Adventitiously deaf:** Those who are born with normal hearing but in whom the sense of hearing becomes nonfunctional later in life through illness or accident.
- **Audiogram:** A graph on which hearing test results are recorded.
- **Congenitally deaf:** Those who are born deaf.
- **Expressive skill:** The ability to express oneself in the language of signs and finger-spelling.
- **Finger-spelling (also called The Rochester Method):** Use of the manual alphabet for forming words or sentences.
- **Hard-of-hearing:** Those in whom the sense of hearing, although defective, is functional with or without a hearing aid; can use hearing to communicate.
- **Interpreting:** A signed and finger-spelled presentation of another person’s spoken communication.
- **Manual Alphabet:** The 26 different single-hand positions representing the 26 letters of the alphabet.
- **Oralism, oral training:** A method of training or educating a deaf person through speech and speech reading without employing the language of signs or fingerspelling.
- **Post-lingual deaf:** Those who become deaf after language is acquired.
- **Prelingual deaf:** Those who become deaf before language skills are acquired.
- **Receptive skill:** The ability to understand what is expressed in both fingerspelling and in the language of signs.
- **Reverse interpreting:** An oral presentation of another person’s signed and fingerspelled communication.
- **Sign language:** A language that uses manual symbols to represent ideas and concepts. The term is usually used to describe the language used by deaf people in whom both manual signs and fingerspelling are employed.
- **Simultaneous communication:** The use of manual communication simultaneously with oral communication.
Total communication: A philosophy which advocates the use of any and all means of communication to provide unlimited opportunity to develop language competence: speech, amplification (hearing aids), speech-reading, gesturing, signs, finger spelling, pantomime, reading, writing, pictures, and any other possible means of conveying ideas, language, and vocabulary.

COMMON FUNCTIONAL LIMITATIONS

- Discriminating sounds (i.e. frequencies, decibel levels, speech discrimination)
- Understanding instructions
- Communicating with peers
- Speech clarity
- Intelligibility/context meaning of sounds
- Balance/motor coordination
- Self-image
- Deficits in school achievement
- Problems in conceptualization
- Tendency to take things in very concrete ways
- Society tends to overestimate the skills and social maturity of individuals who have severe hearing impairments because it is a hidden disability, and because there is little knowledge in the general population about cultural deficiencies experienced by deaf persons.
- Potential barriers from other disabilities, (i.e., mental illness, mental retardation, alcoholism, cerebral palsy).

VOCATIONAL IMPEDIMENTS

Making a connection between loss of hearing and vocational problems is not difficult. An individual with a moderate to severe hearing loss has obvious work related functional limitations. These limitations relate to almost any job one might enter, because of communication difficulties the person may encounter.

It may be more difficult to show a vocational impediment on individuals with mild hearing losses. Specifically address the functional limitations of the individual, and show how those have caused difficulty in past jobs, or how they will cause difficulty in future jobs.

It is important to know if the client has had special education/training in sign language, or if the client has attended a specialized deaf institution (such as a school for the deaf). It is relevant to learn how the client functioned while at school, especially in a residential setting.

Psychological testing and vocational assessment with the hearing impaired presents a great challenge to the evaluator. The counselor should always refer the hearing impaired to an evaluator who is particularly skilled in areas of manual communication, if appropriate, and working with hearing impairments.

Underestimating a deaf or hearing impaired client's potential is much more prevalent than overestimating the client's vocational intelligence, aptitude, and achievement levels. The counselor should realize this and strive for cultivation of the client's strengths. Intelligence testing results are often not indicative of the client's true level of functioning.

The counselor should be aware of clients whose hearing impairment occurred later in life. In most cases, clients having severe hearing impairments introduced by trauma have a more difficult time with adjustment to their disability, although they will have the advantage of having better speech than a prelingual deafened person.

The nature of this disability involves isolation, segregation, and loneliness, especially for the impaired person in later life. It is common for a client to also have significant psychological disturbances and/or
chemical dependency. The client should be referred to a therapist who is trained in manual communication, if appropriate, and hearing impairments.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Is the person wearing a hearing aid(s)?
- Does the individual have difficulty understanding you? Does he/she rely on facial cues?
- Does the individual use speech for expressive communication, and if so, does he/she exhibit abnormal speech patterns?
- If the individual signs, what type of sign language is used (ASL, exact English, etc.)?
- Were there signs of psychological problems and/or chemical dependency?
- Are there other observable disabilities?

**INITIAL INTERVIEW QUESTIONS**

- Some of the questions in this section would be appropriate for hard-of-hearing individuals, but not for deaf persons.
- Please describe your difficulties with hearing (i.e. discriminating pitches, decibel levels, speech discriminations, intelligibility of sounds).
- Do you have trouble with balance or coordination?
- Do you experience ringing in ears or “head noises”?
- Do you take medication(s)? Name and function(s) of medication(s). Who prescribed? When prescribed? What are the side effects?
- Do you have a history of ear infections?
- Have you had recent otological and/or audiometric examination(s)? When? With whom?
- Are both ears involved?
- Have you ever used a hearing aid? If the answer is yes, how often is it used? What type? Age of the aid? Is it adequate and corrective?
- Do you read lips? Use sign language? Use an interpreter?
- Have you ever had speech therapy?

**IPE CONSIDERATIONS**

- Consider life experience adjustment counseling or training. Some deaf individuals lack life experience and need adjustment counseling to learn more about the real world and how they must operate to be successful.
- Assure proper fitting of any hearing aids used.
- Assess need for and arrange for necessary assistive devices (e.g. speech aids, warning aids, communication devices/TTY).
- Assess the need for training in speech reading and signing, and provide necessary training.
- Consider using interpreters throughout the rehabilitation process.
- Carefully assess the degree of hearing loss and the individual's communication skills in arriving at vocational goals. Include in the assessment, lip reading abilities, sign skills, and any communication enhancement that may be possible.
- Provide community awareness so that the individual is acquainted with services available.
RESOURCES


HEMOPHILIA

DESCRIPTION

Hemophilia is a bleeding disorder due to inherited deficiencies or abnormalities of coagulation factors. Hemophilia is a disorder of the blood-clotting system. Hemophilia is a lifelong disease. There are several types of hemophilia and all types can cause prolonged bleeding. The most common type is Hemophilia A and the second most common type is Hemophilia B. These two types usually occur in boys. It is passed from mother to son through one of the mother’s genes. Hemophilia C can be inherited from either parent and can be passed to both boys and girls. Hemophilia C is rare in the United States. There are various degrees of hemophilia from mild to severe, from less than 1% clotting factor to 25%. The major complications relate to deep internal bleeding that may cause deep muscle bleeding leading to swelling of a limb. Internal bleeding may also put pressure on and damage joints. The pain may be severe. If bleeding occurs frequently, the irritation may lead to destruction of the joint or to the development of arthritis.

Infection is another major risk. People with hemophilia will receive blood transfusions. The risk of infection through blood products has decreased substantially since the introduction of genetically engineered clotting products that are free of infection. However, people who rely on blood product are at a greater risk of contracting other diseases such as hepatitis A and B.

Some people with hemophilia develop adverse reactions to the clotting factors used to treat bleeding. They develop proteins in their blood that inactivate clotting factors used to treat bleeding.

This cycle of bleeding, immobilization, muscle weakness, and atrophy around the joint, which occurs in 75% of all the cases, is the significant limitation that results in functional loss. Hemophilia is a lifetime disorder requiring treatment throughout the person’s life for bleeding and incidental medical problems. It is a chronic, but not necessarily fatal disease. Effective treatment (clotting factor replacement and reconstructive or corrective orthopedic surgery) although temporary, results in minimal loss of function. The individual must avoid aspirin or nonsteroidal anti-inflammatory drugs (Advil, Motrin, etc.) also avoid blood-thinning medications such as heparin and warfarin, as they will negatively affect clotting factors. Certain herbal supplements also contain ingredients that may cause bleeding.

COMMON FUNCTIONAL LIMITATIONS

- Climbing
- Stooping, kneeling, crouching
- Lifting
- Strength
- Working in physically hazardous situations
- Limited range of motion
- Chronic pain
- Fear of injury that might cause bleeding

VOCATIONAL IMPEDIMENT CONNECTION

These individuals must obviously avoid job situations that have physical risks for injury, which is the major vocational problem. They often miss school or are treated in ways that may not demand full
academic achievement. Thus, school achievement must be carefully assessed in terms of both school
records and achievement testing. In many cases, there may be limited academic skills.

The counselor should assess the person’s vocational and life experiences. Often there are few to draw
from. A work history is often not present for individuals who transition from school to work, so they lack
work skills and an understanding of the expectations of the workplace.

Areas to assess include severity of the disorder, the orthopedic results in terms of joint immobility,
and the response of the individual and the family in terms of long-term adjustment. The individual must
be assessed as to his/her willingness to follow a medically appropriate treatment regime, and must
maintain functional states with parental or environmental support and encouragement. In terms of
specific treatment, the individual must be active without taking abnormal risks, must have an adequate
supply of blood coagulant factor, must be under medical supervision (usually both medical and
orthopedic), and, if possible, home treatment is preferred. In the case of joint pain, which is secondary to
the primary condition of hemophilia, analgesics and anti-inflammatory drugs are often used. Once again,
aspirin must not be used as it interferes with coagulation.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Are there any problems with gait?
- Can the person sit or stand for long periods?
- Is pain or general discomfort apparent?
- Are there restrictions in motion/movement?

**INITIAL INTERVIEW QUESTIONS**

- How frequently do you bleed?
- How severe is the bleeding?
- What is the longest time of incapacitation?
- Do you have any other blood related problems (e.g. hepatitis)?
- Are there any restrictions in movement?
- Are there any restrictions in terms of activities?

**IPE CONSIDERATIONS**

Physical demands of jobs must be assessed before a vocational plan can be developed. Hazardous
work should be avoided. The VR counselor, in many cases, will be the liaison with the employer to
educate and assure an appropriate vocational placement.

- Avoid job goals and working environments where bumping and/or cutting themselves is a
risk.
- Consider jobs of sedentary or light duties versus moderate to heavy work.
- Follow medical recommendations concerning proper use of clotting agents.

**RESOURCES**

National Hemophilia Foundation, 25 West 39th St., New York, NY 10018, Phone (212) 869-9740,
www.hemophilia.org/
H.I.V. (AIDS)

DESCRIPTION

Human Immunodeficiency Virus (H.I.V.) is a disease complex caused by a retrovirus that suppresses or compromises the human body's immune system. The presence of H.I.V. indicates a “spectrum of infection” ranging from H.I.V. positive to ARC (AIDS Related Complex) to AIDS. Acquired Immunodeficiency Syndrome (AIDS) is a life-threatening manifestation of infection with the H.I.V. There is no agreement as to the course of the disease (in terms of its progression).

If a person is exposed to the H.I.V., he or she may become reported as H.I.V. positive (H.I.V.+). These individuals are usually reported as H.I.V. positive asymptomatic. This means they have developed antibodies in their systems that indicate the presence of H.I.V.; however, they have shown no symptoms of the disease.

ARC (AIDS Related Complex) is characterized by symptoms such as fatigue, swollen lymph nodes, continuous unexplained fever or night sweats, weight loss, bouts of diarrhea, thrush on the tongue or throat, memory loss, confusion, and disorientation. It may also cause corrugated lesions on the tongue, and may cause shingles, which is manifested by painful sores on the body.

Physicians diagnose AIDS when they have determined the presence of one or more specific opportunistic diseases. The agents of these diseases are usually present within the body or the environment, but only have the opportunity to cause disease if the immune system has been impaired, hence the term, opportunistic disease. The most common infection that determines an AIDS diagnosis is Pneumocystis Carinii Pneumonia (PCP), a rare parasitic infection of the lungs that results in a dry cough, shortness of breathe, and difficulty breathing.

The second most common infection or disease of AIDS is Kaposi's sarcoma, a cancer of blood vessel walls that can affect internal organs or result in lesions on the skin. Other infections resulting in AIDS diagnosis would include Toxoplasmosis, Mycobacterium Avium Intracelluar, Cryptococcoses, Cryptococcal Meningitis, Cytomegalovirus, Herpes Simplex, and Progressive Multifocal Leukoencephalopathy.

Anyone can contract H.I.V. if the person engages in the activities that transmit the virus. It is a sexually transmitted disease. It can be transmitted through needles and syringes contaminated with infected blood. Sharing intravenous drug paraphernalia puts a person at high risk of HIV and other infectious diseases such as hepatitis. It can also be spread by contact with infected blood, or from mother to child during pregnancy, childbirth, or breast-feeding. It can take years before HIV weakens the immune system to the point that the person has AIDS.

There is no cure for HIV/AIDS, but there are medications that can dramatically reduce the progression of the disease. These drugs have reduced AIDS deaths in many developed nations including the U.S.

The Symptoms of HIV and AIDS vary, depending upon the phase of the infection. Within the first few weeks: There may be no signs or symptoms, although the person will be able to transmit the virus to others. Many people develop flu-like symptoms for two to four weeks after becoming infected. Then the signs and symptoms may include fever, headache, sore throat, swollen lymph glands, and/or rash. Years later, the person may remain symptom free. However, as the virus continues to multiply and destroy immune cells, the person may develop mild infections or chronic symptoms: swollen lymph nodes—often one of the first signs of HIV infection—diarrhea, weight loss, fever, cough and shortness of breath.

Progression to AIDS: If the person receives no treatment for the HIV infection, the disease typically progresses to AIDS in about 10 years. By the time AIDS develops, the immune system is severely damaged, the person is susceptible to opportunistic infections and signs/symptoms include soaking night sweats, shaking chills or fever higher than 100 F for several weeks, cough and shortness of breath,
chronic diarrhea, persistent white spots or unusual lesions on the tongue or mouth, headaches, persistent
and unexplained fatigue, blurred and distorted vision, weight loss, skin rashes or bumps.

Infections common to HIV/AIDS include Tuberculosis, Salmonellosis (contaminated food or water),
Cytomegalovirus (CMV) common herpes virus transmitted in body fluids, Candidiasis (thick white
coating on the mucous membranes of the mouth, tongue, esophagus, or vagina), Cryptococcal meningitis
( inflammation of the membranes and fluid surrounding the brain and spinal cord), Toxoplasmosis (a
parasite spread primarily by cats), cryptosporidiosis (an intestinal parasite that is commonly found in
animals and contracted when contaminated food or water is ingested.)

**COMMON FUNCTIONAL LIMITATIONS**
- Cooperation
- Dependability
- Decision-making
- Frequent change
- Stamina
- Strength
- Temperature changes
- Depression
- Fear
- Isolation

**VOCATIONAL IMPEDIMENTS**

Consider how the symptoms of the disease have affected the applicant's ability to get or keep
reasonable employment. Previous employment may have been lost because of specific limitations the
person experiences. Think in terms of how this disability and the resulting limitations will cause
difficulties in being able to obtain or maintain a job. An example might be that the person fatigues easily,
which would limit the types of jobs that could be done and may limit the number of hours that could be
worked. Employer prejudice may also play a role. Each case must be examined individually.

In general, individuals with the diagnosis of AIDS do not have a favorable prognosis for a significant
work life. Employment is problematic with AIDS because of the many concurrent problems along with a
poor prognosis. Again, the decision must be made individually.

Applicants who have a presenting diagnosis of ARC usually have an uncertain prognosis. Some
persons with ARC may have the potential for a significant work life. These individuals may very well be
eligible for vocational rehabilitation services, provided they have limitations that cause a vocational
handicap.

**OBSERVATIONS DURING INITIAL INTERVIEW**
- Do you see evidence of fatigue?
- Does the applicant appear underweight?
- Do you notice any problems in breathing?
- Do you notice any short term or long term memory deficits?
INITIAL INTERVIEW QUESTIONS

- What do you know about H.I.V. disease? What are your current symptoms? What are the function changes, i.e., eating, sleeping, physical activity level?
- What are the past H.I.V. related illnesses, if any?
- Are you involved in medical treatment, e.g., scheduled clinic appointments? How often and are all appointments kept?
- If currently receiving medical services, what is the treatment plan? How do you feel about the medical treatment plan and the provider?
- Have there been any hospitalizations? If so, how many and for what?
- What have physicians told you about your medical condition? Do you understand your responsibility in maintaining a healthy life?
- Is medication being taken? Do you have the resources to obtain the necessary medication? Are there any side effects from the medications?
- Do you understand the importance of the medications and adhere to the regime required? Are the medications or treatments affecting your ability to work?
- When was the last illness where normal activity was interrupted? What has been the recuperation time between illnesses? What are your preventive measures to ward off future illnesses?
- Generally, how has the disease interfered with your ability to obtain or maintain an appropriate job? Probe the areas of fatigue, stamina, need for sleep, diarrhea, weight loss, fevers, headaches, respiratory problems, possible problems with temperature changes, shingles, and memory.

IPE CONSIDERATIONS

Assure that the client has adequate support. This might include family, significant others, a therapist, a support group, spiritual support, doctors, social workers, etc. With a strong support system, the person’s chances of successful involvement in rehabilitation are significantly increased.

Assure that the client has stable living arrangements. Determine the clients best working time, i.e., morning, afternoon, evening, part-time, and full-time. Consider the potential need for mental health counseling or disability adjustment counseling. In determining a vocational goal, be sure to consider the medical needs and potential health insurance needs of the client. In the area of job seeking skills, it is important to provide information to the client on how to handle explanations of the disease to potential employers and coworkers.

Since this is an infectious disease, consideration must be given to the possible transmission of the disease when choosing a vocational goal and services.

Confidentiality is a complex issue with this disease and should be carefully explored.

RESOURCES

Rehabilitation. The Journal of Rehabilitation, 60(2), 8-12.
Vocational Rehabilitation Services to Persons with H.I.V. (AIDS). 16th Institute on Rehabilitation
Issues, University of Wisconsin-Stout, October, 1989.
LEARNING DISORDERS

DESCRIPTION

The term “learning disorder” covers a number of related central nervous system disorders that affect higher cognitive function. The disorder may or may not be accompanied by an identifiable structural abnormality, but it can be presumed that one or more of the psychological processes are affected and can be identified either directly through a neuropsychological evaluation, or indirectly through an evaluation of the individual's achievement and overall adjustment. The Diagnostic and Statistical Manual-DSM IV identifies four categories; reading disorder, mathematics disorder, disorders of written expression, and learning disorder not otherwise specified.

During the school year, learning disorders are identified through a significant discrepancy between measured aptitude, and achievement in one or more school subjects. It is often the case that learning disorders will be identified based on school subjects, e.g., math, reading, or writing.

Learning disorders occur in individuals of average or above average intelligence, and a significant discrepancy usually develops between expected academic achievement and overall aptitude. The condition is associated with structural or functional deficits of the central nervous system. Of greater significance in vocational rehabilitation is the identification of the psychological processes that are impaired because of the learning disorder. These include perception, memory, learning, complex voluntary motor activity, thinking, language, and affect. The individual with a learning disorder may have impairments in one or more of these psychological processes.

The counselor can expect that, after twelve to fifteen years of experience in school systems with the diagnosis of learning disorder, there will be certain effects upon the individual's response to the disability. These will range from overcompensation, e.g., an individual with a math disability who comes to vocational rehabilitation with a vocational goal of statistician, to those of avoidance, e.g., an individual who wants to have nothing to do with any educational or training related activity. Some individuals will understand their specific deficits in terms of academic achievement, but may not have gained an understanding of the underlying psychological process and its affect upon behavior in other areas of adjustment.

The evaluation of rehabilitation potential must take into account the affects of the learning disorder, not only in academic performance, but also in other areas of functional adjustment that will have vocational significance. In addition, learning disorders as a type of central nervous system disorder may also have characteristics less directly associated; for example, impulsivity, distractibility, hyper-activity or hypo-activity, problems in handling time and priorities, problem solving, and short attention span. These may be exacerbated in school settings for an individual who did not benefit from special education services. Note that many of the problems associated with learning disorders are quite subtle and may never have been identified in the school setting. Parents can often be very helpful in identifying areas that may not previously have been associated with a learning disorder. Common functional limitations that are often overlooked are response to supervision and working closely with others. There may be problems in benefiting from traditional supervision, and in the give and take of interactions within the workplace. The vocational rehabilitation counselor must be skilled at translating psychological processes identified by the school psychologist, neuropsychologist, or vocational evaluator into relevant vocational information.

An often confusing and difficult corresponding feature is an unrealistic set of vocational goals often expressed by clients with learning disorders. This can be somewhat understood when one considers that they have at least an average IQ, and often an IQ significantly above average, yet have achievement levels that frustrate them in one or more subject areas. Therefore, these individuals often have at least average, and often significantly above average, vocational aspirations.
It is the task of the counselor to see what strategies can be used to promote successful completion of learning situations. These might include modified study habits in terms of avoiding conflicting stimuli, use of tape recorders or alternative means of communication, modified test situations, specialized cues to enable the individual to learn, self-modification techniques to avoid problematical situations and, in some cases, increasing the client’s self-awareness of his/her limitations. They might also include highlighting assets as a means of contributing to vocational and employment success. There is often a tendency to seek a psychological evaluation that lays out the problems and accommodation strategies for the counselor. Evaluations of this type are not usually forthcoming, however. The counselor has a responsibility to analyze and integrate existing information and to recommend further testing based on vocational planning needs.

The DSM-IV identifies learning disorders as developmental disorders and then lists the various academic topics they may affect. This is a starting point, but has limited vocational implications. Learning disorders not only affect topical achievements such as reading, writing, and math, but also many motor skills related to strength, coordination, stamina, and speed. These need to be evaluated as well as specific achievement deficits.

Psychosocial function also needs to be assessed by direct interview and by information gained from significant others in the client's environment, e.g., parents, teachers, coworkers, and supervisors. The adjustment of the individual to the learning disorder is often as significant as the learning disorder. This means that overall learning strategies and worker habits largely determine employment success. Some individuals with learning disorders have learned to be overly communicative about their disability, which may be seen as a means of manipulating the employment situation to excuse or rationalize a lack of productivity. On the other hand, there may be denial where the individual withdraws from social situations and, when confronted about his or her achievement difficulties will leave the work or school situation.

In summary, the learning disorder must be assessed in terms of how it affects the person’s ability to carry out a job, to learn the skills necessary to maintain employment, and to deal with coworkers. Assessment should include:

- How the individual will be supervised,
- methods of communication,
- how the individual compensates for the learning disorder with adapted skills and behaviors, and
- how willing the individual is to work with employers to assure successful acquisition and maintenance of employment.

**ASSESSMENT ISSUES**

Difficulties in school topics such as arithmetic and reading, or in some cases specific study styles, may come up in terms of managing time, taking notes, benefiting from teacher feedback, and interpersonal relationships with other students, family, etc. There are three specific areas of information that must be analyzed and synthesized. The first is client history, which includes school records, family history, etc. The second is behavioral observations on the part of the counselor and other professional staff such as teachers, counselors, and supervisors. The third area is objective diagnostic testing, which includes school psychological reports, vocational evaluations, and psychological evaluations. The client history should include as a minimum, interviews with the client and significant family members to elicit personal data, medical history, social information, special interests and activities, emotional coping abilities/problems, educational background, vocational history, and interests.

Educational and school records can supply information on schools and program attendance, grades received, behavioral and/or emotional problems noted, achievement and other testing results, sensory problems, and interpersonal social relationship styles. An interview with the client and family members may reflect resistance to school, poor grades, frequent absenteeism, fights, withdrawal, and frequent and
unspecified illnesses. Objective assessment data can be elicited from school psychologists, clinical and neuropsychologists, physicians, and allied health personnel such as social workers

**COMMON FUNCTIONAL LIMITATIONS**

- Ability to organize work
- Time management problems
- Conceptualization problems
- Decision making problems
- Maturity
- Reading, writing and spelling
- Math calculations
- Auditory/visual memory
- Form and spatial perception
- Concentration
- Attention to task
- Visual motor problems
- Abstract thinking
- Following instructions
- Self-image
- Interpersonal relations
- Impulse control
- Unclear/vague communication style
- Inability to focus on details
- Sequencing problems
- Relational distortions

**VOCATIONAL IMPEDIMENTS**

Learning disorders restrict the range of work a person can do effectively and efficiently. Often, the client needs help in understanding his/her limitations in order to make appropriate vocational choices. Individuals with learning disorders are frequently limited in the jobs available to them. In addition, they may need special assistance to handle all the duties of those jobs.

Skill deficits obviously limit performance in certain jobs, but the counselor can also show general functional limitations that would apply to any job undertaken. These might include organizational skills, self-image, relationships with others, concentration, attending to task, and following instructions.

Another way to show a vocational impediment is to show the potential of the individual and assess how achieving that potential will be very difficult without special assistance. An individual may have the potential to succeed in a vocation requiring a bachelor’s degree, but needs lots of special assistance achieving that degree.

Expectations of the individual and the family are an important consideration. These expectations need to be assessed so that all involved agree upon an achievable outcome. It must also be remembered that the person may have capabilities that can be maximized through alternate techniques or ways of accomplishing tasks.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- How is the person’s self-image?
 INITIAL INTERVIEW QUESTIONS

- How is the person’s eye contact?
- Is his/her behavior appropriate?
- How accurately are the necessary forms completed?
- Does the person understand items that require reading?
- Does there appear to be any problem with memory?
- Is the person hyperactive or easily distracted?
- Does he/she use aids (such as a list of doctors, employers)?

- Describe your specific learning disorder. What specific areas does it affect (e.g., concentration, note taking, memory, decision-making, reasoning, reading, spelling, math, following instructions)?
- How do you regard your school experience and how do you feel about your adjustment, both at school and at home?
- What are your vocational goals, and how are these affected by your specific learning disorder?
- Have you had previous work experiences? What degree of success was achieved, and what difficulties did you face?
- What special strengths compensate for your learning disorder? (In what areas does the client excel?)
- How do you feel about yourself? (Often these individuals have a low self-concept.)
- How do you get along with others?
- How effectively do you communicate with others?

 IPE CONSIDERATIONS

- Client or family expectations, if unrealistic, must be addressed through counseling.
- If the individual has low self-esteem, the counselor must arrange for successes, even if small.
- Focus on accommodation strategies rather than school-based remediation strategies. Learn alternative ways to accomplish vocational goals (tape recorders, verbal testing, calculators, checklists, calendaring, time scheduling, etc.).
- The client may need reality counseling and honest feedback.
- Provide aids such as glasses or hearing aids to maximize use of those senses.
- Job placement should be selective.
- Arrange for accommodations at the job site to help the client learn tasks (verbal versus written instructions, aids such as time schedules, checklists, etc.).
- Find ways to accommodate or circumvent deficits and reduce distractions. Promote realistic goals and choices of work settings/demands.

 RESOURCES

Learning Disorder Association of America, www.ldanatl.org
CHRONIC LOW BACK PAIN

DESCRIPTION

Chronic low back pain is also referred to as slipped disk, bulging disk, degenerating disk, lumbago, and sciatica. Low back pain is felt in the lower lumbar, lumbosacral, or sacroiliac area and is often accompanied by sciatica (pain radiating down one or both buttocks and/or legs).

A major cause of low back pain is an acute strain, which is generally resolved within two to four months. Another important cause is osteoarthritis, which increases in frequency with age, and ultimately affects more than half the population. Other causes of low back pain include overuse, obesity, pregnancy, fibromyalgia, ruptured intervertebral disk, or HNP (herniation of the nucleus pulposus) which can impinge upon nerve roots, traumatic ligament damage, fracture, infection, tumor, congenital defects, narrowing spinal canal, and arachnoiditis. Problems in adjacent organs, such as uterine fibroids, can also cause pain in the back.

Psychosocial issues influence any type of back pain. These psychosocial problems alter (a) perception and reporting of pain, (b) resulting degree of disability or handicap to employment, (c) response to treatment. Most low back pain will respond to conservative treatment, which typically consists of immobilization, improved posture, gradual conditioning, weight loss, and particularly, abdominal muscle strengthening.

If the individual has concurrent psychological disturbances, particularly anxiety and depression, the symptoms (descriptions of pain and examination findings) tend to be vague and inconsistent with no known neurologic pathways. In this situation, there must be some consideration to psychogenic pain. Psychogenic pain is pain that occurs beyond or after the signs of injury has cleared. If inconsistent findings are reported, there is a need for further investigation by the counselor, and possible consultation with psychologists, neurologists, or an orthopedic surgeon skilled in the diagnosis and treatment of lower back conditions. Diagnoses are often short on physical findings, and must rely largely on history and level of reported discomfort.

Treatment during the initial stages of lower back conditions includes aspirin or similar products and non-steroidal anti-inflammatory agents to reduce pain, physical therapy, and, in some cases, orthoses to correct abnormal gaits. If none of the above reduces pain, consideration is given to surgery. In all cases of surgery, second opinions are to be encouraged, as conservative treatments are the preferred mode of intervention. Surgery is of no value in chronic low back strain.

When there is a herniated nucleus pulposus (HNP) - extrusion through a tear in the annulus fibrosis - pain is more severe and the likelihood of improvement is significantly reduced. There is likely to be a spasm of back muscles. The person may also be unable to flex forward. If the HNP impinges on a nerve root, pain and loss of function in part of the lower extremity may result. If the nerve is irritated over an extended period, drop foot may occur. A general diagnostic study for HNP is an MRI (Magnetic Resonance Imaging) of the vertebral canal to determine the degree of herniation. Computed Axial Tomography (CAT) may be another useful diagnostic tool.

Much progress has been made in the use of surgery to repair herniated disks. These operations are now routinely done on an outpatient basis, with a short recovery time. The use of lasers in the removal of the herniated area is becoming more common and is reported to reduce the likelihood that surgical scar tissue will develop and cause an irritation of a nerve, causing the symptoms to return.
COMMON FUNCTIONAL LIMITATIONS

- Sitting
- Standing
- Bending
- Twisting
- Lifting
- Climbing
- Carrying
- Stamina
- Pain
- Activities in daily living, in severe cases
- Additional limitations caused by side effects of medication
- Driving a vehicle for long periods

Depending upon the course of treatment, individuals may have learned to avoid pain in the use of various pain medications. The counselor needs to be sensitive to an individual who may use alcohol in conjunction with these pain medications to increase (potentiate) the effects of the analgesic. A general statement is that there is a clear relationship between pain/disability and poor response to treatment. If two or more months of no improvement occur, the counselor should consider the influence of psychological factors in the continuance of the pain. This does not mean that the pain is not real; it means, rather, that beyond consideration of physical factors in the treatment and rehabilitation, it may be necessary to respond to psychological factors contributing to the adverse response to the pain.

There is a tremendous amount of controversy regarding the functional limitations associated with lower back conditions and the various treatments associated with these. If surgery is completed, it is most likely to be a laminectomy, which is a removal of the herniated fragment of the disk. All treatment requires careful monitoring by the physician and compliance on the part of the client. These patients do experience pain, regardless of the objective physical findings, and the counselor rarely faces a pure case of malingering. The counselor should also keep in mind that many individuals who experience low back pain may be struggling with psychological adjustment related to self-image. They often have, or have had, jobs paying relatively large salaries or hourly wages but requiring heavy, and in some cases risky, physical activity which is counter-indicated by their back pain. They are now faced with the option of low-paying, but non-risky jobs.

VOCATIONAL IMPEDIMENTS

- The client will need a job that can accommodate frequent changes of body position.
- Has the person primarily worked in jobs that require much lifting and physical activity?
- Is there a history of long-term back problems, or are the problems recent? If the condition is a result of muscle strain, there is usually recovery and the back pain is considered temporary.
- Will the person require work modifications?
- How has the disability affected the person in school functions or everyday activities?
  This is an important consideration for individuals who have never worked or have a limited work history.
- Consider whether the extent of pain the individual experiences can be overcome by pain management techniques, work hardening programs, or by identifying a work goal which does not aggravate the condition. Also, consider whether the individual has the capacity to train for appropriate work goals, if required.
OBSERVATIONS DURING INITIAL INTERVIEW

- Are there obvious indications of pain?
- Does the person continuously shift positions?
- Does he/she sit, or stand, primarily and for how long?
- Is weight above normal?
- Are there obvious problems with stamina?
- Are symptoms reported consistently? Are the claimed restrictions evident?
- Does there appear to be a psychological response to pain, e.g. depression?
- Is there any outstanding litigation?

INITIAL INTERVIEW QUESTIONS

- What caused the disability and how has it been treated?
- What are your limitations? (Probe lifting, walking, standing, sitting, etc.)
- What kinds of problems have you had in daily activities or in recreational activities?
- Do you have pain?
- What activities seem to cause the pain?
- What do you do to relieve the pain?
- Are you taking medications? If so, how long, how much, how often and what are the side effects?
- Do you use alcohol to relieve symptoms?
- Describe what you do in a typical day.
- Do you have problems sleeping?
- How has the disability caused you problems at work?
- Do you have problems driving a car?
- Do you use assistive devices (back brace, crutches, etc.)?

IPE CONSIDERATIONS

- Follow recommended treatment.
- Consider diet or weight reduction as needed.
- In choosing a goal, careful consideration should be given to the physical limitations.
- Consider job site engineering or accommodation.
- Consider work hardening programs. Physical conditioning/stamina building in some form may prove beneficial.
- Consider pain management training as needed.
- Assess and deal with any secondary problems such as depression or chemical dependency.

RESOURCES

National Institute of Neurological Disorders and Stroke,  
Spinal Universe, www.spinaluniverse.com
MENTAL RETARDATION

DESCRIPTION

Mental retardation refers to below average intellectual functioning, with associated impairment in family, social, or vocational functioning. Mental retardation has multiple causes. It can result from genetic defects (such as Down's syndrome), maternal drug and alcohol use (such as Fetal Alcohol Syndrome), maternal infections (such as German measles), and a variety of other causes. Most mental retardation, however, has no clear causative factor. The risk of having a mentally retarded child increases with the age of the mother (the risk increases sharply after age 35), number of children, and socioeconomic status (probably due to poor nutrition and lack of prenatal care).

The age at which mental retardation is first detected depends on the degree of intellectual impairment. Down's syndrome is usually identified at birth, or shortly thereafter, because of the characteristic physical appearance of these babies. Severe and profound retardation is usually identified early in infancy because the baby does not reach established development benchmarks. Persons with borderline intellectual functioning (I.Q.'s between 70 and 85) frequently are not identified until they reach the primary grades in school and show difficulties in learning.

Mental retardation is diagnosed primarily on the basis of intelligence. However, persons with mental retardation frequently manifest brain dysfunctions beyond limited intelligence and diminished learning disability. Attention deficits, distractibility, perceptual difficulties, and motor problems frequently occur. The latter are particularly important for vocational rehabilitation purposes. Coordination and dexterity may be reduced, along with significantly slower rate of performance. Epilepsy may also be present and take unusual forms, including brief episodes of rage or destructiveness. As a rule, the lower the level of measured intelligence, the more likely it is that the person will have other neurological and physical problems.

Measures of intellectual and cognitive functioning are quite stable over time. If sequential evaluations show dramatic fluctuations, the possibility of invalid testing should be considered. In addition, if the person's measured intellectual functioning shows an abrupt decline, the possibility of some agent (head injury, toxic chemicals, etc.) should be considered.

Descriptive labels for different levels of intellectual functioning (mild, moderate, severe) have distinctly different meanings in schools and in vocational rehabilitation settings. Because of this, care should be taken in the way persons with mental retardation are described to others to avoid confusion and miscommunication.

The diagnosis of mental retardation does not preempt the development of other mental disorders. Persons with mental retardation may develop schizophrenia, depression, and personality disorders. These are often overlooked.

Most persons with mental retardation are capable of living out a normal life span. However, since many lead inactive, sedentary lives, obesity and cardiovascular problems may reduce life span. Cardiac defects secondary to Down's syndrome increase early mortality in this group.

In the past, most persons with moderate to profound mental retardation were thought to be incapable of functioning outside of institutional settings. Those with mild and borderline retardation were typically relegated to sheltered employment. The use of operant conditioning techniques and intensive skill training procedures based on task analysis has dramatically changed this picture. Persons with borderline and mild mental retardation now can routinely achieve competitive employment goals. Those with moderate mental retardation can achieve supported employment goals, as can some persons with severe and profound mental retardation. At a minimum, the latter group typically can function at the sheltered employment level.
COMMON FUNCTIONAL LIMITATIONS

- Learning work skills
- Self-direction
- Communication
- Interpersonal skills
- Work tolerance
- Mobility
- Self-care
- Transportation (the ability to drive a motor vehicle or make use of public transportation).

VOCATIONAL IMPEDIMENTS

Vocational impediment and its substantiality is usually not an issue among persons with mental retardation. There is a clear relationship between the common functional limitations in mental retardation and the ability to prepare for, enter, and maintain employment.

These individuals may exhibit inappropriate behaviors, be unable to operate motor vehicles or make use of public transportation, and may be unable to complete employment applications and interviews appropriately; all of which create true vocational barriers.

Parental expectations regarding the person with mental retardation affect the prospects for employment. Unfavorable parental expectations toward employment are a leading cause of VR program failure. The consequences of competitive gainful employment must be thoroughly explored with parents before making an eligibility decision. The role of parents and other relatives as a long-term support system must also be explored along with the availability of an alternative support system to replace the parents if necessary.

In some instances, the availability of transportation to and from work or services may be an issue in employability. Again, this issue must be carefully explored with parents or other caregivers as a part of the planning process. If public transportation is available, most persons with mental retardation can be taught to use it with initial one-on-one training and practice.

OBSERVATIONS DURING INITIAL INTERVIEW

Interview observations should focus on the person's social skills and social behavior, particularly in relationship to age appropriate behavioral standards. Relevant observations include the following:

- Is the person appropriately dressed and groomed?
- Does the person exhibit mannerisms such as fidgeting, wandering around, interrupting, making noises, or talking in a loud voice?
- Does the individual exhibit dependency such as deferring to a parent or others to answer questions?
- Is the person's speech content appropriate?
- Does the person have difficulty with memory, e.g., addresses and work history?
- Does the person seem oriented as to time and place?
- Did the person exhibit difficulties with motor coordination?

INITIAL INTERVIEW QUESTIONS

If possible, the interview questions should be posed directly to the individual with mental retardation as opposed to a family member or caregiver. Interviewing persons with mental retardation is a challenge
because of speech difficulties and impaired thought content that is associated with limited intelligence. At the same time, most mentally retarded persons are quite capable of producing “yes” and “no” and “like” or “don't like” responses to specific questions. Thus, direct questions as opposed to open-ended questions are preferred in interviewing. Persons with mental retardation often produce what they think are socially desirable responses, rather than stating their own views. Counter-balancing specific questions, or stating questions in a socially undesirable form, avoid this. (For example, “Would you like to go to work?” can be counter-balanced with “Would you like to stay at home and do nothing?”)

Persons with mental retardation are concrete thinkers. They may be able to respond to a question asked concretely (i.e., Do you like Mr. Smith?), but not the same question asked abstractly (i.e., Do you get along with your boss?). Use short questions or sentences, rephrase them when needed, and allow for non-verbal responses when interviewing persons with mental retardation.

- Whom do you live with? Who helps you do things?
- Have you held jobs in the past? If so, what has the employer told you about your work?
- How do you feel you get along with others?
- Are you taking any medications? What is their affect on you?
- Have you had seizures?
- Can you operate a motor vehicle?
- Do you have a valid driver's license?

**IPE CONSIDERATIONS**

- Selective job placement that may require intervention by staff with employers.
- Making arrangements to deal with transportation problems.
- Assuring that long-term support is in place to include residential, self-care, financial, and recreational.
- Provision of training, if necessary, to correct inappropriate work behavior.
- Provision of vocational training to develop specific work skills.
- Post-placement services to deal with initial needs for increased supervision.

**RESOURCES**

ARC, www.thearc.org
MOTOR NEURON DISEASES

DESCRIPTION

Motor neuron disorders are characterized by muscular weakness and wasting due to progressive degeneration of neurons and anterior horn cells in the upper spinal cord. These disorders have no known cause.

TYPES OF DISORDERS

There are three specific disorders. They have distinctly different outcomes. However, the general diagnosis of amyotrophic lateral sclerosis is often used, even though the specific motor neuron disease may be one of the other two types.

Amyotrophic Lateral Sclerosis (ALS or Lou Gehrig’s Disease)

This disease typically begins with anterior horn cell dysfunction. About 40% of the cases begin in the hand muscles, with cramps followed by weakness. As the disease progresses, all of the extremities are involved, followed by involvement of the upper spinal cord and brain stem. Motor functions in the upper and lower extremities are lost, there is difficulty with breathing and, in the advanced stages, the ability to talk, chew, and swallow is lost. Bowel and bladder control is usually retained. Voluntary eye movements remain. Sensory systems remain intact. There is no involvement of the central nervous system affecting cognitive and emotional functions. There is increasing evidence that ALS has two forms: a rapid form in which death occurs in two to five years, and a slowly progressive form (affecting about 20% of persons with ALS) in which survival for more than five years is common.

Progressive Bulbar Palsy (PBP)

In this variation of motor neuron disease, the involvement is predominantly with the nerves that control the face, throat, and respiratory tract. Speech, chewing, and swallowing become increasingly difficult and eventually lost. Difficulties in respiration also occur. Emotional response may be affected with labile or inappropriate emotions. This disorder is usually rapidly progressive and death within one to three years is common, usually from respiratory complications.

Progressive Spinal Muscular Atrophy (Aran-Duchenne Muscular Atrophy)

In this variation, the anterior horn cells of the upper spine are usually involved. Marked weakness and muscle wasting typically begin with the hands, progress to the arms, shoulders, and legs, and eventually generalize to all portions of the body. This is a benign variant and persons typically survive for twenty-five years or more. Onset generally is after the age of forty, and may occur at any portion of middle or late adult life. Progressive spinal muscular atrophy can onset at any age.

Other Motor Neuron Diseases

The less common motor neuron diseases such as Werding-Hoffman disease and Wohlfart-Kugelberg-Welander disease affect children. A relatively common disorder is Peroneal Muscular Atrophy, or Charcot-Marie-Tooth disease. This disorder is hereditary and usually begins before age 30. Muscle weakness and atrophy usually begin in the legs and hands. Foot drop produces a clapping gait. Pain and
numbness in the affected limbs is common. The disease is slowly progressive but may arrest spontaneously. Longevity is not usually affected.

**COMMON FUNCTIONAL LIMITATIONS**

The course of these diseases is relentlessly progressive, with increasing functional limitation over time. The functional limitations listed below are in order of emergence from early to late.

- Upper extremity mobility
- Strength
- Whole body mobility
- Self-care
- Speech

**VOCATIONAL IMPEDIMENTS**

These disorders typically onset after the age of forty when most people are either competitively employed or engaged in homemaking. The initial symptoms involve weakness and reduced coordination and dexterity in the hands and feet. Whether these symptoms produce a vocational impediment at this point depends primarily on the requirements of the person's employment. Persons employed in agriculture, industrial, clerical, and homemaking occupations may encounter vocational problems very early in the course of the disease. Persons in professional, technical, managerial, and sales occupations are more likely to first encounter difficulties in self-care and activities of daily living. Since these conditions cannot be treated, however, one can expect this latter group to begin to encounter vocational problems soon afterward.

Since most persons are either employed or engaged in homemaking at the time of onset, the basic vocational rehabilitation strategy is one of maintaining current employment. This strategy is most readily achieved using rehabilitation engineering, job modification and restructuring, and assistive devices. Current employment in professional, technical, managerial, clerical, sales, and homemaking is a positive indicator of long-term employability potential because cognitive functions remain intact and physical demands can be altered with rehabilitation engineering approaches.

Retention of employment in agricultural and industrial occupations is more problematic because of the motor requirements involved. A thorough job and task analysis of current employment will usually disclose the extent to which a rehabilitation engineering approach can be applied. Close work with the employer will also indicate whether transfer into other jobs within the firm is possible, with or without some type of training.

Although it is tempting to consider rate of progress of the disease in determining long-term employability, this is pointless in everyday practice. There is no way to estimate this in an individual case, particularly when the person comes to vocational rehabilitation early in the course of the disease.

**INITIAL INTERVIEW QUESTIONS**

- Do you have trouble breathing or with respiratory infections?
- Do you have trouble with bowel and/or bladder control or have any bladder infections?
- Do you require a personal care attendant and, if so, for what activities?
- Do you have a loss of sensation and, if so, where?
- Do you have a loss of muscle functioning and where?
- Do you experience spasticity and where?
- Do you have any muscle atrophy or weakness and where?
Do you experience any problems with skin breakdown or infection?
Are you in pain?
Do you have speech difficulties?
Do you use assistive devices and, if so, describe?
Are you able to operate a motor vehicle and, if so, what modifications are necessary?
Do you tire easily?
Do you have difficulties with balance and/or motor coordination?
Do you have trouble swallowing or choking frequently?

IPE CONSIDERATIONS

The person with a motor neuron disease has a progressive, incurable, and ultimately fatal disorder. Coping with this is a major issue both for the person and family members. At a minimum, referral and involvement with a support group should be considered. Referral for mental health counseling may also be considered. A person should be monitored for signs of depression and suicidal thoughts.

Clear and explicit plans for post-employment services should be developed at the time the initial vocational rehabilitation case is closed. Additional services will typically be required as the person's physical functioning deteriorates.

First thought should be given to maintaining current employment. Consider rehabilitation engineering to include job and work site modifications.

RESOURCES

Motor Neuron Disease Association, www.mnda.org/full-site/home.htm
DESCRIPTION

Movement disorders are a group of diseases that affect the ability to produce and control movement. Movement disorders are caused by damage or malfunction in the components of the brain that are involved in movement. Movement disorder describes many neurological conditions that cause involuntary excessive movements or slow, awkward, deliberate movements.

Following is a brief description of each of the movement disorders:

- **Ataxia** results in the lack of muscle coordination during voluntary movements such as walking or picking up objects. Ataxia can affect the speech, eye movements, and the ability to swallow. It usually results from damage to the cerebellum, the part of the brain that controls movement. Ataxia can be caused by alcohol abuse, stroke, tumor, cerebral palsy, multiple sclerosis, or a defective gene can be inherited that can cause ataxia. Walkers and canes might help the person maintain independence. They might also benefit from physical therapy, occupational therapy, and speech therapy.

- **Dystonia** involves prolonged muscle contraction causing uncontrollable twisting of the affected body part and rhythmic, jerky movements, and abnormal posture. The symptoms can be mild or severe and may interfere with daily tasks. Symptoms worsen with stress, fatigue, or anxiety. Most cases occur in adults and tend to affect only one part of the body---the neck, the face, or an arm. Medications can sometimes improve the symptoms or surgery may be necessary. The symptoms often plateau within a few years. The affect on the person’s quality of life will depend to a large extent upon the part of the body affected and the severity of the contractions. Some people may find that biofeedback, meditation, acupuncture, and/or yoga are helpful. It is a very difficult and frustrating disease to live with. The person is unable to control their body and move it the way they want it to move. They also have to deal with people who do not understand their condition. For these reasons, they may become stressed, anxious, and depressed.

- **Huntington’s Disease** is a progressive, degenerative disease caused by the deterioration of certain nerve cells in the brain. Onset normally occurs between the ages of 35 and 50. The condition is hereditary and the symptoms may include:
  - Involuntary, jerky movements in the arms, neck, body, and face,
  - Personality changes
  - Intellectual deterioration

- **Multiple System Atrophy (MSA)** movements are Parkinson’s-like. Individuals with this disorder also have abnormalities such as light-headedness or fainting, slowness of movement, muscle rigidity, poor balance, and bowel or bladder incontinence. MSA is a rare neurological disorder that impairs the body’s involuntary functions including blood pressure, heart rate, bladder function, and digestion. It was formerly called Shy-Drager Syndrome, a degenerative disease that develops in adults, usually in their 50s, and affects men more than women. The condition is gradually progressive and eventually leads to death.

- **Myoclonus** may be caused by a number of underlying problems. It is characterized by sudden, jerky movements, twitching or intermittent spasms of a muscle or group of muscles. The types of myoclonus include physiological such as hiccups or sleep starts; essential myoclonus has no explained cause and is unrelated to any illness; epileptic myoclonus occurs as part of an epileptic disorder; symptomatic (secondary) myoclonus is common among people who have experienced...
chemical or drug poisoning, prolonged oxygen deprivation, medication reaction, Huntington’s disease, metabolic problems, and other diseases.

- **Parkinson’s Disease** is a progressive degeneration of nerve cells in the brain controlling muscle movement. It leads to shaking (tremors) and difficulty with walking, movement, and coordination. It most often develops after the age of 50. It is one of the most common nervous system disorders of the elderly and affects both men and women. Sometimes, it occurs in families, which accounts for the fact that some young people are affected. Parkinson’s disease occurs when the nerve cells in the brain that make dopamine are slowly destroyed and without dopamine, the nerve cells in that part of the brain cannot send proper messages to the muscles that control movement. The damage gets worse over time. The cause of this disorder is not known. Symptoms include:
  - One or both sides of the body can be affected and how much function is lost will vary.
  - At first, the person may have a mild tremor or a slight feeling that one leg or foot is stiff or dragging.
    - Automatic movements slow or stop
    - Constipation
    - Difficulty swallowing, drooling
    - Impaired balance and walking
    - Lack of expression in the face
    - Muscle aches and pains, rigid or stiff muscles (often beginning in the legs)
    - Problems with movement
    - Shaking, tremors
    - Slow, quieter speech, and monotone voice
    - Stood position

Other symptoms include anxiety, confusion, dementia, depression, hallucinations, memory loss. There is no known cure for Parkinson’s disease. The goal is to control the symptoms by medications that increase the levels of dopamine in the brain such as Levodopa, carbidopa, Pramipexole, Requip, Parlodel, to name a few. Lifestyle changes may be helpful such as good general nutrition, exercise within the activity level to meet changing energy levels, regular rest periods and stress avoidance, physical therapy, speech therapy, and occupational therapy, railings or banisters placed strategically throughout the home, special eating utensils, counseling services to help cope with disorder and outside assistance, i.e., meals-on-wheels.

- **Progressive Supranuclear Palsy** is a rare brain disorder that causes serious and permanent gait and balance control problems. Symptoms vary widely and include frequent falls and balance problems, difficulty with eye movement, and changes in mood and behavior.

- **Restless Legs Syndrome** causes a person’s legs to experience a creepy, crawly feeling while sitting or lying down. Movement by getting up and moving around temporarily alleviates the feeling. Its symptoms can range from bothersome to incapacitating. It is suspected that the condition may be due to an imbalance of dopamine in the brain that sends messages to control muscle movements. Some changes in lifestyle may help prevent RLS such as following a consistent sleep schedule, getting regular exercise every day, practicing meditation or yoga, cutting back on caffeine, alcohol, and tobacco, keeping mentally active when sitting down. Other self-care activities include walking or riding an exercise bike, soaking in a hot tub, massaging the legs, stretching the legs. Medications that replace dopamine, sleeping pills, anti-seizure drugs, and opioids have been found to be helpful in treating RLS.

- **Tardive Dyskinesia** is caused by long-term use of tranquilizers used to treat psychotic conditions. It is characterized by repetitive, involuntary, purposeless movements such as grimacing, lip smacking, eye blinking, or rapid leg and arm movements.

- **Tourette Syndrome** is an inherited disorder characterized by repeated involuntary movements and uncontrollable vocal sounds called tics. The signs and symptoms show up between ages 7
and 10 and males are three to four times more likely than females to develop Tourette syndrome. There is no cure and children often outgrow Tourette syndrome after adolescence. Symptoms range from mild to severe and debilitating. Some of the more common tics seen include: eye blinking, head jerking, shoulder shrugging, sticking the tongue out, hiccupping, yelling, barking, flapping the arms, hopping, repeating one’s own words or phrases, using expletives. Tics can vary in type, frequency, and severity and may worsen during periods of stress, anxiety, fatigue, illness, or excitement. Some people can temporarily control the tick until they find a place where it is less disruptive. People with Tourette syndrome may have learning, behavioral, and social challenges. They can also have other related conditions such as attention-deficit/hyperactivity disorder (ADHD), obsessive-compulsive disorder, learning disabilities, sleep disorders, depression, and anxiety disorders.

- **Wilson’s Disease** is a rare and inherited disorder. It occurs when too much copper accumulates in the liver, red blood cells, and brain. The symptoms begin appearing between the ages of 6 and 40. Many individuals suffer from liver disease while others experience neurological or psychiatric symptoms that include tremor, rigidity, and extreme personality changes.

**ESSENTIAL TREMOR**

Essential tremor (ET) is the most common form of movement disorder in adults and affects about 10 million people in the United States alone. Approximately 4% of persons between the ages of 40 and 50 are affected by essential tremor and the percentages increase among persons in their later years. It is also the most commonly observed movement disorder. ET is caused by abnormal communication between certain areas of the brain, including the cerebellum, thalamus, and brainstem.

Essential tremor can affect almost any part of the body, but the most common areas affected are the head, (neck), arms, hands, and voice. ET is an involuntary, rhythmic, back and forth shaking. The tremors usually start in the arms, thereby affecting the hands, and then spreading to other parts of the body. Essential tremor is generally progressive, sometimes rapidly, sometimes very slowly, and can be disabling in severe cases. Other types of essential tremor may include tremors in outstretched arms or tremors when the arms are at rest on one’s legs. Some individuals have unsteadiness, gait, and balance problems that are above and beyond normal aging.

Essential tremor is often mild but those who suffer from severe tremors have extreme difficulty with normal, routine, daily activities such as drinking from a glass, writing, shaving, putting on makeup, brushing one’s teeth, and eating, to name a few. Stress tends to make the tremors worse and they worsen in a “performance” situation such as writing a check at a checkout stand or being asked to sign one’s name.

The cause of essential tremor is two-fold: An inherited defective gene – people who inherit this gene have a 50% chance of developing the disorder and the symptoms develop in their 40s; Age – essential tremor is more common in middle age and older.

Essential tremor symptoms include:

- Begin gradually
- Worsen with movement
- Usually occur in the hands first, affecting one hand or both hands
- Can include a “yes-yes” or “no-no” motion of the head
- Are aggravated by emotional stress, fatigue, caffeine, or extremes in temperature
CASE STUDY
By Susan B.

What was wrong with my hand? I was sitting in a meeting trying to take notes but my pen kept shaking so that I could not write. It was not constant but it was very aggravating, and I was sure the other people in the room noticed my hand shaking when I tried to write.

That night I asked my husband if he had instances when his hand shook when he was trying to write. He said that he did when he was under a lot of stress and it helped him to doodle. The next time my hand shook when I was trying to write I would draw circles at the top of the page until my hand calmed down enough that I could write without shaking. I was right handed and that hand was affected first.

I was in my mid-40s when I started having these symptoms. For several years, I thought it was caused by stress. I am an attorney and owned my own business, working 70 to 80 hours per week with few vacations.

The hand shaking became more severe in my 50s. It was extremely difficult to write or even to sign my name. I began to dread being asked to sign my name. My hand would shake uncontrollably and the signature was unreadable. I finally decided for legal purposes to have a signature stamp made at the local bank. I also asked the bank to print checks that I could use with my printer so that I don’t have to write checks and with the signature stamp, it alleviates one of my problems. Because my right hand shakes so bad when I try to write, I have taught myself to print with my left hand. That hand did not shake for several years, but it is now starting to show signs of essential tremor.

For years, the computer has been my friend, but essential tremor has caused problems in the use of the mouse, and over striking the keys. To help make the computer friendly, I had the keyboard lowered so it is right in my lap. My husband built a larger extension on the keyboard drawer for the mouse. Initially, we tried adjusting the mouse pointer speed within the Windows program. While this helped, it was still extremely difficult to keep the pointer in the appropriate spot long enough to click. This problem was resolved when I was researching ET on the internet and found reference to a program (SteadyMouse obtainable at steadymouse.com) designed specifically for persons with essential tremor or Parkinson’s disease. The program makes the mouse ignore rapid movements and smoothes out the pointer movement so that it remains in one place long enough to click on a box or letter, etc.

Daily activities like brushing my teeth or putting on my makeup can bring me to tears. I have no control over the right hand. Putting on eyeliner and mascara can take many tries and a great deal of patience. The purchase of a battery operated toothbrush that is heavier than the ones that use electricity has helped with brushing my teeth. My husband helps me with small utensils or buttons. I used to love to make pillows and decorate them with beads, or sew other items, but threading a needle or even handling the beads is impossible.

Eating is another daily challenge and frustration. Cream soups, peas, blueberries, and all other foods that are small and tend to shake off a spoon or roll off a fork are nearly impossible to eat with my right hand. Since my left hand is not nearly as affected, I use it almost all of the time now. There are special weighted utensils that one can buy that help with eating problems.

Another love of mine is cooking and baking. You can imagine the messes I make trying to measure small quantities of spices, etc., or even turning an egg. If you love something enough you will persevere and the messes can be cleaned up.

Playing bridge is one of my favorite activities. I enjoy the mental challenge and the time with my friends. It never ceases to amaze me that when I get in this atmosphere, my hands don’t seem to shake nearly as much. I can sort the cards and hold the cards without spilling them all over the table or floor. This may be explained by the fact that we laugh a lot and truly enjoy each other’s company.

In my 60s, my head decided it also wanted to shake. It does the “yes-yes” shake. I also have tremors when I stretch my arms out in front of my body or when my hands are at rest on my lap. The head shaking tremors bother me the most because they are the most obvious. As an avid reader, you would think the shaking would have an impact on reading. It doesn’t, other than the frustration associated with
having your head shake constantly. I find that it is worse in the evening when I am tired. I can relieve the
shaking by resting the back of my head against the back of a chair or the headrest in the car.

Stress, coffee, and chocolate (anything with caffeine) make the tremors worse. I tried drinking decaf
coffee but even that was too much caffeine. I have found that alcohol or a glass of wine will relieve the
symptoms for a short time. It is such a pleasure to hold a glass of wine without it spilling or having to
hold it in both hands to drink.

Stress can occur when asked to sign my name at a checkout in a grocery or anywhere else. Some
retail outlets, such as our local pharmacy, realize how difficult it is for me to sign my name and only
request my initials. The stress we all experience in our lives exacerbates essential tremor symptoms.
When I am under tremendous stress, I feel like my whole body is quivering. This does not happen often,
but when it does, I know that I need to take some deep breaths, have some quiet time, and relax. Yoga is
an exercise that helps me take deep breaths and relax my body.

I feel terribly frustrated by this disease. I wish I didn’t have it. It is so disruptive of my life, and I
feel that I have no control over my body. In spite of that, I have a wonderful husband and support system
in my friends and a good life so I have never felt depressed. My general outlook on life is very upbeat.

I have been seeing a neuroscientist for several years. He has put me on Topiramate and Primidone
(the dosage can be increased with his permission). These drugs help me significantly. I also have a
stationary bike at home that, surprisingly, provides short-term symptom relief. We have talked about
deep brain stimulation and other surgeries, but I do not think I am at that point yet.

COMMON FUNCTIONAL LIMITATIONS

Movement Disorders

1. Physical limitations:
   - Shaking (tremors), muscular control and cramping, poor coordination, and balance problems,
   - Abnormal eye movements or eye movements so severe as to functionally cause blindness,
   - Constipation,
   - Sleep disorders such as insomnia,

2. Language and communication:
   - Inability to write legibly,
   - Weakness in or inability to control speech,
   - Tics that can involve the voice or parts of the body and are seen in Tourette’s syndrome,

3. Psychosocial limitations:
   - Intellectual deterioration,
   - Personality changes,
   - Confusion,
   - Hallucinations,
   - Memory loss,
   - Fainting,
   - Dementia,

4. Complications:
   - Permanent physical deformities,
   - Disabilities that affect the ability to perform day-to-day activities,
   - Social misunderstanding of the disorder,
   - Pain and fatigue,
   - Muscle aches and pains,
Rigid or stiff muscles,

5. Other commonly associated problems:
   - Depression,
   - Reactions to certain drugs,
   - Anxiety, stress, and tension,
   - Lack of support systems.

INTERVIEW CONSIDERATIONS

More than likely, the individual you will be interviewing will not be able to fill out the paperwork that you may need. You might want to find out before hand if the person can write legibly. If not, you could ask a relative or friend to accompany them who would be able to complete the necessary paperwork. Since the computer can eradicate much of the paperwork required, it might not be necessary for the person to write.

In some cases, the person’s speech may be so impaired that you may need someone to come with the person who is familiar with the person’s speech patterns. This will help as you become familiar with the person’s speech. If you are interviewing someone with Tourette’s syndrome who barks, yells, or makes other loud intermittent noises, you might consider an interview room that is removed from other work areas.

INITIAL INTERVIEW QUESTIONS

- Describe the history of this disease as you have experienced it.
- What medications are you currently taking for ET?
- If on medication, is the medication giving any relief from the symptoms?
- How has ET affected your work life?
- What activities at work are you having the most difficulty with?
- What accommodations are you currently using?
- How has ET affected your home life?
- What activities at home are the most difficult?
- What accommodations are you using at home?

Because ET tends to occur later in life, your clients will typically have several years of work experience. Therefore, it is necessary to gather detailed information about their work experience, specific skills and knowledge they have acquired on the job, and any other training or education they have acquired. Given the importance of this information to future planning and the amount of information that needs to be gathered about the person's work situation, it may be necessary to devote an entire separate interview to this topic.

IPE CONSIDERATIONS

The first consideration in the plan should be to look at ways to reduce the tremors through medication or other more extreme measures. At the same time, the counselor needs to explore accommodations that could be made on the job and the availability of software or devices that could be purchased which will reduce the effect of the tremor (such as the mouse control software in the case study above). Contact with JAN, the Job Accommodation Network, should be one of the first tasks for the counselor (http://askjan.org/).
An analysis of transferable job skills will aid the counselor in finding employment for clients with tremors. Identifying those job tasks that are most impacted by the tremor is very important. Once these tasks have been identified, the counselor can look at accommodations and devices that might make it possible for the person to continue in the current position. The results of this analysis could also be used to move the person to another job with the current employer or to find another source of employment.

The client’s home situation could become very important to the success of the plan. As the tremor increases over time, the need for someone who can assist at home may become critical. If your agency has access to an independent living specialist, you should have that person conduct an assessment of the home situation and provide any needed services.

**ACCOMMODATIONS**

**Fine Motor (Writing, Keyboarding, Gripping)**
- Implement ergonomic workstation design
- Provide alternative computer access and alternative mice designed to reduce the effects of spasticity
- Provide alternative telephone access such as auto-dialers, gooseneck holders, hands-free telephones, headsets, and speech recognition integration
- Provide arm supports
- Provide writing and grip aids
- Provide a page turner and a book holder
- Provide a note taker or tape recorder

**Communicating**
- Provide speech amplification, speech enhancement, or other communication device
- Use written communication, such as email or fax
- Transfer to a position that does not require a lot of communication
- Allow periodic rest breaks

**Dealing with Fatigue**
- Reduce or eliminate physical exertion and workplace stress
- Schedule periodic rest breaks away from the workstation
- Allow a flexible work schedule and flexible use of leave time
- Allow work from home
- Implement ergonomic workstation design

**Reducing Stress and Anxiety**
- Provide praise and positive reinforcement
- Refer to counseling and employee assistance programs
- Allow telephone calls during work hours to support person
- Allow the presence of a support animal
- Allow breaks as needed

**Temperature Sensitivity**
- Adjust work-site temperature
- Use cooling or heating clothing
- Use fan/air-conditioner/space heater at the workstation
➤ Allow flexible scheduling and flexible use of leave time
➤ Allow work from home during extreme hot or cold weather

**Performing Activities of Daily Living**
➤ Allow use of a personal attendant at work
➤ Allow use of a service animal at work
➤ Provide grip aids
➤ Allow longer breaks

List of accommodations was downloaded from the Job Accommodation Network at http://askjan.org/soar/other/esstremor.html.

**RESOURCES**
MULTIPLE SCLEROSIS

DESCRIPTION

Multiple Sclerosis is a slowly progressive disease of the central nervous system. Patches of demyelination in the brain and spinal cord characterize it. The myelin is the sheath covering the nerves. When myelin is lost, the nerves fail to conduct an electrical charge, resulting in a loss of function.

SYMPTOMS

Multiple Sclerosis affects the nerves in the brain and spinal cord and the symptoms are many and varied. The following are some of the most common symptoms.

Motor nerves

Motor dysfunction due to cerebellar and cerebral lesions is common. Initially, the person shows intention tremors (shaky, irregular, or tremulous motions) when reaching for objects or making purposeful movements. Ataxia is also usually present, producing a stumbling, weaving, or drunken gait. Weakness and lack of coordination usually progress to the point where the individual must use a wheelchair and may have exceptional difficulties performing dexterous and coordinated activities with the upper extremities.

Sensory nerves

Paresthesias (numbness, loss of sensation in the hands and legs) are common.

Cranial nerves

Nystagmus (a rapid side-to-side movement of the eyes) is common. There may also be other visual disturbances, such as partial blindness, dimness of vision, or abnormal sensitivity to light. These symptoms frequently produce difficulties in reading or performing tasks that require visual acuity. Impaired balance and dizziness are also common findings.

Autonomic nerves

Difficulties with bladder control are common, as is sexual impotence in men and genital anesthesia in women. Bowel and bladder incontinence may occur in advanced cases.

Brain

Cognitive and emotional dysfunction secondary to demyelination in the brain is common. Emotional lability is common. Difficulties in concentration and judgment may occur. Scanning speech (slow enunciation with a tendency to hesitate at the beginning of a word or syllable) is common in advanced Multiple Sclerosis.

PROGRESSION OF DISEASE

Multiple Sclerosis typically occurs between the ages of twenty and forty. It is more prevalent in women than men. The cause of multiple sclerosis is unknown. However, it is five times more common in temperate climates than in tropical or Arctic climates. This risk factor is linked to the location where a person's first fifteen years are spent. Relocation after age fifteen does not alter the risk. The onset of multiple sclerosis is usually insidious and marked by transient weakness of one or more extremities, slight stiffness of a limb, weakness or clumsiness of a leg or hand, or minor disturbances in gait. These early symptoms usually clear, but then recur. It may be months or years before the disease is recognized. Once identified, the disease is characterized by persistently recurring exacerbations, followed by remissions.
Following each exacerbation, there is some recovery of function but this is not complete. As the disease progresses, the intervals between exacerbations grow shorter. The functional limitations continually progress. In most cases, life span is not appreciably shortened. On the average, the individual can expect to live twenty-five years or more beyond the point at which the diagnosis is first made. However, this course is highly variable and unpredictable in the individual case. In some cases, the disease is fatal within a year and, in others, there may be a single exacerbation and a continuing remission.

**COMMON FUNCTIONAL LIMITATIONS**

- Talking
- Writing
- Walking
- Climbing
- Balancing
- Stooping
- Kneeling
- Crouching
- Lifting
- Twisting
- Reaching
- Fingering
- Motor coordination
- Eye-hand-foot coordination
- Stamina
- Strength
- Working in cold conditions
- Working in heat conditions
- Working in conditions where the temperature changes frequently
- Working in wet, humid conditions
- Vehicle operation

**VOCATIONAL IMPEDIMENTS**

The extent to which multiple sclerosis creates a vocational impediment during the early stages of the disease depends primarily on the type of occupation in which the person is engaged. Persons engaged in professional, technical, managerial, clerical, and sales occupations may not encounter any specific vocational handicaps. On the other hand, for those engaged in agricultural and industrial occupations, even minor dysfunctions in coordination, dexterity, balance, gait, and muscle strength may have vocational implications. In all cases, there is no known cure or effective treatment for multiple sclerosis. It is likely to cause vocational impediments at some point in the progression of the disease.

Most persons are either employed or engaged in homemaking at the time of onset. The basic vocational rehabilitation strategy is one of maintaining current employment. This strategy is most readily achieved using rehabilitation engineering, job modification and restructuring, and assistive devices. Current employment in professional, technical, managerial, clerical, sales, and homemaking is a positive indicator for maintaining employment because cognitive functions remain intact, and physical demands can be altered with rehabilitation engineering approaches.

Brain function is best when the person is operating in a cool temperature. The temperature of the place where the person will be working is very important and needs to be a consideration when considering future employment for person with MS. A reasonable accommodation may be the
installation of an air conditioning system. Retention of employment in agricultural and industrial occupations is more problematic because of the motor requirements involved and the temperature of the workplace. A thorough job and task analysis of current employment will usually disclose the extent to which a rehabilitation engineering approach can be applied. Close work with the employer will also indicate whether transfer into other jobs within the business is possible with or without some type of training.

Although it is tempting to consider rate of progress of the disease in determining the probability of retaining employment, this is pointless in everyday practice. There is no way to estimate this in the individual case, particularly when the person comes to vocational rehabilitation early in the course of the disease.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Does the individual utilize assistive devices and, if so, what type?
- How does the individual’s mobility appear to be?
- Are there problems with speech clarity?

**INITIAL INTERVIEW QUESTIONS**

- Do you have trouble breathing?
- Do you have trouble with bowel and/or bladder control?
- Do you require a personal attendant and, if so, for what activities?
- Do you experience a loss of muscle functioning and, if so, where?
- Do you have stamina problems?
- Do you have any speech difficulties?
- Do you use any type of assistive device and, if so, describe (i.e., wheelchair, scooter, braces, crutches)?
- Are you able to operate a motor vehicle, and what modifications are necessary?
- Please describe periods of exacerbation and remission.
- Are you having any visual problems and, if so, describe?
- Have you ever had any seizures?

**IPE CONSIDERATIONS**

There are six essential considerations in developing the IPE:

1. The person with multiple sclerosis has a progressive, incurable, disorder. Coping with this is a major issue both for the person and family members. At a minimum, referral and involvement with a support group should be considered. Referral for mental health counseling may also be considered. A person should be monitored for signs of depression and suicidal thoughts.

2. Clear and explicit plans for post-employment services should be developed at the time the initial vocational rehabilitation case is closed. Additional services will typically be required as the person's physical functioning deteriorates.

3. Consider involving the individual in support groups.

4. When establishing the job goal or the specific work site, consider the individual's needs for periodic rest.

5. It is important to maintain current employment.

6. Consider rehabilitation engineering to include job and work site modifications.
RESOURCES

National Multiple Sclerosis Society, www.nmss.org
OBESITY

DESCRIPTION

Obesity is a recognized medical condition resulting from the excessive accumulation of body fat. A body weight 20% over that in standard height-weight tables is generally considered obesity. Persons who are more than 100 pounds overweight are considered morbidly obese. This is a physical disorder not generally associated with any distinct psychological or behavior syndrome.

Most overweight people do not have any observable functional limitations resulting directly from the obesity. However, extremely overweight persons may have problems with physical stamina, tire easily, and have difficulty walking distances when performing light to medium work activities.

COMMON FUNCTIONAL LIMITATIONS

- Walking
- Climbing
- Balancing
- Stooping
- Kneeling
- Crouching
- Lifting
- Dressing
- Grooming
- Stamina
- Strength
- Dependability

VOCATIONAL IMPEDIMENTS

Obese individuals may experience vocational impediments because their specific functional limitations may limit the jobs for which they can qualify. They may also need special job site accommodations such as specially made chairs. They may experience difficulty establishing appropriate social relationships with coworkers, which can cause problems in maintaining employment. Can you identify potential jobs where limitations from the obesity can be overcome (through training, selective job placement, etc.)?

OBSERVATIONS DURING INITIAL INTERVIEW

- Does the person appear to have problems walking?
- Does he/she appear out of breath after minor physical exertion?
- Are there problems with physical surroundings such as fitting on furniture, through doorways, or into vehicles?
- Is there anything noteworthy about the person’s personal appearance?
INITIAL INTERVIEW QUESTIONS

- What is your weight and height?
- How long have you been at this present weight?
- How do you feel your weight has caused problems—past/current work, school, etc.?
- What has been your experience with weight loss attempts?
- Are you taking any medications and what are the effects?
- Have you had any problems with breathing, high blood pressure, arthritis, leg pains, back pain, or heart?
- Have you had problems with coldness/numbness in any extremities?
- Do you have any other symptoms?
- Are you willing to consider behavior-shaping weight loss programs if necessary?
- Do you currently possess enough strength and stamina to perform some jobs with appropriate VR assistance?

IPE CONSIDERATIONS

- Participation in an effective weight loss program should include diet, exercise, and permanent change in eating habits.
- Include supportive counseling. Effective weight loss programs take time (about six months to lose 50 lbs.) and it is difficult for most people to maintain motivation without regular supportive counseling.
- Include adjustment counseling, if indicated, to improve feelings of self-worth and improve relationships with coworkers.

RESOURCES

American Obesity Association, www.obesity.org
Center for Disease Control, www.cdc.gov/obesity/index.html
Obesity On Line, www.obesity-online.com
INTRODUCTION

Pain is a significant component of many disabling conditions and may be the component that
determines the success or failure of the rehabilitation plan. Since pain is not considered a disability in the
state/federal system, the format of this chapter is somewhat different from the other chapters. The
standard chapter format has been followed where it is appropriate.

DESCRIPTION

Pain is our friend. We cannot live without it, but sometimes we cannot live with the pain we
experience and it takes control of our lives.

Without pain, we are defenseless. In one of the rare, but well-documented cases of a person born
without the capacity to experience pain, we see the devastating effects of what it would be like to not
experience pain (Stiller, 1975). This individual lived only to her mid-twenties. During that time, she bit
off the end of her tongue while eating. She experienced frequent bone breaks due to her inability to detect
when she was placing excess pressure on her bones and joints. Ultimately, she succumbed to infection
because she had no warning that she was sick.

What is pain? “Pain is what the patient says it is and exists when he says it does” (Sofaer, 1992).
While pain varies along dimensions such as intensity, quality, duration, and meaning, it is generally
broken down into four types (Turk, Meichenbaum, & Genest, 1983):

- **Acute**: sudden onset, foreseeable end, self-limiting, such as childbirth, a broken limb, or
dental repair
- **Chronic periodic**: acute, but intermittent, such as a migraine headache
- **Chronic intractable benign**: present most of the time, intensity varies, such as low back
pain
- **Chronic progressive**: such as found with malignancies

The rehabilitation professional will probably be dealing with persons who experience chronic pain,
but most likely not persons with chronic progressive pain. Chronic pain affects the life style of the person
experiencing it, and may have a major impact on that person’s quality of life. Part of the reason for this is
that chronic pain may be accompanied by such things as insomnia, preoccupation with illness, personality
change, depression, lack of interest in work, and inability to work (Sofaer, 1992).

Pain is a major industry. Turk et al., (1983) found that in 1973 Americans were spending more than
$900 million for over-the-counter products such as pills, powders, and salves. More than $100 million
was spent for aspirin alone. This amounted to 20,000 tons of aspirin per year, or 225 tablets for every
man, woman, and child.

People differ significantly in their reaction to pain. This is termed a person’s pain threshold. A
person with a high threshold feels pain only after a severe injury. A person with a low threshold may feel
pain when experiencing only slight discomfort.

Childbirth reflects best the wide variation in reaction to pain, and also the part religion may play in
pain. Religions frequently teach that pain is imposed by God, either as a test of faith or as punishment for
original sin or other sins (Turk et al.). Women in Christian countries expect that childbirth will be
painful. They believe that it is God’s will and there are references to this in the Bible. Other countries
with other religions believe childbirth to be a natural and painless part of life. Women feel no pain in
labor, simply leaving their work to give birth, and returning to their work following the birth of their child. What a woman may experience during childbirth may vary from ecstasy requiring no external pain relief, to what can only be described as hell. The difference in reaction can be attributed to how the brain interprets the sensations it receives.

Ethnic differences in reaction to pain have also been demonstrated. Stiller (1975) reports research showing differences ranging from loud, bitter complaining in Italian and Jewish patients, through “grit your teeth and don’t cause trouble” in Anglo-Saxons, to “shut up and bear it” in Irish patients. The cultural background clearly contributed to the expectation of how a person would react to pain. The same study showed that doctors played a significant role. They saw the Italian and Jewish pain reaction as “over exaggerated,” the Anglo-Saxon as “correct,” and the Irish as “manly.” Such prejudice on the part of the physician will obviously impact on the doctor’s reaction to and treatment of the patient’s pain.

Pain reaction can be classified in more than one way. Stiller (1975) describes three groups. The reducers who attempt to minimize and downplay pain, the augmenters who magnify pain, and the moderators who neither magnify nor minimize their pain.

Another classification of pain reaction (Fordyce, 1982) speaks of pacers and recliners. Pacers react to pain by moving about. They get up, or at least change positions. Pacers tend to be people who have tension headaches or have pain in the high back, neck, or shoulder areas. Rehabilitation is usually not required for this group. They tend to maintain their normal level of activity. Recliners are more likely to require rehabilitation services. They respond to pain by resting. This results in lower levels of activity and higher numbers of functional impairments. A significant difference exists in the type and amount of work that recliners will do, versus pacers. Recliners tend to be persons with pain in the low back or abdomen. Frequently, treatment will be required to increase activity levels to the point where employment becomes possible.

Pain is recognized as being both a physical and a psychological experience. Both the perception and the interpretation of the stimuli are important, as demonstrated by the cultural differences in reaction to childbirth cited above. It is the evaluation of the stimuli as pain that creates “suffering” (Barber & Adrian, 1982). The interpretation and the evaluation of the stimuli both have large psychological components.

The traditional medical approach was to see pain as a byproduct of a neurophysiological event. Treatment would consist of identifying the source of the pain and fixing it. If a fix is not possible, then disconnect the source of pain from the central nervous system through means such as a permanent nerve block. When this course of treatment failed, the assumption was that the problem was psychological rather than medical (Barber & Adrian, 1982).

It is extremely important to keep in mind that psychological does not mean imaginary. It simply means that something happens because of activity in the brain. Contrary to popular impression, more psychological disturbance has been the result of chronic pain than has been the cause of pain. A great deal of care needs to be taken before pain is attributed to psychological causes (Stiller, 1975).

The relationship between injury and pain is unpredictable. People react both physiologically and behaviorally, and chronic pain problems result from a combination of both physical and psychological factors. This reaction will be influenced by such factors as the person’s history and state of mind, as well as the meaning attached to the pain. Chronic pain may be seen as punishment, a symbol of rejection, a way to ask for help, or a threat to self-image (Sofaer, 1992).

Pain is not typically influenced solely by the bodily damage. Environmental consequences can easily become reinforcers. What may begin solely as a response to injury may evolve into pain that persists because of environmental consequences or reinforcers. Avoidance may become a significant factor beyond the simple desire to avoid pain. Family members may actually punish (versus reward) attempts to become more active and assume prior roles. Pain behaviors (limp, moan, facial expressions) elicit responses from coworkers, family members, friends, and others who may actually reinforce pain behaviors and cause activity level to be reduced. Frequently, the pain behavior elicits support that is totally contingent on the pain behaviors (Fordyce, 1982). When the only positive response or support a
person receives is when exhibiting pain behavior, there is a very good possibility that the pain behavior will persist.

Fear of the unknown may increase a person’s perceived pain (Sofaer, 1992). In other situations, it is important to look at the cost/benefit of being “sick.” If a disability payment meets the minimum needs of a person, there may be no incentive to return to a job that was adverse prior to the onset of the pain. The benefit of continuing the pain behavior is greater than the cost of being “sick” (Fordyce, 1982). In any case, it is critical to remember that all pain is real, regardless of the cause (Sofaer, 1992).

Depression may be a significant component of pain. When pain impacts on a person’s ability to function on a day-to-day basis, considerable depression may be experienced (Sofaer, 1992). Overall activity level may be lowered when depression is present along with the pain. Activity level may be dramatically increased when treatment is provided. In some clients, the problem may be the depression rather than the pain that is impacting on the activity level of the person (Fordyce, 1982). In mild cases, the resumption of near normal activity levels may resolve the effects of the depression. As severity increases, antidepressants may be required along with increases in activity level.

When attempting to evaluate the role that pain is playing in a person’s life, the counselor must view the pain in the context of the person’s life experiences. People interpret pain differently based on their own framework. Obviously, understanding the family relationships is critical to any understanding of the person. Within the family, pain may be used to control other family members (Sofaer, 1992). Conversely, the client may experience guilt feelings when he or she is unable to perform the normal tasks and duties. This may contribute to feelings of depression or social withdrawal. Other family members may assume these duties, but if the situation persists over an extended period, it can lead to problems. Persons who are picking up the duties develop mixed feelings. On the one hand, they see the suffering that is being experienced because of the pain. At the same time, they resent the extra work they have assumed. Frequently, all of this is taking place with little or no communication between the person experiencing the pain and the spouse or family member taking on the extra duties (Barber & Adrian, 1982).

COMMON FUNCTIONAL LIMITATIONS

The functional limitations will be directly related to the location of the pain. Low back pain, which is very frequent with vocational rehabilitation clients, will produce the following limitations:

- Strength
- Pushing, pulling, pressing
- Climbing
- Standing
- Walking
- Stooping, bending
- Lifting
- Sitting
- Kneeling
- Turning, twisting
- Carrying
- Crawling
- Driving
- Cold, sudden changes in temperature
VOCATIONAL IMPEDIMENTS

Persons who experience chronic pain frequently have been out of work for long periods before they become involved with vocational rehabilitation. In these situations, it is important to look at the reinforcers present in the client’s environment. Long periods of reduced activity may be an impediment in and of itself. Employers are reluctant to employ persons who have chronic pain and have been unemployed for extensive periods (Fordyce, 1982).

Yelin, Meenan, Nevitt, & Epstein (1980) found that they could predict work outcomes 80 percent of the time by examining the severity of the disability along with social and work factors. Physical limitations by themselves were not sufficient to predict if the person would return to work. The most accurate predictor was what Yelin et al. labeled autonomy, which they defined as the capacity to self-pace, and the ability to choose activities on the job.

TREATMENT

The first thing the counselor must recognize is that persons who have experienced chronic pain for any length of time are probably not going to benefit from any additional traditional medical treatment (Fordyce, 1982). What may be effective is a combination of treatments that address the need to eliminate pain behaviors and the need to retrain the client on how to respond to pain.

On one end of the treatment continuum are procedures such as external distraction and visual imagery. With distraction, the client focuses on a stimulus other than the pain. Something as simple as slow rhythmic breathing may be used as the stimulus. One limitation of this approach is that following the distraction the pain may increase. Imagery is using the client’s mind to create an image that can be the focus of attention. Generally, this is a visual image, but best results are achieved when all of the senses are used in the imagery (Sofaer, 1992). Many kinds of relaxation techniques can be used to reduce anxiety, which gives the client better pain control. Simple cutaneous therapies that involve rubbing the area where the pain is being experienced can sometime provide relief (Monahan, Drake, & Neighbors, 1994). Meditation, yoga, and progressive relaxation exercises are used to free the client from mental and physical stress and tension (Sofaer, 1992).

At one time, it was believed that psychological treatment for pain was only useful when the pain had a psychological origin. It is now recognized that psychological treatment of pain can be effective regardless of the origin of the pain (Barber & Adrian, 1982). Family therapy may be a necessary component of the treatment plan.

One approach to pain treatment attempts to break what is known as the pain-tension cycle. In this cycle, the anticipation of pain leads to increased tension, which in turn leads to muscle contraction, which results in pain. Biofeedback can break the pain-tension cycle by increasing the client’s ability to self-monitor, self-regulate tension, and muscle contraction. In addition, biofeedback may be used to address physiological factors such as muscle tension, which contribute to pain. Finally, it may be used for self-regulation to assist the client in recognizing the interaction between mind and body (Barber & Adrian, 1982).

Biofeedback is generally a two-step process. First, the client learns to recognize critical physiological events. Then, the person is taught how to change these events. While in some cases biofeedback may break the pain-tension cycle, in other cases it may be ineffective. For some people, the focus on pain may actually make the pain worse (Barber & Adrian, 1982).

Pain clinics are a rapidly growing approach to the treatment of pain. Such clinics recognize that pain treatment requires a multi-disciplinary approach. It is common to find pain clinics making use of psychologists, medication, nerve blocks, physiotherapy, transcutaneous electrical nerve stimulation (TENS), group therapy, hypnosis, occupational therapy, psychiatrists, medical social workers, and ultrasound.
Medication can compound the problems associated with pain. Some persons with chronic pain may be in a state of intoxication from their pain medication. In such cases, the first step is to bring about detoxification of the person. Pain medication may also interfere with such things as the person’s alertness and body control. Medication may cause dizziness or changes in the person’s intellectual functioning. It is common to see persons on pain medication who are quite lethargic. Memory, judgment, ambulation, coordination, reading, writing, and fine motor skills may also be affected by medications commonly used for pain (Fordyce, 1982).

Analgesic drugs used for pain have two basic levels of potency. Opioid analgesics act on the central nervous system. Non-opioids act on the nerves at the site of the pain. The opioids are effective on the most severe pain but not all pain responds even to these powerful drugs. Bone pain, for example, is generally not responsive to opioids. Non-opioids are used on mild to moderate pain (Sofaer, 1992).

**OBSERVATIONS DURING THE INITIAL INTERVIEW**

Look for obvious signs that the client is in pain. This may be shown through pain behaviors (grimace, moans, change of position). Is your observation consistent with the client’s description of the pain he or she experiences?

**INITIAL INTERVIEW QUESTIONS**

In addition to the questions that would be asked which relate to the specific disability, there are a number of questions that need to be asked about the pain that may be associated with that disability.

- Where is the location of the pain?
- How frequently do you experience pain?
- How long do pain periods typically last?
- How intense is the pain?
- What activities tend to cause the onset of pain?
- What aggravates the pain?
- Are you in pain now? If so, describe where the pain is and what it feels like.
- What measures do you use to alleviate the pain (pacer or recliner)?
- What types of medication do you use for pain? What is the dosage? How effective is the medication in relieving the pain? Are there any side effects of the medication?
- What kinds of activities are you still able to perform when pain is present?
- What activities do you avoid when pain is present?
- How has the pain changed what you can do on the job?
- How has the pain changed what you are able to do at home?
- How does the pain affect your relationships with your family members and your friends?
- How has the pain changed your personality and outlook on life?
- Are you involved in litigation related to your disability?

During the initial interview or one of the early interviews, a comprehensive work history should be taken. Not only will this give you information to use in helping the client identify a new vocational goal, if that becomes necessary, but the work history will provide information on how the client felt about previous jobs. This may give insight into how likely the client is to return to work if disability benefits are being received.

If family members are available, it is very worthwhile to speak with them. A joint interview with a spouse will provide valuable information as well as allow you to see how the two interact. You may be able to determine how the spouse views the client and the pain. The following are some questions that may be used.
- How has the pain changed the client?
- What was the client like before the pain?
- How has the pain changed your (the spouse’s) life?
- How does the client spend a normal day? In what activities does he or she participate?
- What activities are avoided?
- How can you help in the rehabilitation plan?

Sometimes it is necessary to ask the client to keep a record of daily activities as they relate to pain. A simple diary approach can be used. Have the client record how the day was spent, keeping track of what activities were engaged in and when. Have the client pay particular attention to what was happening when the onset of pain was noticed. What was the client doing? Who was present? What was the client’s mood at the time? How did the client respond to the pain? What did the client do, or stop doing to help relieve the pain? (Fordyce, 1982)

**IPE CONSIDERATIONS**

Timing of the various components of the plan can be important. If the client has been inactive for a significant period and a work-hardening program is planned as part of the rehabilitation effort, it is important that the work hardening be done immediately before the person returns to work. If education is being provided, and it follows the work-hardening program, the effects of the work-hardening program may be lost (Fordyce, 1982).

**RESOURCES**

American Pain Society, www.ampainsoc.org
PERSONALITY DISORDERS

DESCRIPTION

The personality disorders are a group of disorders characterized by disruptions in basic personality traits. Personality disorders are diagnosed only when personality traits become as prominent and rigid as to cause social dysfunction—that is, a personality trait or characteristic is accented to the degree that the person's personality style is disturbing or offensive to others. It is important to recognize that anyone's personality style can be described in terms of basic personality traits. The diagnosis of personality disorder, however, can be made only when there is clear evidence that the attitudes and behaviors resulting from the trait exceed ordinary cultural expectations to the degree that they are unacceptable to others. Onset is typically in adolescence or early adulthood and the pattern of behavior is stable over time. When judging personality, consideration must be given to the person’s ethnic, cultural, and social background. If personality traits occur exclusively during an acute episode of mental illness, the diagnosis of personality disorder should not be used.

TYPES OF PERSONALITY DISORDERS

The Diagnostic and Statistical Manual (DSM-IV) published by the American Psychiatric Association, has made significant changes in the classification of personality disorders. Ten specific personality disorders are identified and placed in three clusters labeled A, B, and C.

Cluster A Personality Disorders

- **Paranoid Personality Disorders** are marked by distrust and suspiciousness of other people. It usually begins by early childhood. People with this diagnosis are reluctant to disclose information to or become close to others because of fear that the information will be used against them. They perceive slights when none exist and are quick to retaliate. They are difficult to get along with and may blame others for their shortcomings. In stressful situations, they may experience psychotic episodes that may last for hours. Sometimes perceived as fanatics, they may form groups that share their paranoid beliefs.

  This condition is more common in men than in women. Paranoid features can be identified by adolescence and become a stable form of adaptation by the early adult years. Paranoid individuals tend to function stably in well-organized, businesslike settings with well-defined roles and communication channels. The primary vocational handicap results from interpersonal difficulties with authority figures. This causes them to have pervasive problems dealing with supervisors or other people in authority roles.

  The paranoid person responds best to structured behavior therapies that use self-monitoring, self-control, and self-regulation techniques. Techniques that rely on external control, confrontation, interpretation, and deep self-exploration are not likely to be effective.

- **Schizoid Personality Disorders** are marked by detachment from social relationships, limited range of expressed emotions, and it begins by early adulthood. These individuals appear as loners with no close friends and prefer solitary activities. They do not date frequently and seldom marry. Facial expression is typically neutral and they may not respond to other people’s expressions. Affect may be limited and they may seem aloof and cold. They may have difficulty expressing anger. Their lives may seem to be directionless. While these people will not do well
on jobs that require social interaction, they may do very well in jobs that are isolated. Praise or criticisms do not seem to have an impact on people with this condition. For the person with schizoid personality disorder, any type of close interpersonal contact is experienced as painful. Consequently, they rarely seek psychiatric treatment or mental health counseling. On the other hand, they are willing to accept vocational counseling provided it is non-intrusive and respectful of the person's wishes for businesslike interpersonal contacts.

Persons with schizoid personality disorders are inclined to engage in solitary activities. They can find a good fit in a variety of occupations where there is minimal social interaction and where their mental capacities can be channeled to constructive purposes. These occupations include mechanical, scientific, technical, and other occupations dealing primarily with data and things, rather than people. Once placed in these occupations, many with schizoid personality disorder are able to form distant, but stable relationships with people in the work environment. These relationships develop around work tasks. Occasionally, they can extend to recreational activities.

**Schizotypal Personality Disorder** begins by early adulthood and reflects a pattern of discomfort with close relationships, but also includes eccentric behavior and distortion of thought and perceptions. Persons with this disorder misinterpret casual events and believe the events have special meaning for them only. They may believe that they have power over others and the capacity to read other people’s minds. Rituals may be a part of their life. Speech may include unusual phrasing and construction. They may show suspicious or paranoid ideation. Affect may be limited or inappropriate. Anxiety in social situations may be present and not improve with increased exposure.

Persons with schizotypal personality disorder typically have significant on-going functional disability in terms of persistent, negative symptoms (see the Schizophrenic Disorders), social isolation, and vocational dysfunction. The vocational dysfunction is comparable to that observed in schizophrenic persons. They may initially be able to function adequately in a work setting, but their ability to sustain functioning over time is impaired.

Persons with schizotypal personality as a rule do not have the florid active delusions, hallucinations, and bizarre behaviors that characterize schizophrenic episodes. Consequently, they are rarely institutionalized for treatment. At the same time, however, the chronic negative symptoms usually produce serious vocational handicaps. Rehabilitation approaches that include behavioral techniques, such as operant conditioning and response acquisition procedures are most likely to be successful with this group.

**Cluster B Personality Disorder**

- **Antisocial Personality Disorder** is characterized by a chronic disregard for the rights of others, impulsiveness, and risk-taking. Most often, this disorder is characterized by repetitive unlawful behaviors such as repeated thefts, assaults, evasion of financial obligations, and lying. The antisocial person lacks honesty, loyalty, and fidelity, which prevent the formation of close interpersonal relationships. The disorder is more common in males than females. Evidence of the disorder usually appears in early adolescence. The adolescent shows antisocial behaviors (such as skipping school, vandalism, lying), poor impulse control, and may also show poor attention. During adolescence, aggressive sexual behavior, promiscuity, and substance abuse appear. Once out of school, the young adult shows a persistent pattern of inability to sustain good job performance or to maintain a stable relationship as a spouse or parent. This pattern usually persists until the person reaches his or her middle to late thirties. At that time, the anti-social behavior may significantly decrease or disappear altogether. The person may assume stable role performance as a worker, spouse, or parent. However, for a significant number of persons with antisocial personality disorders, these changes are accompanied by chronic drug and alcohol abuse.

The chronic inability to regulate behavior in accordance with the expectations and requirements of others creates a significant vocational handicap. This persistent pattern of
behavior also limits the person's ability to respond to treatment and vocational rehabilitation efforts. The person typically lacks sustained motivation for such efforts. Additionally, he or she tends to externalize and blame others for all of his or her problems. Behavior change is most likely to occur in closed, highly structured environments that rely on peer pressure and confrontation techniques. Individual therapies are not effective.

- **Borderline Personality Disorder** is marked by a pattern of instability in interpersonal relationships, self-image, and affect. Impulsivity begins in early adulthood. People with this disorder are striving to avoid abandonment, whether real or imagined. Relationships are unstable, but intense. They may be demanding in the amount of time they want to spend with significant others and very open about the intimate details of their lives. Their self-image may be unstable. Behavior may be impulsive in areas such as substance abuse, spending, eating, or sex. Suicidal behavior, threats, or self-mutilation may occur. The person may be irritable or anxious for periods lasting from a few hours to a few days. There may be a chronic feeling of emptiness. Anger may be a problem with frequent temper displays, constant anger, or fights. Paranoid ideation may be present.

  The primary characteristic of borderline personality disorder is fear of and intolerance for being alone. Typically, this leads to such behaviors as self-destructiveness, substance abuse, and promiscuity. There is a tendency to have a succession of very intense interpersonal relationships characterized by dependency, manipulation, devaluation, and self-denial. These relationships are unstable, and rarely last more than a few months.

  This disorder is more frequent in females than males. It usually appears during adolescence. The disorder is indicated by substance abuse, promiscuity, and clinging, exclusive relationships. The disorder emerges most clearly by late adolescence or early adulthood. Severity tends to peak during the middle to late twenties, and then subside during the thirties and later.

  Life is a repetitive series of crises for persons with borderline personality disorder. When these crises (and associated behaviors such as substance abuse, promiscuity, and self-destructiveness) intrude into the workplace, job loss can occur. Most often, however, the borderline person will form intense dependent relationships with coworkers, and then demand care and assistance with crises from them. Although help is demanded, the person frequently impulsively rejects it. Over the long term, this pattern of behavior results in rejection by coworkers. This, in turn, triggers more feelings of loneliness, emptiness, and rage in the borderline person.

  Persons with borderline personality disorder often display different symptoms when faced with different stressors or situations. Their histories may show a variety of diagnoses or symptoms (depression, anxiety, hallucinations, somatic complaints, etc.), each of which may be a response to a particular type of stressor. Symptomatic treatment or psychotropics may produce short-term improvement, but little sustained change.

  Of all the personality disorders, the person with borderline personality disorder has the worst prognosis for possible change. It is difficult to engage persons with borderline personality disorder in any type of helping process. The course of treatment is characterized by the same pattern of behavior observed with coworkers, and intense relationships with high demands for help and care, followed by impulsive rejection. For those persons with borderline personalities who can be engaged in individual treatment, it usually takes four years or more to diminish acting-out behaviors and replace them with a more stable pattern of behavior. Medications, short-term psychotherapy, and behavior therapies have not been shown to be effective in the treatment of borderline personality disorder.

- **Histrionic Personality Disorders**. People with histrionic personality disorders demonstrate pervasive and excessive emotionality and attention-seeking behavior, beginning in early adulthood. They need to be the center of attention or they experience discomfort. Both
appearance and behavior may be sexually provocative or seductive, may occur in many settings, and its character inappropriate for the context. Physical appearance is used to draw attention and the person may spend excessive amounts of time, energy, and money on clothing and grooming. Critical comments about appearance may cause the person to become upset. Speech may be impressionistic, with few details. The person may express strong opinions with dramatic flair, but will be lacking in detail. They may cause embarrassment by excessive public displays of emotion. Persons with this disorder may be highly suggestible. Over trust of persons in authoritative positions is possible. Romantic fantasy may be present and may think that relationships are more intimate than they really are.

These disorders are characterized by expressive action, appearance, and affect. Histrionic persons are colorful, dramatic, and outgoing. However, the awareness of others and the desire to promote positive responses from them give their emotions and behaviors a superficial or insincere quality. Histrionic persons also tend to have a variety of somatic complaints and are submissive. They also tend to over-react to minor events and make mountains out of molehills.

Histrionic personality disorder is much more common in females than in males, possibly because expressive characteristics such as “appealing,” “charming,” and “seductive” are valued among females. Histrionic traits usually become socially conspicuous in adulthood. However, these usually do not produce vocational dysfunction. Similarly, somatic complaints usually do not produce vocational dysfunction unless the person starts taking an excessive amount of time off or using them to escape some kinds of work activities.

Short-term individual therapies directed toward diminishing the person's excessive emotional reactivity to others and helping them express their own feelings, opinions, and wishes are usually effective in the treatment of this disorder.

- **Narcissistic Personality Disorder.** The critical elements of this disorder are a pattern of grandiosity, need for admiration, and a lack of empathy. These begin in early adulthood. The person has an inflated sense of self-importance, overestimating their abilities and inflating their accomplishments. They fantasize such things as exceptional success, power, brilliance, etc. They believe that they are superior and exceptional. They expect to associate with “special” people and require excessive admiration. A sense of entitlement is present. This person will take advantage of others to achieve his/her goals. Empathy is lacking. They may believe that others envy them and are envious of others. May be arrogant in behavior or attitude.

  There is a persistent and unrealistic over-estimate of one's own importance and achievements. Grandiosity is evidenced by arrogance, entitlement, and the need for attention and admiration. Narcissistic persons tend to envy and idealize people who are above them in social status and prestige, and see those below them as inferior and treat them with contempt. They view themselves as self-sufficient and consider dependency a sign of weakness. Consequently, they are likely to see criticism, rejection, or indifference as an insult and respond with feelings of humiliation and rage.

  Vocationally, persons with narcissistic personality disorders may become dissatisfied with their occupations and careers, in the belief that they can achieve something more in line with their overvalued estimate of their importance and capabilities. At the same time, however, long-term job maintenance is difficult for persons with narcissistic personality disorder. Coworkers respond by indifference or rejection of the person after countless exaggerated accounts of ability and achievement. Similarly, if the person's performance is not up to employer expectations, the supervisor criticizes the person. The narcissistic person may respond with humiliation (quitting) or rage (fighting). While the person is young, he or she can usually get another job. However, by the time the person reaches the middle to late thirties, this employment history catches up and they find it is almost impossible to get a job.

  There is no evidence that medications, individual psychotherapy, or behavioral therapies are effective in the treatment of narcissistic personality disorder.
Chapter 33  
Personality Disorders  

Cluster C Personality Disorders

- **Avoidant Personality Disorder.** The key elements of this disorder are social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation. This begins in early adulthood. Persons with this disorder avoid interpersonal interaction because of fear of criticism, disapproval, or rejection. Unless the person is certain of being liked, he/she will avoid getting involved with people. Fearing shame or ridicule, the person will be restrained in intimate relationships. There may be strong preoccupation with being criticized or rejected. They feel inadequate in new interpersonal situation, viewing themselves as socially inept, unappealing, or inferior to others. They will be reluctant to take risks or engage in new activity out of fear of embarrassment.

  This disorder is characterized by the fearful avoidance of persons and situations in which there is a risk of failure, rejection, or strong arousal. Persons with this disorder avoid risky situations associated with potential disappointment, rejection, or failure. They tend to avoid new situations or to perform inflexibly in them.

  Avoidant personality disorder may cause a vocational handicap if the person persistently avoids essential situations, duties, and tasks. Avoidant personality disorder can be a significant barrier to successful vocational rehabilitation if it prevents the person from engaging in situations in which there is a risk of failure (such as training) or rejection (such as applying for a job). Short-term behavior modification techniques, such as systematic desensitization, and social skills training (Job Seeking Skills) are effective with this disorder. Individuals with an avoidant personality disorder also tend to do well in routine, low-risk settings where conformity is valued.

- **Dependent Personality Disorder.** Persons with this disorder have an excessive need to be taken care of. This results in submissive and clinging behavior and fears of separation. Beginning in early adulthood, these people feel they cannot function without help. Everyday decisions are difficult to make. They allow others to take responsibility for them. It is very difficult for these people to express disagreement, fearing loss of support. Initiating projects and doing things independently are very difficult. Excessively seeks support from others. These people will feel uncomfortable or helpless when alone, fearing that they are unable to care for themselves.

  This disorder is characterized by submissiveness, seeking and accepting direction from others, and a persistent need for reassurance. It may also be characterized by a sense of inferiority, self-doubt, suggestibility, and a lack of perseverance. This disorder is more common in women than men. It is frequently associated with other major disturbances, such as substance abuse, depression, and anxiety.

  Dependent personality disorder rarely causes a vocational handicap. Additionally, the dependent person's submissiveness and readiness to please often facilitate rather than hinder the vocational rehabilitation process. The major problem encountered with this group is terminating the counseling relationship.

- **Obsessive-Compulsive Personality Disorder.** The main feature of this disorder is preoccupation with orderliness, perfectionism, and control. Beginning in early adulthood, people with this disorder control their environment through excessive attention to detail, rules, lists, procedures, etc. While trying to create the perfect outcome, these people may fail to complete the project. They may be excessively devoted to work and productivity at the expense of leisure time and friends. On matters of morality, ethics, or values, they may be over conscientious and inflexible. With this disorder, the person may not be able to discard worthless objects. They may have difficulty working with others unless the others do exactly as the people with this disorder direct. They may show rigidity and stubbornness.

  This disorder is characterized by a restricted ability to express emotions and by orderliness, parsimony, and obstinacy. Obsessive-compulsive individuals are fearful of situations or feelings
that are unfamiliar to them or that threaten their sense of control.

The disorder is somewhat more common in females than males. It rarely causes a vocational handicap unless compulsive rituals or other persistent symptoms are contrary to or interfere with the performance of required work activities, such as slow rate of performance because of constant rechecking of work.

Short-term behavioral therapy using systematic desensitization techniques is usually effective with this disorder.

- **Personality Disorders Not Otherwise Specified.** Persons with this category of disorder may demonstrate characteristics of more than one of the other classifications. Alternatively, they may not meet the criteria for the other classifications.

### COMMON FUNCTIONAL LIMITATIONS

- Cooperation
- Tact
- Dependability
- Judgment
- Logical thinking
- Dependency on others
- Impulse control
- Distractibility
- Tolerance to frustration
- Respect for people or property
- Proper dress/attire
- Adaptability to change

### VOCATIONAL IMPEDIMENTS

Individuals with substantial personality disorders generally report many difficulties in past work experiences. It is usually not difficult to show a connection between the deficits caused by a personality disorder and an individual's ability to maintain employment.

In altering maladaptive behavior in individuals with personality disorders, conventional methods of behavior adaptations such as work adjustment counseling, psychosocial counseling, etc. are normally ineffective. In addition, medications have not been shown to be effective. Therefore, employment prospects generally rest on finding the selective type of job where the individual's behavior can be accommodated.

### OBSERVATIONS DURING INITIAL INTERVIEW

- Is there any evidence of illogical thinking such as bizarre references, suspiciousness, paranoia, or delusions?
- Was the person appropriately dressed?
- Does the individual show any signs of irritability, frustration, or anger during the interview?
- Are any threats made or does it appear that the person had thoughts of harming others?
- Does the individual seek reassurance?
INITIAL INTERVIEW QUESTIONS

- How do you feel the disorder has specifically affected work in the past?
- How do you feel you get along with others in work environments or other situations?
- How do you think that other people view you?
- Do you often feel irritable, frustrated, or angry?
- How have you responded or adapted to on-the-job changes (change of supervisors, coworkers, production demands, work methods, etc.)?
- Do you try to give an unrealistic, positive picture of self and capabilities?

IPE CONSIDERATIONS

- Selective job placement. The specific type of job or work environment should be located where the individual's behavior deficits can be accommodated.
- Intervention between client and employer (job coach) may be required during the first few months of employment to insure communication and adjustment.

RESOURCES

Psychology Information, www.psychologyinfo.com/problems/personality.html
POST-POLIO SYNDROME

DESCRIPTION

The term “post polio syndrome” (PPS) refers to the cluster of potentially disabling signs or symptoms that appear decades, on average 30 to 40 years, after the onset of polio. Nobody knows exactly what causes the signs and symptoms of post-polio syndrome to appear after the first episode of polio. Currently, the most accepted theory rests on the idea of degenerating nerve cells. Another theory is that the initial illness may have created an autoimmune reaction causing the body’s immune system to attack normal cells as if they were foreign substances.

The common signs and symptoms of post-polio syndrome include:
- Progressive muscle and joint weakness and pain,
- General fatigue and exhaustion with minimal activity,
- Muscle atrophy,
- Breathing or swallowing problems,
- Sleep related breathing disorders such as sleep apnea,
- Decreased tolerance for cold temperatures.

Generally, post-polio syndrome progresses slowly, with new signs and symptoms followed by periods of stability.

The factors that may increase the risk of developing post-polio syndrome include:
- Severity of initial polio infection,
- Age at initial onset of polio,
- The more difficult the person’s recovery after acute polio,
- Performing physical activity to the point of exhaustion,
- Females are more likely to develop post-polio syndrome.

Post-polio syndrome is generally not life threatening, however extreme muscle weakness can lead to complications:
- Falls – weakness in the leg muscles makes it easier to lose one’s balance. Falls may result in broken bones such as hip fractures and other complications.
- Malnutrition, dehydration, pneumonia – People who have had polio often have problems chewing and swallowing. These problems can lead to inadequate nutrition, dehydration, and aspiration pneumonia.
- Acute respiratory failure – Weakness of the diaphragm and chest muscles makes it hard to take deep breaths and cough. This can lead to an accumulation of fluid and mucus in the lungs. Obesity, smoking, curvature of the spine, anesthesia, prolonged immobility, and certain medications can further decrease breathing ability that may lead to acute respiratory failure.
- Osteoporosis – Prolonged inactivity and immobility can often be accompanied by loss of bone density and osteoporosis in both men and women.

COMMON FUNCTIONAL LIMITATIONS

- Pain in muscles or joints
- Sleep problems
- Breathing difficulties
- Swallowing problems
- Fatigue
CHAPTER 34

POST-POLIO SYNDROME

- Lifting, reaching, walking, climbing, balancing, stooping, kneeling, crouching, twisting, fingering, motor coordination, eye-hand-foot coordination
- Self-care, including: eating, hygiene, dressing, grooming
- Stamina and strength

VOCATIONAL IMPEDIMENTS

- Transportation can be a barrier if usual mode of transportation is no longer accessible.
- Depression can interfere with working or preparing to work because of recurrence or worsening of limitations.
- Often the person has worked for years but can no longer perform necessary job duties.
- Vocational problems may relate to activities of daily living (being able to care for self at home) thus affecting ability to get to or perform work.
- Functional limitations need to be assessed carefully. Vocational goals must be determined with those limitations in mind to assure that goals are reasonable.
- The counselor needs either to be informed on adaptations that might be possible, to help the person remain in his/her present job, or to prepare for a new one. These can be anything from refitting a brace to assessment of need for a wheelchair. For those already using a wheelchair, it might be advisable to have the chair motorized. Some clients might need ventilators for night use.
- Transportation may be a barrier if the person can no longer operate a motor vehicle or find alternatives.

OBSERVATIONS DURING INITIAL INTERVIEW

- Is the person using assistive devices?
- Is there an apparent need to rest after speaking one or two sentences?
- How is speech clarity?
- Is depression or anxiety noticeable?

INITIAL INTERVIEW QUESTIONS

- Do you experience fatigue (i.e., either muscle fatigue or general body fatigue)?
- Do you have any bone and/or joint problems?
- Do you experience weakness in muscles, both those originally affected and those that were not?
- Have you experienced recurrent hospital admissions for low back pain or muscle spasms?
- Have you been plagued with a cold lasting more than one month and a persistent cough that prescribed medication does not seem to relieve?
- Have you experienced an increase in pain (especially if able to bear weight - knees, ankles, feet, hips)?
- Do you have periods of shortness of breath?
- Have you had to curtail workloads?
- How have you coped in the past with residuals of polio, and how are you coping now?
- Do you use assistive devices? Are they adequate?
- Are you experiencing any psychological effects because of returning symptoms of the polio?
IPE CONSIDERATIONS

- Be aware that the individual may require rest during a workday, flexible work hours, or part time work. This should be a consideration when arriving at a job goal or in the placement phase.
- Independent living services may be necessary to enable the individual to work outside the home. These might be designed to aid the departure from the home (a ramp), or to simplify work in the home, thus conserving strength for outside pursuits.
- Consideration should be given to communication devices as required.
- Consideration should be given to physical therapy to help strengthen muscles.
- Consideration should be given to an occupational therapist that can help the person modify their home environment.
- Consideration should be given to a speech therapist that can help with the swallowing difficulties.
- Consideration should be given to mobility or transportation aids as required.
- Consideration should be given to changing the persons sleeping patterns.
- Consideration should be given to supportive counseling, as the psychological effects of post-polio are sometimes overwhelming.
- Follow medical advice, e.g. rest, exercise, and diet.

RESOURCES

Post polio Program Easter Seals Society of Oregon, plee.com/pps/ppsamph.htm
POSTTRAUMATIC STRESS DISORDER

DESCRIPTION

Post-traumatic stress disorder (PTSD) is a type of anxiety disorder that is triggered by a traumatic event. An individual can develop PTSD when they experience or witness an event that causes intense fear, helplessness, or horror or involves the threat of injury or death. PTSD may occur soon after the major trauma or it can be delayed for a few months or even years. Many people have a difficult time adjusting and coping with the trauma but will usually get better with time. In other cases, the person may get worse and struggle with PTSD symptoms for years.

PTSD can occur at any age and is relatively common among adults, with about 8% of the population having PTSD at some time in their lives. It is especially common among those who have served in combat. Women are four times more likely than men to develop PTSD because women are at increased risk of experiencing interpersonal violence such as sexual violence. PTSD can follow a natural disaster such as a flood or fire, the events of war, an assault, domestic abuse, or rape.

The cause of PTSD is unknown, but it is probably caused by a complex mix of the following:

- Inherited predisposition to anxiety and depression,
- The amount and severity of trauma a person has been exposed to since early childhood,
- The inherited aspects of a person’s personality (temperament),
- How the brain regulates chemicals and hormones the body releases under stress.

PTSD symptoms are usually grouped into three types: Intrusive memories, avoidance and emotional numbing, and increased anxiety or emotional arousal (hyper arousal).

Intrusive memories may include:

- Flashbacks (reliving the traumatic event over and over, sometimes for days at a time)
- Upsetting dreams about the event

Avoidance and emotional numbing may include:

- Trying to avoid thinking or talking about the event
- Feeling emotionally numb
- Feelings of detachment
- Inability to remember important aspects of the trauma
- Lack of interest in normal activities
- Less expression of moods
- Difficulty maintaining close relationships
- Staying away from places, people, or objects that are reminders of the event
- A sense of having no future
- Memory problems
- Trouble concentrating

Increased anxiety or emotional arousal may include:

- Agitation or excitability
- Irritability or anger
- Overwhelming guilt or shame
- Being easily startled or frightened
- Sleeping problems
- Hearing and seeing things that are not there
Excess Awareness (hyper vigilance)
Dizziness, fainting, fever, headache, palpitations

PTSD can come and go. The individual may have more symptoms during times of higher stress and when they experience reminders of the traumatic event(s)—for example, a car backfiring and reliving combat experiences or seeing a report on the news about a rape and feeling the horror and fear of their own assault.

In men, the most common events leading to PTSD are combat, rape, childhood neglect, and physical abuse. In women, traumatic events that most often lead to PTSD are rape, sexual molestation, physical attack, being threatened with a weapon, and childhood physical abuse. This is not to say that there are not many other traumatic events that could cause PTSD in both men and women such as fire, mugging, robbery, car accident, plane crash, torture, kidnapping, life-threatening medical diagnosis, terrorist attack, and so on.

Not everyone who is involved in one of these events will develop PTSD. Some factors, however, make a person more likely to develop PTSD after a traumatic event. These include the traumatic event was especially severe or intense and long lasting, the individual has an existing mental health condition, the individual lacks a good support system, the individual has first degree relatives with PTSD, depression, and was abused or neglected as a child.

PTSD can disrupt and destroy an individual’s life, job, relationships, and place them at higher risk for other mental health problems i.e., depression, drug abuse, alcohol abuse, eating disorders, and suicidal thoughts and actions. War veterans with PTSD have demonstrated problems with cardiovascular disease, chronic pain, autoimmune diseases e.g., rheumatoid arthritis and thyroid disease, and musculoskeletal conditions.

Treatment of PTSD includes antidepressants, anti-anxiety medications, medicine for recurrent nightmares, and other medications that are needed. In addition, cognitive therapy helps to identify and change self-destructive thought patterns. Exposure therapy helps the person confront the very thing they find upsetting or disturbing so they can learn to cope with it. Eye Movement Desensitization and Reprocessing (EMDR) is a technique in which the person uses the movement of their eyes to access the traumatic event and allow the integration of emotions and sensations that occurred during the event. Cognitive behavior therapy is used to treat avoidance symptoms.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Look for physical reactions or for sudden changes in the individual’s emotional composure when talking about certain topics, people, or environments because this may give you a clue to a possible trigger for PTSD reactive symptoms. For example, a woman is startled and looks panicky when a cell phone rings in someone’s purse or briefcase: this sound may be connected to an extremely traumatic experience for her.
- Does the person strongly avoid topics, people, or environments? For example, a Vietnam veteran may avoid entering into a Veterans Administration Medical Center or may avoid contact with Asian health-care workers. These environments or people may trigger a PTSD reactive response for the veteran, due to the connection to traumatic events that he or she experienced in war.
- Does the person have difficulty concentrating?
- Does the person look irritable or angry?
- Does the person look jumpy or hyper-vigilant (i.e., constantly scanning the environment)?
INITIAL INTERVIEW QUESTIONS

- Describe any extremely traumatic and/or life-threatening events that you have experienced.
- Please tell me about your feelings related to each of these traumatic events.
- Please tell me about any other extreme traumas you have experienced (these might include natural or technological disasters, sexual abuse, military combat, being tortured or being a hostage, or witnessing another person's death)?
- What was the most traumatic event that you have experienced?
- In the past month, have you experienced any of the following:
  - Thoughts or memories of the trauma when you did not want them.
  - Nightmares about the event.
  - Re-experiencing the event, as if you were there again.
  - Becoming upset when you were reminded of the event.
  - Physical reactions, such as sweating or a racing heart, when you experience reminders of the event.
  - Avoidance of thinking or talking about the event.
  - Avoidance of reminders of the event, such as places, people, or activities.
  - Difficulty remembering significant aspects of the event.
  - Loss of interest in your usual work or social activities.
  - Alienation or feeling distant from other people.
  - Feeling like you are unable to love others as you used to.
  - Strong doubts whether you will have a career, marriage, or family.
  - Difficulty falling or staying asleep.
  - Irritability or being easily angered.
  - Difficulty concentrating.
  - Feeling vigilant or on-guard, when there is no reason to be.
  - Feeling more jumpy or startled than you used to.
- How frequently do you experience ________ (ask about each of the above symptoms experienced by the individual)?
- What usually triggers this symptom (ask for each symptom experienced)?
- What else reminds you of the trauma?
- What treatment have you undertaken in the past for coping with the trauma you have experienced?
- What medications have you used or do you currently use to help with the symptoms?

IPE CONSIDERATIONS

- Do the stimuli that were mentioned in the initial interview as triggers to PTSD reactive symptoms exist in the work environment?
- Can these stimuli be decreased by changing aspects of the work environment or by finding a specific work environment that does not have such stimuli?
- Does the individual exhibit significant social or vocational problems in functioning that are related to the traumatic event(s)?
- If so, is the individual interested in therapy to address the reactive symptoms, or to better cope with or find meaning from the traumatic event(s)?

For clients who will participate in treatment, a wealth of therapeutic techniques exists from widely differing viewpoints, such as neurobiology, psychophysiology, cognitive psychology, psychoanalysis, and
existential-humanistic philosophy. Rehabilitation professionals may have to seek a specialist in traumatic stress to help clients who exhibit PTSD symptoms.

RESOURCES

The original version of this chapter was written by Erin Martz, Ph.D. Much of her work remains.


National Center for PTSD, www.ncptsd.org


RENAL-CHRONIC KIDNEY DISEASE

DESCRIPTION

Renal failure or kidney disease describes a medical condition in which the kidneys have not been working to filter the blood to remove waste products and adequately filter toxins. When the kidneys do not work correctly, wastes build up in the blood and the person gets sick. Chronic kidney disease may have been happening for many years even though the person may think it is a sudden occurrence. Chronic kidney disease is also called chronic renal failure, renal failure, or renal insufficiency.

Chronic kidney disease is caused by damage to the kidneys. The most common causes are high blood pressure (30% of all kidney disease) and diabetes (35% of all chronic kidney disease). There are other things that can lead to chronic kidney disease, e.g. polycystic kidney disease, kidney infections, narrowed or blocked renal artery, long-term use of medicines that damage the kidneys (Celebrex).

The symptoms may only manifest themselves a few months after the kidneys begin to fail. Most people have no symptoms for as long as 30 years or more. This is called the “silent” phase of the disease.

As the kidneys worsen, the symptoms will include:
- Urinating less often,
- Feeling tired and sleepy,
- Losing weight, not hungry
- Sleeping problems
- Not thinking clearly and headaches

Kidney failure is described as a decrease in the glomerular filtration rate. Problems frequently encountered in kidney malfunction include abnormal fluid levels in the body, deranged acid levels, abnormal levels of potassium, calcium, phosphate, and (in the longer term) anemia. Long-term kidney problems have significant repercussions on other diseases, such as cardiovascular disease.

Some things that increase a person’s risk for chronic kidney disease that they cannot control are:
- Age – By age 35, the kidney begins to get smaller.
- Race – African-Americans and Native Americans are more likely to develop chronic kidney disease.
- Gender – Men have a higher risk of developing chronic kidney disease than women.
- Family history – This is a factor for diabetes and high blood pressure, the two most common causes of chronic kidney disease. Polycystic kidney disease is also one of several inherited diseases that cause kidney failure.

There are measures that a person can take to control their kidney disease, including:
- Eat healthy and if necessary enlist a dietitian to help make an eating plan to include the foods that are right for the individual
- Exercise routinely, at least 2 ½ hours a week of moderate exercise. If necessary, break the exercise into 10-minute blocks throughout the day and week. Exercise may help control the diabetes. If necessary enlist the help of a health professional to design an exercise plan.
- Avoid dehydration by seeking treatment immediately for illnesses, such as diarrhea, vomiting, or fever.
- Give up smoking or use of other tobacco products. Smoking can lead to atherosclerosis.
- Forego that occasional drink of alcohol and do not use illegal drugs.
If the chronic kidney disease cannot be controlled, the kidney functions will continue to worsen. When kidney functions fail, it is called kidney failure. Kidney failure has harmful effects causing serious heart, bone, and brain problems and makes the person seriously ill.

With kidney failure, there are two options, either dialysis or a new kidney. The two types of dialysis used to treat severe chronic kidney disease are hemodialysis and peritoneal dialysis.

### COMMON FUNCTIONAL LIMITATIONS
- Endurance
- Stamina
- Concentration
- Lifting
- Climbing
- Long hours without rest
- Heavy exertion
- Ability to sleep
- Alertness
- Exposure to heat for prolonged periods
- Pulling
- Pushing
- Problem solving/decision making
- Dialysis schedule interruptions

### VOCATIONAL IMPEDIMENTS
- Does the person need a flexible work schedule to accommodate a dialysis schedule?
- Is the person limited to sedentary jobs?
- Dependency on dialysis can bring about emotional problems.
- Dialysis schedule interruptions need to be considered.
- What is the functioning ability between dialysis treatments?
- The person’s attitude and motivation are critical and should be fully explored. SSDI and Medicare payments often create disincentives to work.

### OBSERVATIONS DURING INITIAL INTERVIEW
- What is the person’s height and weight?
- Is abnormal swelling or bloating evident?
- Does the person seem alert and able to concentrate?
- What is individual's energy level and affect?

### INITIAL INTERVIEW QUESTIONS
- Do your problems relate to difficulty with urination?
- Do you have difficulty with kidneys or prostate?
- Are infections involved?
- Do you have hypertension or diabetes?
Are you on dialysis? If so, describe frequency, type, and when (hours of the day). If not, do you anticipate dialysis in the near future? Is confusion or memory loss present between treatments?

What medication(s) do you take? For what purpose? Name and type of physician who prescribed medication(s). Dates of prescription?

Have you had a kidney transplant? Are you taking anti-rejection medications? If so, are there side effects?

Is a transplant recommended or planned?

**IPE CONSIDERATIONS**

- Family support is critical.
- Consider referral to a support group.
- The client should modify risk factors, e.g. alcohol use, environmental toxins, use of salt.
- Follow treatment as prescribed by physicians.
- Consider retraining for sedentary positions.
- The client may be unable to drive and thus have transportation needs.
- The vocational goal may depend on flexibility of hours needed to accommodate dialysis treatments as well as fluctuations in feeling well enough to work.

**RESOURCES**

Disease-Topic-Overview?q=kidney+disease
RESPIRATORY DISEASE

DESCRIPTION

The primary function of the respiratory system is to supply the blood with oxygen. The blood then transports the oxygen throughout the body. When a person breathes, they inhale oxygen and exhale carbon dioxide. This exchange of gases is the respiratory systems means of getting oxygen to the blood. Two common causes of respiratory problems are smoking and air pollution.

Respiratory system disorders are classified into four general areas:

- Obstructive conditions e.g., emphysema, bronchitis, asthma,
- Restrictive conditions e.g., fibrosis, sarcoidosis, alveolar damage, pleural effusion
- Vascular diseases e.g., pulmonary edema, pulmonary embolism, pulmonary hypertension.
- Infections, environmental, and other diseases e.g., pneumonia, tuberculosis, asbestosis, particulate pollutants.

The following are common respiratory disorders:

**Chronic Obstructive Pulmonary Disease (COPD)** includes chronic bronchitis and emphysema. These conditions coexist. Chronic bronchitis is characterized by a chronic productive cough and is usually associated with cigarette smoking. Emphysema is a condition in which the small air sacs of the lung break down, interfering with the normal exchange of carbon dioxide and oxygen.

**Chronic bronchitis** differs from **emphysema** in that the irritation and inflammation of the airways may be reduced and/or eliminated through the removal of irritants and medical management. Emphysema results in permanent damage to alveoli through the loss of elasticity accompanying airway obstruction.

Respiratory disorders, particularly COPD, frequently are characterized by a chronic cough with copious sputum production, and shortness of breath. Wheezing is also common. Advanced COPD can lead to a right-sided heart failure (cor pulmonale).

**Asthma** is the constriction of airways through inflammation as a hyperactive response to a variety of stimuli, most of which remain unknown. Heredity is thought to be a contributing factor as are other noxious stimuli such as dusts, pollen, cold air, gasoline fumes, cigarette smoke, and various odors. Asthma is addressed separately as a disability in this handbook.

**Cystic fibrosis** is an inherited disease of the pancreas with characteristics of chronic obstructive pulmonary disease, pancreatic failure, and abnormally high sweat electrolytes. The life expectancy of persons diagnosed with cystic fibrosis has increased and the median age is now 20. With increased life span comes the prospect of employment.

**Occupational lung diseases** are related to matter inhaled, usually from the occupational environment; however, more cases are occurring due to accidental inhalation of matter, such as spraying crops, breakdown of asbestos insulation, and so on.

Respiratory disorders are frequently associated with smoking cigarettes, air pollution, and industrial chemicals. Treatment of the disease depends upon the type of disease, the severity of the disease, and the individual being treated. Medical management of these disorders is aimed at a reduction or elimination of the irritant. Medication is prescribed to relieve symptoms and combat infection. Occupational, physical, and speech therapists can help the individual cope with decreased stamina and vitality. Speech therapists may be able to help the individual with deeper breathing exercises. Less fatiguing forms of exertion are recommended, as well as exercise therapy to maintain or improve muscle tone. Independent living services may be necessary to help the individual with daily activities.

Psychological factors must be strongly considered in all respiratory disorders due to the fear of death, loss of self-esteem and an altered view of oneself as a vital, living being.
COMMON FUNCTIONAL LIMITATIONS

- Walking
- Climbing
- Stamina and strength
- Tolerance to temperature changes/extremes
- Wet and humid conditions
- Fumes/dust/mold/gasses
- Pushing/pulling
- Lifting

VOCATIONAL IMPEDIMENTS

If the individual has a work history, describe characteristics of the disorder that cause difficulty in performing the job duties or have caused job loss. If there is little or no work history, explore how the functional limitations might limit vocational choices, or how the limitations might cause problems preparing for a job consistent with the person’s abilities. The potential need for air purity at the work site, or the need for rest during the workday, is also considered.

Carefully explore what may need to take place for this person to start or return to employment. What types of employment might be suitable for this individual, based on previous cycles of exacerbation and fatigue? Does the person have the abilities or aptitudes for such employment?

Also, consider the work site environment that may be necessary. Rest, air purity, and possible absenteeism due to cycles of exacerbation may be necessary.

OBSERVATIONS DURING INITIAL INTERVIEW

- Does the person appear fatigued or have shortness of breath?
- Is coloration in face, lips, and fingernail beds normal?
- Observe the person’s posture (sitting upright, attentive, or slouched, eyelids droopy, etc.)
- Are there abnormal amounts of wheezing, coughing, or expectoration?
- Does the person have an obvious chest deformity?
- Does the client appear overweight, underweight, and/or weak?
- Is there evidence of edema in ankles or cardiovascular problems?
- Describe general behavior (cooperative, yes/no answers, resistant, etc.).

INITIAL INTERVIEW QUESTIONS

- Is the condition progressive and how rapidly?
- Do you have excessive coughing attacks? Shortness of breath? Chest pain? Sputum? If so, how much?
- What activities cause you shortness of breath? How much of that activity is required to cause shortness of breath?
- Can you climb stairs? If so, how many?
- Can you walk one level block without rest?
- Do you have trouble with activities of daily living, (i.e., dressing, cleaning, bathing, talking)?
- What relieves your shortness of breath? Medication? Rest?
Do you take medication of any kind? If so, what kind, what is its purpose, who prescribed it, is the physician a specialist or a G.P.? What are the side effects, e.g., nervousness, sleep problems?

Do you smoke?

Have you undergone pulmonary function tests, x-rays, spirometer, CT scan, radionuclide scan, bronchoscopy, or other tests? If so, when, where, who was the physician and what type of physician was he/she?

Have you been evaluated for cardiovascular problems in the past year?

Do you have a history of asthma? Respiratory infection? If so, describe. Is the history cyclical, occurring more often recently?

Do you have any allergies (i.e., pollens, dust, mold)? If so, describe reactions to allergies (allergy attacks).

Do you have difficulty in seasonal or environmental extremes (i.e., cold, heat, humidity, high altitude)? If so, describe difficulties and circumstances.

Do you have problems sleeping?

**IPE CONSIDERATIONS**

The client should receive counseling to assure an understanding of the disorder and its realistic functional limitations. Assure, also, that the client is aware of techniques to deal with panic attacks and exacerbations.

There must be compliance with the medical management plan, including the cessation of smoking.

In choosing the job goal, give careful consideration to the environmental irritants, or conditions, which may exacerbate the disorder (e.g., fumes, dust, pollens, cold air, temperature extremes, or changes, air quality).

Each client will have special considerations, such as diets, weight loss, medications, and avoidance of humid environments, depending on the nature of the disorder. Plans should incorporate all facets of the person’s life, such as support systems, employment options, rest patterns, and so on.

In the actual job placement phase, selective job placement will be necessary to assure the appropriate work environment and work flexibility required by the client.

**RESOURCES**

Ohio State University Medical Center, medicalcenter.osu.edu/patientcare/healthcare_services/lung_diseases/about/Pages/index.aspx
Rush University Medical Center, www.rush.edu/rumc/page-1098994230985.html
Thomas Jefferson Hospital, www.jeffersonhospital.org/e3front.dll?dvrki=5224
SCHIZOPHRENIC DISORDERS

DESCRIPTION

The schizophrenic disorders are a group of psychotic conditions that cause massive disruptions of perception, cognition, emotion, and behavior. Onset is typically between the late teen and mid 30’s. Women frequently have a late onset, prominent mood symptoms, but better prognosis. While evidence gathered from twin studies supports the importance of genetic factors, the environmental aspect of the disease cannot be overlooked.

TYPES OF SCHIZOPHRENIA

DSM-IV identifies five major subtypes of schizophrenia.

- **Disorganized schizophrenia.** The disorganized schizophrenic shows primary impairments in thought and affect. Disorganized speech and behavior are characteristics. Although they may no fragmentary delusions or hallucinations, they are not systematized. Their behavior is usually characterized by symptomatic complaints, extreme social withdrawal, and bizarre actions or thoughts. Affect may be blunted, inappropriate, or silly. Disorganized schizophrenics show poor premorbid personality structures, and usually have an early and slow onset. Over the long term, they do not have significant remission and show extreme social impairment.

- **Catatonic schizophrenia.** This form of schizophrenia was common several decades ago, but is now rare. The person typically has marked psychomotor disturbances, including negativism, rigidity, excitement, and posturing. There might also be stereotypical movements, mannerisms, and waxy flexibility. Some persons may rapidly alternate between the extremes of stupor and excitement. The danger of stupor or excitement is that the person may harm himself or others. Without medical supervision, the person may become malnourished, exhausted, or self-injured.

- **Paranoid schizophrenia.** This is characterized by persecutory or grandiose delusions or hallucinations. Persons with paranoid schizophrenia show a wide range of behavior. Some may be tense, suspicious, guarded, and reserved to the point of vagueness. Others may be hostile or aggressive, yet conduct themselves well in ordinary social situations. Still others may be angry, argumentative, or even violent.

- **Undifferentiated schizophrenia.** The undifferentiated schizophrenic has prominent psychotic symptoms including delusions, hallucinations, incoherence, and disorganized behavior. However, this diagnosis is made if the clinical picture is not clearly in the direction of shallowness, marked psychomotor disturbance, or specific paranoid ideation that fits in with one of the three subtypes already described.

- **Residual schizophrenia.** This is diagnosed when there are no prominent psychotic symptoms, but the person has a history of at least one episode of schizophrenia and residual negative signs of the illness. These persons often show emotional blunting, social withdrawal, eccentric behavior, illogical thinking, and some loosening of associations.
CLINICAL FEATURES

The clinical features of the schizophrenic disorders are usually divided into two categories. The positive or active symptoms refer to things that are outside the range of ordinary human responses. The negative symptoms refer to important human behaviors that are missing from the person's response repertoire.

ACTIVE SYMPTOMS

Active symptoms are classified as perceptual, cognitive, emotional, or motor, depending on the area of behavior involved. The most common active symptoms are delusions, somatic hallucinations, and auditory hallucinations commenting on the person's behavior, hearing one's thoughts spoken aloud, and the belief that one's thoughts are controlled by or broadcast to others. Visual hallucinations may also occur.

Delusions are fixed false beliefs that are maintained in the face of contradictory evidence. Members of cultural or religious groups to which the person belongs do not share them.

Hallucinations are perceptions that occur in the absence of a stimulus. Auditory hallucinations are common in schizophrenia. The person may hear a voice that maintains a running commentary on the person's behavior and thoughts. In other cases, a person may hear two or more voices conversing with each other. Visual, olfactory, and somatic hallucinations may also occur.

Active symptoms characterize the overtly psychotic phase of the schizophrenic disorders. They are outside the range of ordinary human experience, and commonly bring the person to the attention of others, including medical and legal authorities, and precipitate hospitalization. The person remains hospitalized until the active symptoms subside. Psychotropic medication is useful in controlling active symptoms.

Some active symptoms may persist into the chronic or recurring phases of schizophrenic disorders. Active symptoms may disrupt cognitive, emotional, and motor functioning.

- Cognitive disruption in schizophrenia commonly takes the form of delusions. These are false beliefs that cannot be changed by reason or experience. Delusions can take many different forms. Some delusions are clearly absurd, while others may be unusual, but possibly reasonable within particular subcultures. For this reason, schizophrenics are sometimes attracted to unusual religious cults and sects.

- Emotional dysfunction in schizophrenia is usually observed in one of two forms. Inappropriate affect refers to giggling, smiling, crying, and other expressed moods that are not congruent with expressed ideas. Agitation (or excessive emotional excitement) refers to expressing appropriate emotions with extreme intensity.

- Motor dysfunctions are usually observed in three forms. Catatonic excitement consists of episodes of uncontrolled, agitated, and disorganized behavior. The person may be hyperactive, gesture excessively, and may be violent or disruptive. Stereotypes are repetitive, apparently meaningless, movements. Mannerisms are habitual movements that usually involve only a single body part. These include grimaces, tics, moving the lips, fidgeting with fingers, hand wringing, and rubbing the thighs.

NEGATIVE SYMPTOMS

The negative symptoms involve decreased or missing expressiveness and responsiveness in cognitive, emotional, and behavioral functions that are ordinarily present in humans. The negative symptoms persist during the chronic or recurring stages of schizophrenia and, consequently, are more characteristic of those persons with schizophrenia who seek VR services.
Cognitive symptoms. These reflect diminished productivity of thought and speech.

Negative cognitive symptoms include:

a. The person says very little when he or she initiates a conversation or in response to questions and situations that would normally result in reciprocal conversation.

b. The individual's speech will have little content or convey very little information.

c. Increased response latency. This refers to taking an abnormally long time to respond to questions (although the response is meaningful).

d. Blocking occurs when the person's speech suddenly stops and the person is incapable of continuing.

These negative cognitive symptoms adversely affect the person's ability to communicate and to engage in interpersonal relationships.

Emotional symptoms. These are often referred to as flat, blunt, or restricted affect. This refers to reduced or missing emotional expression. At the behavioral level, flat, blunt, restrictive affect can be observed in a lack of vocal inflection, lack of expressive gestures, poor eye contact, decreased spontaneous movements, unchanging facial expression, or non-responsiveness to affect. In anhedonia, the person displays an inability to experience pleasure. He or she lacks interest in friendships, recreation, employment, and so on.

Negative emotional symptoms make it difficult for the person with schizophrenia to establish meaningful interpersonal relationships and to get involved with community programs and activities.

Motor symptoms. These are most commonly seen as markedly reduced or slow movement and verbal behavior. In the extreme form, catatonic stupor, there is a total lack of movement and verbal behavior.

The negative motor symptoms affect the person's rate of performance of motor and verbal tasks. He or she may not be able to meet the quantitative demands of work.

Behavioral symptoms. These include poor grooming and hygiene, inability to persist at a task, and withdrawal from social activities. This is often accompanied by negativism. This refers to a resistance, without apparent motive, to instructions or attempts to be moved.

The negative behavior symptoms reduce the person's social acceptability, and may interfere with task performance. Negativism and motivational deficits commonly interfere with participation in active treatment and rehabilitation programs.

PROGRESSION OF DISEASE

Schizophrenic disorders usually onset in late adolescence and early adulthood (usually before age 25). Long-term follow-up studies indicate that persons who have an initial acute schizophrenic episode fall into one of three groups.

Full recovery. About 20-25% of those who develop schizophrenia fully recover. They remain free of psychotic symptoms and return to normal levels of social and vocational functioning.

Mild effects. About 20-30% have mild residual effects. They continue to have hallucinations and delusions, but have relatively normal observable behavior with only mild impairment in social and vocational functioning.

Moderate to severe. About 40-60% have moderate to severe outcomes. They continue to have marked schizophrenic symptoms, observable abnormal behavior, and are severely impaired in most areas of social and vocational functioning.

As a group, only about 35% of persons with schizophrenia who do not fully recover engage in productive vocational activity.
TREATMENT

Although there is no known cure for schizophrenia, several modes of treatment can reduce the impact of schizophrenic disorders on the person. Neuroleptic medication is effective in the treatment of acute schizophrenia. It also appears effective in preventing future psychotic relapses in schizophrenic persons in remission.

Behavior therapy is effective in the treatment of schizophrenic disorders. Operant techniques, such as token economies, are effectively implemented in in-patient, day hospital, and halfway house settings where staff can control the reinforcers. These techniques are particularly effective in reducing desire and aggressive behaviors, and increasing self-maintenance behaviors. However, they are not effective in development of interactive social behavior.

Response acquisition procedures, including social skills training, are effective in developing interactive social behaviors. These include such things as starting a conversation, self-disclosure, listening skills, giving and receiving criticism, and assertion. Response acquisition techniques can also be applied to a variety of daily living skills (such as self-care, cooking).

Behavioral family therapy is effective in improving family functioning, reducing stress on the person, and involving family members in the community management of the disorder. Behavioral family therapy typically has three components—education, communication, and problem solving.

Counseling and psychotherapy are not effective treatments for schizophrenia. However, there is indication that an effective interpersonal relationship with a counselor or case manager is necessary for the success of other treatments. A supportive working relationship with the person can maintain compliance with drug treatment and motivation for behavior therapy.

Response acquisition procedures include teaching the person techniques of self-monitoring and self-reinforcement. These are necessary to maintain behavioral change.

Stress inoculation training and relaxation training are useful in teaching the person how to cope with stressful life events. The role of stress in inducing relapse and decompensation is controversial. There is no research support for the hypothesis that life events are associated with the onset of illness. However, schizophrenics who do relapse tend to have more stressful life events than those who do not. There is no clear pattern of stressful events among schizophrenics. As noted earlier, diminished productivity of thought is the dominant negative cognitive symptom. Consequently, any change in the person's life situation can produce stress if the person is unable to generate an effective response to it. Training in problem solving, relaxation, behavioral reversal, and related techniques can assist the person in dealing with these changes.

Persons with schizophrenia are a very heterogeneous group. Each person has a unique configuration of assets and limitations that must be identified for vocational rehabilitation purposes.

Schizophrenia is a pervasive disorder in that it affects all areas of major life functioning (although to different degrees in the individual case). Consequently, the diagnostic interview must go into all major areas of life functioning (personal, family, social, community, educational, and vocational).

The presence of negative symptoms, including diminished productivity of thought and diminished emotional responsiveness, make it difficult to establish an effective counseling relationship, and to gather meaningful information in a single interview. Persons with schizophrenia generally have difficulties providing full and complete responses to broad, open-ended questions. For example, it is usually unproductive to ask the person with schizophrenia to describe his or her vocational handicaps. A more effective approach is to ask whether he or she has a problem with a specific vocational behavior (going to work everyday, getting to work on time, producing enough work, following the boss's orders, etc.).

An effective diagnostic interviewing strategy with the person with schizophrenia is to use two or three interviews, each of which is increasingly focused and detailed. For example, the first interview could focus on the heterogeneity and pervasiveness issues. This interview ranges broadly over the person's life circumstances (personal, family, etc.). The intent is to identify areas of functioning that are impacted by the schizophrenia. The second interview goes into more depth on strengths and weaknesses in those areas.
of life functioning that are impacted by the illness. The third interview (if needed) goes into detail on very specific vocational assets and handicaps.

The active symptoms, particularly hallucinations and delusions, are the focus of most psychiatric and mental health treatment. Consequently, the person with schizophrenia often comes to VR with the expectation that the rehabilitation counselor will want him or her to talk about active symptoms. The presence of active symptoms, however, is not very predictive of VR success unless these intrude into the person's ordinary social interactions with others. In other words, active symptoms are not a problem unless the person calls the attention of others to them. A useful rule of thumb for the rehabilitation counselor is to avoid directly going into the active symptoms, and to keep the interview focused on discussions of functioning in various life situations. If the person voluntarily begins to describe active symptoms, with the expectation that this is what the rehabilitation counselor wants to hear, the person can be reminded to discuss these symptoms with his or her psychiatrist, psychologist, or mental health worker, and attention should be refocused on functional activity. In this case, the counselor can focus the person's attention on what is relevant for VR purposes, and set the stage for observing the extent to which active symptoms intrude into ordinary conversation and dealings with others.

COMMON FUNCTIONAL LIMITATIONS

- Interpersonal skills (cooperation), tact, and assisting
- Self-direction (dependability, decision making, difficulty with frequent change)
- Stamina
- Understanding instructions (particularly if these involve understanding underlying principles, reasoning, etc.)
- Motor coordination
- Eye-hand-foot coordination
- Form perception
- Spatial perception
- Memory
- Problem solving
- Flexibility and adapting to change

VOCATIONAL IMPEDIMENTS

Most of the functional limitations described above, either alone or in combination with others, constitute substantial impediments to employment. Consequently, establishing the presence of vocational impediments is usually not an issue.

Persons with schizophrenia commonly lead isolated and sedentary lives. They are deconditioned and lack the stamina to get through an eight-hour day, and the strength to perform some types of work.

Problems in learning new jobs and understanding instructions play a major part in determining the vocational handicap. These individuals often have difficulty understanding, reasoning, and making judgments by applying instructions, procedures, or rules. They often lack the logic necessary to deal with specific situations and events encountered on the job.

They may have difficulty communicating with others because of delusions and hallucinations that intrude into ordinary conversation. They may also have a blunted emotional response, making it difficult for others to comprehend what they are trying to communicate.

A variety of drug side effects may also impair motor functioning including walking, climbing, and balancing.

Rehabilitation research has identified some indicators of successful VR outcome. These are summarized in the table below.
Indicators of Vocational Rehabilitation Outcome

<table>
<thead>
<tr>
<th>Category</th>
<th>VR Prognostic Indicator</th>
<th>Favorable vs. Unfavorable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Course and Symptoms</td>
<td>Age at first onset</td>
<td>Older vs. younger</td>
</tr>
<tr>
<td></td>
<td>Duration of acute disturbance</td>
<td>Short vs. long</td>
</tr>
<tr>
<td></td>
<td>Extent of impact on functioning</td>
<td>Limited vs. pervasive</td>
</tr>
<tr>
<td></td>
<td>Type of onset</td>
<td>Rapid vs. slow</td>
</tr>
<tr>
<td></td>
<td>Inter-episode interval</td>
<td>Long vs. short</td>
</tr>
<tr>
<td></td>
<td>Frequency of acute episodes</td>
<td>Infrequent vs. frequent</td>
</tr>
<tr>
<td></td>
<td>Self-injurious behavior</td>
<td>Absent vs. present</td>
</tr>
<tr>
<td></td>
<td>Assaultive behavior</td>
<td>Absent vs. present</td>
</tr>
<tr>
<td></td>
<td>Mental illness in family</td>
<td>Absent vs. present</td>
</tr>
<tr>
<td>Vocational and educational history</td>
<td>Stable work history</td>
<td>Present vs. absent</td>
</tr>
<tr>
<td></td>
<td>Identifiable work skills</td>
<td>Present vs. absent</td>
</tr>
<tr>
<td></td>
<td>Educational level</td>
<td>HS or above vs. less</td>
</tr>
<tr>
<td>Other disabilities</td>
<td>Physical illness</td>
<td>Absent vs. present</td>
</tr>
<tr>
<td></td>
<td>Alcohol or drug abuse</td>
<td>Absent vs. present</td>
</tr>
<tr>
<td>Cognitive functioning</td>
<td>Intelligence level</td>
<td>High vs. low</td>
</tr>
</tbody>
</table>

Ability to achieve a vocational outcome also involves consideration of three broad factors beyond those listed above. These are:

- **Participation in and compliance with a medical management program.** Continuing medical management of schizophrenia using neuroleptic medications is essential. Although some schizophrenics can be maintained without drug therapy, this should be done only under medical supervision. Additionally, as the client gets involved in an active vocational rehabilitation program, his or her medication needs may change.

- **Stable social support, living situation, and finances.** The presence of strong family support, a stable living situation, and an income adequate to meet basic needs (either from the family or an income maintenance program) are essential for vocational rehabilitation success. In the absence of these, VR plans break down because a person's basic needs for food, clothing, shelter, and security are over-riding priorities.

- **Availability of services necessary to overcome each specific vocational handicap and employment barrier.** Successful vocational rehabilitation depends on overcoming all of the persons identified handicaps to employment, not just a select few.

**OBSERVATIONS DURING INITIAL INTERVIEW**

The rehabilitation counselor can observe all of the active and negative symptoms during the interview. Specific observations follow.

- **Perceptual symptoms.** Does the person exhibit auditory, visual, or other hallucinations or report other types of perceptual disturbances (lights looking brighter or dimmer, people seeming larger or smaller, objects seeming closer or further away, time passing too slowly or too rapidly)?
Cognition. Does the person exhibit poverty of speech, poverty of speech content, increased response latency, or blocking? Does the person exhibit delusions (false beliefs such as believing one or more individuals or organizations are trying to harm him or her; punishment for some misdeed; spouse or lover is unfaithful; something abnormal is happening to the body; unrealistic beliefs about his or her talents or accomplishments; religious or spiritual themes; being controlled by others; etc.)?

Emotional responses. Does the person exhibit flat, blunt, or restricted affect (such as a lack of vocal inflections, lack of expressive gestures, poor eye-contact, unchanging facial expression, lack of interest in ordinary daily activities)?

Motor functions. Does the person exhibit slowed motor responses, poor quality of movement, slurred speech?

Behavior. Does the person exhibit poor grooming and hygiene; inability to concentrate, pay attention, or persist on a task; or isolation and withdrawal from social activities?

Drug side effects. Does the person show or report side effects associated with neuroleptic medication including feeling tired, low blood pressure, dry mouth, blurred vision, racing heart, loss of sexual interest or impotence, muscle spasms, rocking back and forth, pacing, tremors, or uncontrollable movements of the mouth, lips, or tongue?

**INITIAL INTERVIEW QUESTIONS**

Do you feel able to work, given your current condition?

How do you think your condition will interfere with future work?

What kind of symptoms do you currently have?

Have you had any recent unusual or bizarre experiences that cannot be explained to others?

Have you heard or seen things that others apparently do not?

**IPE CONSIDERATIONS**

Active involvement of the client in the development of the IPE is essential for assuring long-term compliance and involvement in the VR plan. If the client does not fully agree with the IPE goals, objectives, and specific services, there is a high risk that he or she will fail to cooperate or drop out of VR service.

The plan must be based on a thorough and detailed identification of specific vocational handicaps and employment barriers. As noted in the description of the disability, effective treatments are based on operant conditioning, behavior management, and intensive instruction methods. These methods are useful when applied to specific skill and behavior problems. Positive results are usually achieved in short periods of time (one month or less) when specific interventions are used to correct specific skill or behavior deficits. This provides the client with evidence of positive change and progress. It also provides a rehabilitation counselor with frequent opportunities to reinforce participation in the IPE.

The number of skills and behaviors that need to be changed to reduce or remove the client’s vocational handicaps determines plan duration. Since schizophrenia is cyclical or episodic in nature, the client's episode interval (the period between major psychotic episodes) is a factor in planned development. The entire plan (including time needed for job placement and follow-up) must fit within the client's inter-episode interval if the client is to be successfully rehabilitated.
RESOURCES

National Alliance on Mental Illness, www.namimi.org/schizophrenia?gclid=CNP
  yn9m3l6cCFUJm7Aodki_Ldg
Epilepsy is a brain disorder involving repeated, spontaneous seizures of any type. Seizures are episodes of disturbed brain function that cause changes in attention or behavior caused by abnormally excited electrical signals in the brain.

Seizures can be related to a temporary condition e.g., exposure to drugs, withdrawal from certain drugs, a high fever, or abnormal levels of sodium or glucose in the blood. If the seizures do not happen again once the underlying condition is corrected, the person does not have epilepsy.

In other cases, permanent injury to or changes in brain tissue cause the brain to be abnormally excitable e.g., they happen without an immediate cause. This is epilepsy. The cause cannot be identified. The seizures usually begin between the ages of six and 20 years of age, but it affects people of any age. People that have these seizures have no other neurological problems but may have a family history of seizures or epilepsy.

Other common causes of epilepsy include stroke or transient ischemic attack (TIA); an illness that causes the brain to deteriorate; dementia (Alzheimer’s disease), traumatic brain injury; infections e.g., brain abscess, meningitis, encephalitis, neurosyphilis, and AIDS; congenital brain defects; kidney or liver failure; metabolic childhood diseases; brain tumors or lesions e.g., hematomas or abnormal blood vessels.

The severity of symptoms can vary greatly from simple staring spells to loss of consciousness and violent convulsions. For most people, each seizure is similar to the previous one. The type of seizure depends upon the part of the brain affected and the underlying cause of the seizure.

An aura consisting of a strange sensation (tingling, smelling odor that is not present, or emotional changes) occurs in some people prior to each seizure.

During a seizure, there is a brief temporary change in the normal functioning of the brain's electrical system. The seizure can be either generalized (affecting the entire brain) or partial (affecting only a portion of the brain). Although there are many types of seizures, most would fall in the following four categories.

- **Tonic-clonic seizures.** These were previously referred to as “grand mal seizures.” The individual has a convulsion, loses consciousness, falls, and experiences stiffening and jerking for two to five minutes.
- **Absence seizures.** These were previously referred to as “petit mal seizures.” These may be difficult to identify as they consist of only brief lapses of attention, sometimes accompanied by blank staring.
- **Simple partial seizures.** Consciousness is not impaired with simple partial seizures, and the portion of the brain affected determines what happens during this type of seizure. Jacksonian seizures for example, interrupt motor control. They usually begin with a finger or toe twitching and can spread to a hand, arm, or leg. In a sensory seizure the individual may experience a distorted environment, see shapes or colors, smell unusual odors, or just “feel funny.” These usually last only a few minutes.
- **Complex partial seizures.** These are also called “psychomotor” or “temporal lobe” seizures. They occur quite commonly among adults but with many variations, which makes them the most difficult to understand. These may last for a few minutes and people will appear disoriented and dazed, and may pick at their clothes/shoes, mumble or wander.

The following factors increase the risk for a seizure in a person with epilepsy:

- Certain prescribed medications
- Emotional stress
Some people with certain types of seizures may be able to reduce or completely stop their seizure medications after having no seizures for several years. For other people, epilepsy may be a lifelong condition. Death or permanent brain damage from seizures is rare. However, seizures that last for a long time or occur close together (status epilepticus) may cause permanent brain damage. Death or brain damage is usually caused by a prolonged lack of breathing that causes brain tissue to die from lack of oxygen.

Some of the risks to people with epileptic seizures are:
- Difficulty learning
- Inhaling fluid into the lungs that may cause aspiration pneumonia
- Injury from falls, bumps, or self-inflicted bites during seizures
- Permanent brain damage (stroke or other damage)
- Status epilepticus
- Side effects of medications

People with uncontrolled seizures should not drive and operate heavy equipment. They should avoid activities such as climbing to high places, biking, and swimming alone.

**COMMON FUNCTIONAL LIMITATIONS**

- Climbing
- Balancing
- Motor coordination
- Eye/hand coordination
- Wet humid conditions
- Noisy conditions
- Memory
- Attention span
- Speed on activities

**VOCATIONAL IMPEDIMENTS**

- Often have low self-concept or low feelings of self-worth.
- Possible inability to drive causing transportation problems.
- Should usually avoid working around unprotected heights.
- Should usually avoid operating heavy equipment or dangerous machinery.
- Should usually avoid working in or around fast moving or dangerous equipment.
- Often have little knowledge of the world of work.
- May lack appropriate social skills.
- Are seizures controllable to the point of allowing employment?
- Is the person motivated to diligently take medications and follow other medical advice?
- Does the person have warnings (auras) before seizures?
- How long is the recovery period after seizures?
Chapter 39

Seizure Disorder (Epilepsy)

OBSERVATIONS DURING INITIAL INTERVIEW

- Were any seizures observed?
- Does the person’s mood seem affected (possibly by disability or medications)? Are there deficits in social skills, maturity, etc.?
- Are motor functions impaired?
- Is there speech impairment (slurring/slow pace)?
- Are there any memory problems?
- Are there visual signs of injury resulting from the seizures?

INITIAL INTERVIEW QUESTIONS

- Describe your seizures including the cause, if known.
- How often do you experience the seizures and how long are you incapacitated following a seizure?
- What time of day do the seizures occur? Are there preceding events?
- Do you have a warning aura?
- Are you currently under the care of a physician who is knowledgeable about the disease?
- What medications are you taking and what are the side effects (e.g., drowsiness, speech problems, concentration, gum disease)? Are you following the medication regime as prescribed?
- How has the disability affected your past work or school?
- Do you have a valid driver's license?
- What restrictions has your physician given you, e.g., working at heights or around dangerous equipment?
- How do you feel about your disability and how do you think others feel about your disability?

IPE CONSIDERATIONS

- Adjustment counseling may be needed to assist the individual in adapting to a work environment and coworkers, or to help the individual with a realistic acceptance of the disability.
- Heavy emphasis should be on the placement effort including strong job seeking skills training and selective placement (possibly to include on-the-job training, on-the-job evaluation, or transitional employment).
- Good medical control is essential, including routine check-ups and proper adherence to following medical advice (preferably by a neurologist with substantial background in epilepsy).
- Job goals should be carefully chosen, considering all limitations and carefully considering the seizure activity of the client.

RESOURCES

SICKLE CELL ANEMIA

DESCRIPTION

Sickle cell anemia is an inherited form of anemia i.e., a condition in which there are not enough healthy red blood cells to carry adequate oxygen throughout the body. There is no cure for most people with sickle cell anemia, but treatments can relieve the pain and help prevent further problems associated with sickle cell anemia.

The sickle cell gene is passed from generation to generation in a pattern of inheritance called autosomal recessive inheritance. This means that both the mother and the father must pass on the defective form of the gene for a child to be affected. The risk of inheriting sickle cell anemia comes down to genetics. The gene is most common in families that come from Africa, India, the Mediterranean, Saudi Arabia, and South and Central America.

The signs and symptoms usually show up after an infant is four months old and may include:

- **Anemia** – Sickle cells are fragile. They break apart easily and die, leaving the person chronically short on red blood cells. Without enough red blood cells in circulation, the body cannot get the oxygen it needs to feel energized.
- **Periodic episodes of pain, called crises, are a major symptom of sickle cell anemia. Pain develops when sickle-shaped red blood cells block blood flow through tiny blood vessels to the chest, abdomen, and joints. The pain can also occur in the bones. The pain may vary in intensity and can last for a few hours to a few weeks. Some people experience only a few episodes of pain while others experience dozens or more crises a year.**
- **Hand-foot syndrome** – Swollen hands and feet may be the first signs of sickle cell anemia in babies. The swelling is caused by sickle-shaped red blood cells blocking blood flow to the hands and feet.
- **Frequent infections** – Sickle cells can damage the spleen, the organ that fights infection. This makes the person more vulnerable to infections.
- **Delayed growth** – Red blood cells provide the body with the oxygen and nutrients it needs for growth. A shortage of healthy red blood cells can slow growth in infants and delay puberty in teenagers.
- **Vision problems** – Some people experience vision problems. Tiny blood vessels that supply the eyes can become plugged with sickle cells damaging the retina.

Sickle cell anemia can lead to a plethora of complications, including:

- **Stroke**
- **Acute chest syndrome**
- **Pulmonary hypertension**
- **Organ damage (nerves and organs including kidneys, liver, and spleen)**
- **Blindness**
- **Skin ulcers**
- **Gallstones**
- **Priapism (Men may experience painful, long-lasting erections)**

Bone marrow transplant offers the only potential cure for sickle cell anemia. Finding a donor is difficult and the procedure has serious risks associated with it. The result is that treatment for sickle cell anemia is aimed at avoiding crises, relieving symptoms and avoiding complications. This may include medications to reduce pain and prevent complications, blood transfusions, and supplemental oxygen.

- **Medications include antibiotics, pain-relieving medications, and Hydroxyurea (Droxia, Hydrea) to reduce painful crises.**
- Red Blood Cell Tranfusions increase the number of normal red blood cells in the person’s body, helping to relieve anemia.
- Supplemental oxygen – Breathing supplemental oxygen through a breathing mask adds oxygen to the blood and helps the person breathe easier. It may help acute chest syndrome or a sickle cell crisis.
- Stem cell transplant – A bone marrow transplant replaces bone marrow affected by sickle cell anemia with healthy bone marrow from a donor.

There are steps that the person can take to help avoid sickle cell anemia complications such as:
- Take folic acid supplements daily and eat a healthy diet. Bone marrow needs folic acid and other vitamins to make new red blood cells. Eat a variety of colorful fruits and vegetables as well as whole grains.
- Drink plenty of water throughout the day. Dehydration can increase the risk of a sickle cell crisis. Increase the amount of water you drink depending upon the amount of exercise, or the time spent out of doors if it is hot and dry.
- Avoid temperature extremes as these can increase the risk of a sickle cell crisis.
- Exercise regularly, but do not overly exert one’s self.
- Use over-the-counter medications with caution e.g., decongestant pseudoephedrine, as it can constrict the blood vessels.
- Fly on airplanes with pressurized cabins since low oxygen levels can trigger a sickle crisis.
- When traveling to high-altitude areas where there is less oxygen you may require supplemental oxygen to avoid triggering a sickle cell crisis.

The person will need help coping with the stresses of this lifelong disease. They will need strong support groups. They will need to explore ways to cope with the pains. Various techniques may work for different people such as heating pads, hot baths, massages, or physical therapy.

**COMMON FUNCTIONAL LIMITATIONS**

- Dependability (This may be reduced because of periodic episodes of sickle cell crisis.)
- Frequent change (Frequent changes of duties can cause stress which can exacerbate the problem.)
- Strength, stamina
- Working in the cold or heat
- Working where there are temperature changes
- Working in wet, humid conditions
- Pain (abdominal, back, joints)
- Joint stiffness and swelling

**VOCATIONAL IMPEDIMENTS**

The functional limitations indicated earlier need to be related to the individual's ability to obtain or maintain employment. There are three things to consider. First, how do the periodic crises affect the ability to work? These crises cause some of the functional limitations indicated earlier along with pain, abdominal pain, shortness of breath, and aching joints. Second, you will need to assess any limitations that have been caused from other organs affected by this disease. Third, you need to consider the difficulty in being hired, given the potential time away from work due to periodic crises.

In adults, mortality is most commonly due to infection or chronic renal failure. There is no peak mortality period in adulthood as there is in childhood, and the overall life span for adults has not been identified. Many patients now survive to middle age and beyond. For any single individual with this
disease, ultimate prognosis cannot be predicted. The counselor should focus on vocations using the remaining functional abilities of the individual.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Does the individual appear to be lacking in strength or stamina?
- Is there a noticeable shortness of breath?
- Does the person appear to be in pain?

**INITIAL INTERVIEW QUESTIONS**

- Please describe your history of illnesses or infections.
- How often does a sickle cell crisis occur and what course does it usually take?
- Are you involved in any treatment or therapy, including medication regime?
- Have you lost excessive time from school and/or work due to illness?
- Explore the individual’s strength and stamina level.

**IPE CONSIDERATIONS**

- Vocational goals should be chosen with the specific functional limitations in mind, i.e., avoiding heat, cold, rapid temperature changes, excessive humidity, and stress.
- Strength and stamina may be affected. They may need to be built up prior to eventual placement, or considered in the type of job sought.
- Preparation for placement should take into account that prospective employers may not look with favor on hiring individuals who may need to miss work from time to time for treatment.
- Pain management may be needed in some cases.

**RESOURCES**

American Sickle Cell Association, www.ascaa.org
SLEEP DISORDERS

Bonnie M. Males, Ph.D.

THE NATURE OF SLEEP

Human adults spend about 8 hours daily, or 30% of their lives, sleeping. Teens need at least nine hours and infants up to 16 hours of sleep each day. The sleep/wake cycle is a circadian (daily) rhythm controlled by the body’s biological clock that gets reset every 24 hours by sunlight and other external cues, such as eating. In mammals, sleep consists of periods of either rapid eye movement, known as REM sleep, or periods of non-REM (NREM) sleep. Every 90 minutes or so, a person cycles through 5 phases of sleep: stages 1, 2, 3, 4, and REM, with a greater proportion of REM sleep later in the night. Stages 3 and 4 are called “deep sleep.” In REM sleep, dreams occur, limb muscles become paralyzed, the heart races, blood pressure rises and breathing is rapid, shallow, and more irregular.

Sleep processes help regulate body temperature, urine production, and the timed release of various hormones such as melatonin and growth hormone. Sleep is a time for repair of brain cells, for energy restoration, and for recharging other body processes including immune function. It is a time when new motor skills are ‘learned’; when proper brain development occurs in early life; and a time when memories are consolidated.

DISORDERS OF SLEEPING

Disorders of sleeping are described in the DSM-IV-TR. According to the International Classification of Sleep Disorders, over 80 different disorders fall into three categories. The first are the dyssomnias, which are disruptions of the body’s sleep/wake patterns. These can be extrinsic, caused by outside factors; or intrinsic, caused by something within the body. The second type consists of parasomnias, which are behaviors that disrupt sleep. The third type includes disruptions in sleep caused by a variety of medical or psychological conditions. Persons seeking vocational rehabilitation services who have a primary sleep disorder will most likely have one of the dyssomnias.

Excessive daytime sleepiness (EDS) is a syndrome caused by a buildup of “sleep debt” from lack of sleep or disrupted sleep. Most sleep disorders disrupt sleep. Sleep deprivation is a common malady in modern society, because our natural sleep-wake rhythms are unable to cope with today’s demands for shift work and a 24/7 society. EDS is one of the most debilitating aspects of sleep deprivation. Its greatest impact is on mood; then cognitive function, especially attention span; and least effect on motor performance. It interferes with daily activities and productivity.

Sleep deprivation caused by untreated sleep disorders or by today’s lifestyles and work demands is now an epidemic and affects everyone from the very young to the very old (National Sleep Foundation Sleep in America Polls). Many of the injuries and accidents at home, at work, and on the highways are attributed to falling asleep. Mounting evidence is linking the epidemic of obesity in this country and in other industrialized nations to lack of sufficient sleep. The average time spent asleep each night has decreased by two hours or more in the last century. These two epidemics parallel each other.

The most common sleep disorders are dyssomnias: insomnia, sleep apnea, restless leg syndrome, and narcolepsy. Their primary effects are lack of quality sleep causing EDS. These account for nearly all of the 40 million or more Americans with chronic sleep disorders and 20 to 30 million more with occasional sleep problems. Except for insomnia, these disorders tend to run in families, and there is evidence of certain genes being linked to development of dyssomnias. Restless leg syndrome is more common in persons of European ancestry, and sleep apnea is more prevalent in African Americans and in Asian and
Hispanic ethnic groups. In the US, these sleep disorders are estimated to contribute over $16 billion in medical expenditures. Indirect costs from lost productivity, from injury and accidents, and from other sequelae are estimated at over $50 billion.

**INSOMNIA**

Persons of any age can have trouble falling or staying asleep, wake too early, or have poor quality sleep. Insomnia can last a few nights or up to 6 months; however some 20 million people have chronic insomnia lasting 6 months to years. Insomnia can arise from extrinsic factors such as stressful events, excitement, or even from physical activity, alcohol, or stimulants such as caffeine consumed near bedtime. Chronic forms of insomnia can have an underlying medical or psychological basis. Pain, anxiety, and major depression can cause insomnia, as well as drug use and other sleep disorders. Insomnia is more common with increasing age and more prevalent in women than in men. Insomnia is common in the workplace, and it is associated with a great deal of absenteeism, a reduced quality of life, reduced workplace productivity, and severe economic consequences for the individual and for society as a whole.

**Sleep Apnea**

Some 21 million persons in the US have sleep apnea, but only about 5% of them have been diagnosed with this disorder. Other estimates say one in seven persons have it, and one in four Americans could benefit from being screened for it. Traditionally, middle-aged, overweight men with large necks who snore have been the poster children for this disorder. Yet, affected individuals are more often not obese, and some do not snore; and children get it. At least a third is women; and after menopause, the incidence of sleep apnea among women significantly increases to roughly that of men. Women’s symptoms are slightly different and are more often diagnosed with a depressive disorder. Children tend to be hyperactive, can be diagnosed with ADHD, or show stunted growth (failure to thrive). Obstructed breathing in children is often associated with enlarged tonsils and adenoids.

Sleep apnea leads to a drop in oxygen levels in the blood and brain (hypoxia) from a lack of breathing (apnea) or shallow breathing (hypopnea) for 10 – 30 seconds, with a parallel rise in carbon dioxide levels (hypercapnea). Repeated arousals take place where the brain wakes up to a lighter stage of sleep or to consciousness in order to restore normal breathing. Usually, the person sleeping is unaware of what is happening unless they wake to consciousness. They may attribute this awakening to insomnia. Someone else nearby may witness snoring and/or gasping for breath.

Symptoms of sleep apnea are derived from the sleep disruption and from the hypoxia of inadequate breathing. The syndrome of EDS is severe and involves executive functions and memory impairment, as well as mood and personality changes. Some cognitive deterioration may be permanent. There is development of hypertension and cardiovascular disease, including cardiac arrhythmias, congestive heart failure, coronary artery disease, and stroke. There are significant metabolic disturbances leading to weight gain, obesity, and type-two diabetes. However, weight gain itself can aggravate the disorder and result in a vicious cycle of disease progression. It is linked to the metabolic syndrome: abdominal obesity, high blood pressure, high triglyceride levels, glucose intolerance, and insulin resistance. There is much ongoing research in areas of cardiovascular disease and metabolic disturbances linked to sleep apnea.

Sleep apnea is a chronic progressive disease with considerable morbidity and mortality. It leads to poorer treatment outcomes for the associated cardiovascular and endocrine diseases. Other risks include injury and death from motor vehicle and work-related accidents because of profound sleepiness; sudden death from cardiac arrhythmias; and death or brain injury from hypoxia in persons still sedated during post-surgical recovery but not monitored.

There is a spectrum of sleep-related breathing disorders. Very minimal obstruction, known as upper airway resistance syndrome, is sometimes seen with chronic fatigue syndrome. Obstructive sleep apnea (OSA) is more severe and the most common type of SRBD. It is caused by an unusual facial structure, fat deposits, or other abnormality that constricts breathing. This crowds the upper airway and
results in its collapse, causing blocked breathing at night. Central sleep apnea is a failure of the brain’s respiratory center to initiate breathing. It may also occur from inadequate regulation of the diaphragm or the throat muscle reflexes that keep the airway open. It is seen with brain injury or other diseases of the central nervous system, as well as with chronic respiratory disease or chronic heart failure. Complex or mixed sleep apnea is seen in up to 25% of persons treated for OSA who have symptoms of residual daytime sleepiness. They have both obstructed and central sleep apnea.

**RESTLESS LEG SYNDROME (RLS)**

RLS is seen in up to 12 million persons in the US. It is slightly more common in women; and women tend to be more symptomatic than men. Recent surveys indicate some 10% of adults have symptoms of RLS at least a few nights a week. Many persons are diagnosed by middle age, but development of symptoms under 20 years old may occur when there is a family history of the RLS. Some 80% of persons with RLS also have Periodic Limb Movement Disorder (PLMD). This consists of involuntary leg movements and leg cramps that disrupt sleep.

RLS is a sensory disorder in which a person feels unpleasant itching, pulling, crawling sensations, or pain in their legs and arms that can only be relieved by limb movement. This is most noticeable at bedtime and when resting; and so it makes it hard to fall and stay asleep. Its debilitating symptoms are primarily EDS. Affected persons have a reduced quality of life and poorer health with more depression and anxiety symptoms, more cardiovascular disease; and they are more likely to have another sleep disorder.

A defect in iron storage capacity in the brain may give rise to early-onset of RLS. Secondary causes of RLS include deficiencies of iron, folate and vitamin B12 can appear in the last trimester of pregnancy; and can be associated with other underlying diseases such as Parkinson’s disease, rheumatoid arthritis, and kidney disease. Stress and emotional problems, along with some cold medications, tranquilizers, antidepressants, anticonvulsants, and even alcohol and caffeine can bring on or aggravate the condition.

**NARCOLEPSY**

Up to 200,000 people have narcolepsy, but fewer than 50,000 get diagnosed. It is as common as multiple sclerosis or Parkinson’s disease, but is less well known. It is a disorder affecting control of the sleep-wake cycle from a deficiency in hypocretins, wake-promoting proteins secreted by certain brain cells. It is sometimes mistaken for depression or epilepsy, or its symptoms mistaken for drug side effects. Men and women are equally affected.

All persons with narcolepsy develop symptoms of EDS between approximately 15 and 30 years of age. This will be accompanied by sleep attacks that are occasional, sudden overwhelming urges to sleep. These may happen at work, school, or while driving a car. Other symptoms of narcolepsy usually appear independently of one another. Individuals experience wide variations in development and severity of the other symptoms. Most secondary symptoms are seen in 60 – 80% of affected persons. Symptoms include cataplexy, which is a brief period of muscle tone loss, usually eyelid droop, head nod, or difficulty speaking; and it is rarely severe enough for complete collapse. It is brought on by strong emotions. Sleep paralysis and hypnagogic hallucinations (vivid dreams) occur when falling asleep or upon awakening. Autonomic behaviors are activities that take place with reduced awareness, or semi-purposeful behavior, often with incoherent speech. The person usually does not remember the behavior. Less common are development of insomnia and vision problems.

Hypersomnia is characterized by excessive daytime sleepiness not caused by an underlying medical or psychological condition. No other sleep disorder has been identified after undergoing an extensive sleep study. Persons suffering from hypersomnia also have problems with daytime functioning because of the excessive sleepiness.

Circadian rhythm disorders are a mismatch between our biological clock and our environment. These can be intrinsic in nature: caused by a mismatch of a person’s internal sleep-wake cycle with the natural environment. Alternatively, they can be extrinsic, arising from the effects of an altered environment of our modern world that places demands on us.
Intrinsic disorders include Delayed Sleep Phase Syndrome (DSPS) in which you fall asleep late and rise late; and Advanced Sleep Phase Syndrome (ASPS), a case of falling asleep early and rising early. Persons with DSPS are more likely to become sleep deprived and to be depressed from the stress of coping with a world that starts earlier in the day.

Recent surveys show a very high portion of persons totally or nearly blind have sleep disorders. About half of the sleep problems involve the sleep/wake cycle. These individuals do not receive adequate light stimulation to reset their biological clock and they cycle in and out of sync with the rest of the world. This can be a serious problem in daytime functioning.

Extrinsic disorders include Jet Lag and Shift Work Sleep Disorder. Both are artificially induced situations where our biological clock finds itself out of sync with the demands of our world. Jet lag is a temporary situation, but shift workers face chronic sleep deprivation since the body never truly adjusts to working when it should be sleeping.

Teen sleep problems are related to circadian rhythm disorders because during those years and into young adulthood, the body naturally wants to stay up later and sleep in later. Teens also need about an hour more of sleep than adults. Combined with today’s demands on time for school, home, and jobs, lack of adequate sleep is common among teenagers and may account for the high incidence of automobile accidents in this age group.

The parasomnias consist of a physical activity that causes partial or complete awakenings (arousals) from sleep, or that hinder the transition from one sleep stage to another. Common parasomnias include bed-wetting, grinding teeth (bruxism) and sleep talking. Less common ones are sleep terrors, sleepwalking, the REM Sleep Behavior Disorder (no paralysis when dreaming). Other REM stage parasomnias include hypnagogic hallucinations (vivid dreams) and paralysis, and related disorders. These disorders generally do not lead to noticeable deficiencies in daytime functioning, but they can be problematic if the nighttime activities lead to injury to self or others.

Sleep Abnormalities in Other Disorders. Sleep disturbance is associated with other medical or psychological conditions. Insomnia is often caused by alcoholism, chronic pain from other illness, depression, other mood disorders, asthma and other pulmonary diseases, headache, gastroesophageal reflux disease, as well as multiple sclerosis, Parkinson’s disease, epilepsy, kidney disease, and heart failure. Parkinson’s disease, rheumatoid arthritis, and kidney disease cause symptoms of RLS. Fibromyalgia, a disorder of chronic pain, is frequently diagnosed with RLS and PLMD. Both Fibromyalgia and Chronic Fatigue Syndrome, as part of a proposed, larger syndrome with overlapping symptoms, are each found associated with unrefreshing sleep and abnormal brain wave activity during periods of NREM sleep. A milder form of sleep-disordered breathing has been found in individuals with either disorder. Sleep disordered breathing is also more common in persons who have had a TBI or stroke, in persons with Down’s syndrome, and in persons with dwarfism or other conditions involving abnormal cranial or spinal structures.

**SCREENING AND DIAGNOSIS OF SLEEP DISORDERS**

Most sleep disorders remain undiagnosed or are misdiagnosed. There is much ignorance about sleep disorders among the general public and within the medical community. Medical histories do not yet ask questions about sleep and sleep disorders, and health care providers do not directly ask patients if they are having problems with sleep. Despite the high prevalence of sleep deprivation in society, we ignore symptoms of EDS as being trivial and a sign of weakness if we do not endure them. Persons with sleep disorders that are associated with EDS have been diagnosed with mood disorders or with ADHD. A new trend to optimize treatment of type-two diabetes, high blood pressure, heart disease, and stroke is to screen persons for an undiagnosed sleep disorder. This is how sleep apnea and the other dyssomnias are often first detected.
Screening tests are available to help identify persons at risk for sleep disorders by asking about various signs and symptoms associated with each of the disorders. These include the Berlin Assessment Questionnaire for sleep apnea (see the National Sleep Foundation, NSF, *2005 Sleep in America* Poll); online screening tests for Insomnia, sleep apnea, and level of sleepiness through the NSF; and the Stanford Narcolepsy Questionnaire (at Stanford’s Center for Narcolepsy). Questionnaires that screen for the four major dyssomnias are offered online through Talk About Sleep, Inc. and Sleepnet.com. The Epworth Sleepiness Scale (ESS) is frequently used to assess EDS and screen for a sleep disorder (see ‘Awake in Philly’ for degrees of sleepiness and ESS).

### Epworth Sleepiness Scale *

<table>
<thead>
<tr>
<th>Situation</th>
<th>Chance of Dozing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
</tr>
<tr>
<td>Sitting and reading</td>
<td>0</td>
</tr>
<tr>
<td>Watching television</td>
<td>0</td>
</tr>
<tr>
<td>Sitting inactive in a public place – for example, a theatre or meeting</td>
<td>0</td>
</tr>
<tr>
<td>As a passenger in a car for an hour without a break</td>
<td>0</td>
</tr>
<tr>
<td>Lying down to rest in the afternoon</td>
<td>0</td>
</tr>
<tr>
<td>Sitting and talking to someone</td>
<td>0</td>
</tr>
<tr>
<td>Sitting quietly after lunch (when you’ve had no alcohol)</td>
<td>0</td>
</tr>
<tr>
<td>In a car, while stopped in traffic</td>
<td>0</td>
</tr>
</tbody>
</table>

*Total points of 10 or greater indicate excessive daytime sleepiness, which should be evaluated for a sleep disorder.

Diagnosis of a sleep disorder requires information about the individual’s medical and psychological history, a physical exam, and information about the person’s sleep habits from a 2 weeklong sleep diary (see Sleep Education.Com). It may also require an overnight sleep study to monitor brain activity and other body functions. Insomnia and the various circadian rhythm disorders usually do not require more extensive sleep studies.

### Sleep Studies

#### Polysomnography

Body functions are recorded during overnight sleep at a sleep center. These include electrical brain activity, heart rate, muscle activity, eye movement, respiratory effort, airflow into the nose, and blood oxygen and carbon dioxide levels. The amount and type of sleep, both REM and NREM are monitored. Diagnosis and severity of sleep apnea is determined from the amount of sleep disordered breathing that is observed by counting the number of apneas and hypopneas per hour of sleeping (the apnea-hypopnea index, AHI) and including other indicators such as blood oxygen level. Persons with narcolepsy will have a unique pattern of REM and NREM sleep. Disorders involving abnormal limb movements or other activity associated with RLS or RBD are also detected with this study.

#### Tests for Excessive Sleepiness and Wakefulness

Multiple Sleep Latency Test (MSLT) and the Maintenance of Wakefulness Test (MWT) are both performed in the daytime, usually after a nighttime polysomnography. The MSLT measures how quickly you fall asleep during quiet daytime periods; and how quickly REM sleep starts. It is useful to measure the extent of sleep deficiency seen in a number of sleep disorders and for diagnosis of narcolepsy. The MWT measures how alert you are during the day by measuring how long you can stay awake. New tests include measurements of vigilance and alertness.
CPAP Study
This is an overnight sleep study to set the correct air pressure used in continuous positive airway pressure (CPAP) treatment of persons with sleep apnea. This may be performed separately, or combined with an initial overnight polysomnography.

In Home Testing
Simpler and less expensive in home tests are available that measure and record one or more of the parameters evaluated in an overnight study with polysomnography. The most common tests record your blood oxygen levels (oximeter) or measure body movements of a limb such as your wrist (actigraphy) as you sleep. Any recorded reductions in blood oxygen levels (hypoxia) will indicate inadequate breathing, which is associated with sleep apnea. Monitored movements measure extent of sleep disturbance for a variety of sleep disorders.

Hypocretin Level
Reduced production of hypocretins (wake promoting proteins) is found in persons with narcolepsy. This test measures the amount of hypocretins in the spinal fluid.

Neck Circumference as a measure of fat deposits that can crowd the upper airway has been used as a screening tool for sleep apnea. Measurements over 17 inches in men or 16 inches in women are considered abnormal.

Other Tests for Severity and Diagnosis of Restless Leg Syndrome
Sleep efficacy and questionnaires that measure symptoms and symptom impact on daily functioning of persons diagnosed with RLS are used to measure disease severity. The questionnaires include the International Restless Legs Scale (IRLS), Suggested Immobilization Test (SIT) (two sections), sleep efficacy, and the Periodic Leg Movements of Sleep Index (PLMI). A potentially useful test is measurement of ferritin levels in the cerebral spinal fluid to diagnose RLS.

Treatment of Sleep Disorders
Sleep disorders are treated with a combination of things that may include medications. All disorders should be managed with behavioral modification, especially regarding good sleep hygiene, weight loss, and exercise, especially for sleep apnea.

Chronotherapy is an attempt to readjust your normal sleep wake schedule. Persons with circadian rhythm sleep abnormalities include those with jet lag or shift work disorder, as well as persons with Seasonal Affective Disorder, the “winter blues” from lack of sunlight. Treatment includes oral doses of melatonin close to bedtime or light therapy at specified times. High intensity light that contains shorter wavelength (blue) light stimulates certain optic nerve cells that reset the biological clock and the sleep/wake cycle.

Continuous positive airway pressure (CPAP) treatment is used to keep the upper airway open in persons diagnosed with sleep apnea. Affected individuals wear a mask while they sleep through which air is blown into their nasal passages to keep the upper airway open. Medical equipment is available for purchase, which provides pre-set, but adjustable, pressurized room air that can be humidified and heated. These devices vary in size, portability and other features (see ResMed; Talk About Sleep, Inc.). It is the primary form of treatment for sleep apnea.

Surgery is for correction of facial and other upper airway abnormalities to reduce upper airway blockage with OSA. It is more useful in children; and includes removal of tonsils and adenoids. Removal of tissue (not the tonsils) at the back of the throat by laser treatment has reduced severity of OSA in some adults. Palatal implants are a new surgical treatment designed to inhibit collapse of the upper airway during sleep.
Oral Dental Appliances are used at night to move the tongue and jaw forward. These appliances help keep the upper airway passage open in milder cases of OSA.

Medications are used to treat the symptoms of sleep disorders. No medications cure these disorders. Some of the medications used to alleviate symptoms include:

- melatonin, a natural sleep-promoting substance used for insomnia and delayed phase sleep syndrome to aid falling asleep
- wake promoting drugs for the excessive daytime sleepiness of narcolepsy, hypersomnia, restless leg syndrome and sleep apnea, such as modafinil, methylphenidate, and amphetamines, with sodium oxybate for narcolepsy
- drugs to control the twitching symptoms and/or aid sleep in RLS/PLMD such as the dopamine agonists, pergolide, anticonvulsants, opiates, benzodiazepines, and supplements for mineral or vitamin deficiencies
- drugs to control cataplexy and other symptoms of narcolepsy including Xyrem and multicyclic antidepressants
- the possible use of tricyclic antidepressants and other pain medications for symptoms of fibromyalgia.

Treatment effectiveness is usually evaluated according to changes in physical parameters such as blood pressure, level of hypocretins in cerebral spinal fluid, number of blocked respirations, body movement counts, or how many minutes it takes you to fall asleep. Treatment may bring these physical elements back toward normal values. It does lead to a slow improvement in overall well being with a lessening of some symptoms; but there are no cures. Most individuals have residual symptoms that affect daily functioning despite therapy.

**IMPACT OF SLEEP DISORDERS ON FUNCTIONAL IMPAIRMENT AND DEVELOPMENT OF DISABILITY**

The information on treatment outcomes is limited and based on self-reported measures of functioning and quality of life using quality of life indexes. Surveys designed for sleep disorders evaluate sleep, sleep disruption, the disorders of EDS, sleep apnea, restless leg syndrome, or narcolepsy. They are based on evaluation of symptoms, daily activities, social functioning, emotions, and/or overall life satisfaction. The domains measured may include vigilance, activity, general productivity, social functioning, and intimacy/sexual relationships.

Most of the information is limited to disorders of excessive daytime sleepiness, especially sleep apnea. There is poor correlation between the disease severity for sleep apnea, and treatment outcomes as measured by physical parameters normally evaluated by polysomnography. Other factors important to daily functioning and quality of life that correlate with effective treatment have not yet been adequately measured. Research is proposed to more accurately describe the ‘disease burden’ of sleep apnea.

All surveys show sleep disorders lead to poor health among affected individuals as compared to the general population, especially in areas of energy, vitality, physical role limitation, social roles, and emotions. Affected individuals may go for years or decades without discovery and treatment of their sleep disorder and only seek treatment for other related health problems. At the same time, the direct effects of their sleep disorder, such as symptoms of EDS, take a toll on social relationships and on daily functioning.

**Scenario 1**

John is in his 20’s and lives by himself. He is severely depressed after loss of a job last year because of poor work performance, a consequence of his unrecognized sleepiness and cognitive impairment from an undiagnosed sleep disorder. He seeks out counseling for what appears to be strictly depression and other problems with his mood. He is given medication for his depression,
but nothing seems to work. He still has problems with lack of energy and lack of motivation. He still has sleep problems; and he is moody, grumpy, and dislikes his life. He has applied for disability benefits because he does not know how he could ever go back to work since he feels so lousy. In addition, to make matters worse, he still cannot lose those extra 40 pounds, no matter how hard he works out at the gym and tries not to eat any sweets. His heart, lungs, and blood pressure seem fine. Is it chronic depression, or is there an underlying sleep disorder, sleep apnea? How would you evaluate this individual who wants to apply for vocational rehabilitation services?

**Scenario 2**

Sarah who is in her first year at college has symptoms of EDS, which she ignores despite always falling asleep in class. Her grades have deteriorated and she has decided to take time off from school. She is not working because she feels so tired. Treatment for her excessive sleepiness will not happen until after manifestation of cataplexy (attacks of muscle weakness where you can fall down). This will compel her to seek further medical evaluation for a diagnosis of narcolepsy. She has applied for disability benefits, but does not think she will qualify for them. In the meantime, she was advised to seek out services for vocational rehabilitation. Would she qualify for services? How would her narcolepsy influence her Individualized Plan for Employment (IPE)?

**Scenario 3**

Doris is a 52-year-old female who has high blood pressure. She has always had a weight problem. Five years ago, she was diagnosed with type 2 diabetes. Her blood sugar has not been well controlled in the last year. Both she and her physician are concerned since medication changes and diet have not worked to reduce her blood sugar levels; and now she finds out that her eyesight may be deteriorating. Her physician has asked her if she snores or notices an unusual amount of tiredness during the day. She said yes. Doris was given a referral to a sleep specialist for an overnight polysomnography, which revealed a moderately severe case of sleep apnea unrecognized until now. Doris will be started on CPAP therapy, which should help control her blood sugar and have a beneficial effect on her eyesight. However, Doris has been fired from her job. She has come to you for help with re-employment knowing that she has considerable health problems. Would she qualify for services? What would you address in her IPE?

**SLEEP DISORDER IMPAIRMENT AND THE REHABILITATION PROFESSIONAL**

Current guidelines for assessing functional impairment and disability do not include sleep disorders as a separate disabling condition. Persons who perform disability determinations for state and federal agencies may refer to standards set by the Social Security Administration (SSA). SSA lists sleep apnea as a “sleep-related breathing disorder” under respiratory system impairments, which causes “chronic pulmonary hypertension” leading to diminished energy and reduced work capacity. Symptoms of sleepiness and fatigue from the severe sleep deprivation are not directly used to establish disablement. Sleep apnea’s effects on cognition and emotions are assessed as an organic mental disorder. Other sleep disorders are not listed in the SSA guidelines for disability determinations. Disability by narcolepsy has been established, but on a case-by-case basis when symptoms are severe enough to interfere with life activities. Symptoms of other sleep disorders usually do not impair normal functioning, unless other injury or illness that arises from abnormal sleep is itself disabling. This would include serious injury
from sleepwalking, or development of other serious chronic illnesses such as diabetes, obesity, or cardiovascular diseases.

State social service agencies generally do not list sleep disorders as one of the medical conditions that can lead to incapacity; however, individuals with a sleep disorder can be assessed for disability on an individual basis. Obstructive sleep apnea can be reported as a respiratory disorder because its primary defect is obstructed breathing. Central sleep apnea, narcolepsy, restless leg syndrome, and idiopathic hypersomnolence are neurological disorders. Functional limitations are in areas of cognition and affect; and also involve general body debilitation from excessive sleepiness and diminished energy and vitality, which may be caused by an underlying cardiovascular condition or from sleep deprivation. Limitations also arise from secondary conditions such as hypertension and other cardiovascular diseases; and metabolic conditions such as diabetes and obesity.

This information can be used to identify severe functional limitations directly caused by a sleep disorder that would be a barrier to employment. The limitations may include self-direction (plan, initiate, problem-solve, or carry out activities); work skills (learning or behavioral limitations to carrying out job tasks); work tolerance (speed, accuracy, productivity, work quality, and schedule adjustments); and interpersonal skills (family, community and work).

**PLANS FOR EMPLOYMENT AND JOB ACCOMMODATIONS**

Rehabilitation specialists should be aware of any underlying sleep disorder that has led to job loss or prevented individuals from seeking employment because of debilitating symptoms that have been ignored or attributed to other health conditions. Helping the client to recognize and treat a hidden sleep disorder will lead to improved overall health, with a reduction in symptoms and a greater likelihood of a successful employment outcome. Becoming aware of any underlying sleep disorder will aid clients in making appropriate vocational choices and help determine what job supports or modifications might be needed once they are employed.

The Job Accommodation Network (JAN) has several articles on sleep disorders and job accommodations that are available to the general public on-line (see references). One of the most common requests sent to JAN by employers is for information on sleep disorders.

**HELP WITH SLEEP STUDY AND TREATMENT COSTS**

Sleep studies and follow up care can be expensive, amounting to thousands of dollars for diagnosis and start of treatment; and many persons lack insurance or are underinsured. Here are suggested resources:

- **Initial and follow up sleep studies**
  *Sleep Study Donation Program* - sponsored by ‘Awake in America’
  other options may be available at the hospital where the sleep study is to be performed.

- **Medical Equipment and supplies for Sleep Apnea**
  *xPAP Donation and Relief Program* – sponsored by ‘Awake in America’

- **Prescription Medications**
  Provigil (modafinil) costs over $900 for a 90 day supply. Contact NORD (the National Organization for Rare Disorders) for their Medication Assistance Program.
  Other Medications - contact your state health care division for resources on Rx help and their links to pharmaceutical company patient assistance programs
A LIST OF SLEEP DISORDER SYMPTOMS

Syndrome of Excessive Daytime Sleepiness (EDS)
- Confusion, mental fog, mentally slow
- Problems with vigilance, attention span, focusing
- ‘Automatic behavior’ and don’t remember
- Extreme exhaustion, fatigue, tiredness, lack of energy, low motivation
- Can’t get going in the morning, late to work or school, late to appointments
- Inefficiency and mistakes
- Worsening job performance, worsening grades at school
- Personality changes with irritability and depression, anxiety
- Recreation and social activities avoided (because of fatigue?)

Other Serious Cognitive Problems
- Impaired executive function: planning and insight, decision-making/risk-taking
- Memory problems, forgetfulness, memory loss

Other Sleep Problems
- Uncontrollable urges to sleep
- Failure to initiate or stay asleep and early awakening
- Vivid dreams when falling asleep or waking up
- Inability to talk or move for brief periods when falling asleep or awakening
- Physically acting out dreams when asleep
- Sleep-walking, talking in your sleep, bed-wetting
- Awakened by uncomfortable sensations/pain in legs/arms at night or at rest, relieved by movement

Other Physical Signs & Symptoms
- Snoring
- Gasping for air or not breathing, witnessed by others
- Being overweight and obese
- Having a thick neck
- Leg edema
- Having to urinate during the night
- Sudden loss of muscle control
- Early morning headache

Associated Health Conditions
- High blood pressure
- Coronary artery disease, heart attack, stroke, irregular heart beat
- Psychiatric problems
- Impotence (men and women)
- Type 2 diabetes
- Heartburn from reflux disease

Daily Functioning
- Unable to perform daily activities
- Difficulty keeping a job
- Problems with social life and family
- Low self-esteem
Increased accidents

REFERENCES

About Sleep Disorders http://www.about-sleep-disorders.com/
American Academy of Sleep Medicine http://www.aasmnet.org/
American Sleep Apnea Association http://www.sleepapnea.org/
Awake in America http://www.awakeinamerica.org/
Awake in Philly http://www.AwakeInPhilly.org
Job Accommodation Network http://www.jan.wvu.edu/media/Sleep.html
- Sleep Disorders
National Heart, Lung, and Blood Institute http://www.nhlbi.nih.gov/
- Disorders Research http://www.nhlbi.nih.gov/about/ncsdr/
The American Insomnia Association http://www.americaninsomniaassociation.org/home.asp
National Institute of Neurological Disorders and Stroke –
NORD’s Medication Assistance Program http://www.rarediseases.org/programs/medication
National Sleep Foundation http://www.sleepfoundation.org/
Restless Leg Syndrome Foundation http://www.rls.org
Sleep Education.Com http://www.sleepeducation.com/
Sleep Home Pages http://www.sleephomepages.org/
Sleepnet.com http://sleepnet.com/tips.html
Stanford School of Medicine Center for Narcolepsy http://med.stanford.edu/school/Psychiatry/narcolepsy/
Talk About Sleep, Inc. http://www.talkaboutsleep.com
SPINA BIFIDA
MYELOMENINGOCELE

DESCRIPTION

Spina bifida (sometimes referred to as split or open spine) is a congenital deformity that usually occurs between the fourth and sixth week of pregnancy. During this time, a defective closure in the vertebral column occurs. Spina bifida has varying degrees of severity with associated degrees of paralysis, kyphosis (curvature of spine), musculoskeletal defects, hydrocephalus, muscle paresis, bowel and/or bladder incontinence, intellectual functioning, and sexual dysfunction.

There are two primary types of spina bifida. *Occulta* is the mildest form, which indicates that the defect is beneath a layer of skin. This results in a failure of one or more of the vertebrae of the spine to fuse properly. Characteristic of this particular type is a hairy patch or birthmark found above the defect. Few other symptoms may be found.

The second type of spina bifida is *Manifesta*, of which there are two forms. In the milder and much rarer form, a fluid-filled sac containing nerve roots (meningocele) appears in the lower back. The skin covered fluid-filled sac contains CSF (cerebral spinal fluid) that circulates over the brain and along the spinal cord. In the most common and most severe form of spina bifida, the spinal cord fails to form a tube and a portion of the undeveloped cord protrudes through the back to form a myelomeningocele (a sac containing the cord and CSF), which may be covered by skin or tissue, and nerves are exposed.

The site of the lesion determines the types of severity and the specific nerves afflicted. Damage occurs when the spinal cord is developing and the sac grows. Pressure may destroy the nerves from the expanding sac, or may not develop at all. Spina bifida is commonly seen in the lumbar, lower thoracic or sacral regions and extends for three to six vertebral segments. Therefore, there is a direct correlation between the area of lesion and the extent of paralysis and other related conditions.

Studies indicate that between 70% and 90% of newborns with a diagnosis of spina bifida develop hydrocephalus at or shortly after birth. Treatment for the hydrocephalus would include insertion of a shunt to drain excess CSF into the abdominal area or heart chamber for reabsorption. Complications in some rare instances from the shunting involve meningeal infection. This infection can also occur if the myelomeningocele sac ruptures.

Families with spina bifida children are immediately involved in great financial, medical, and emotional difficulties. Individuals with spina bifida may have had numerous childhood and teenage surgeries to correct various complications.

Another extremely important consideration is cognitive development. Studies have indicated that 2/3 of individuals with spina bifida fall within the average range of intelligence. Many individuals have perceptual motor problems often resulting in learning disabilities. This could be indicative of shunting procedures and complications with these. Comprehensive health maintenance is very important for the individual with spina bifida. The vast majority of individuals with spina bifida have an excellent chance of being contributing members of society.

COMMON FUNCTIONAL LIMITATIONS

- Ambulation
- Pushing, pulling, pressing
- Climbing, standing, stooping, bending
- Self-care (eating, food preparation, dressing, toileting, rolling over, grooming, hygiene, etc.)
Wheelchair independence (transfer, propelling wheelchair)
Control of bowel and/or bladder
Writing
Vehicle operation
Range of motion in extremities
Muscle control, reflex control
Motor coordination, eye/hand/foot coordination
Grasping, handling, hand/finger dexterity
Kneeling, crawling, crouching
Lifting, carrying, reaching
Preoccupation with limitation (adjustment to disability)
Self-confidence, self-image

VOCATIONAL IMPEDIMENTS

Look at the specific functional limitations and show how they inhibit the individual’s ability to get or keep a job. If the condition is severe, the individual in most cases will have multiple functional limitations that are easily related to vocational problems. The individual may also have secondary conditions that cause vocational limitations.

The counselor should explore the extent of functional limitations caused by the disability, but must be sure to go beyond that and explore all limitations that would impact the person’s ability to get or keep a job. The individual may have secondary conditions e.g., hydrocephalus, and have limitations resulting from those conditions. In addition, the counselor should consider potential barriers such as inability to operate a motor vehicle or use public transportation.

OBSERVATIONS DURING INITIAL INTERVIEW

- Does the individual use assistive devices? What type?
- Assess ease of mobility. Has the person adapted to assistive devices?
- Are there problems with speech clarity or logical oral responses?
- Are there signs of psychological difficulties or problems with adjustment to disability?
- Are there signs of cognitive problems or memory detail?
- What are the individual's self-image and motivation level?
- Is the person properly groomed?

INITIAL INTERVIEW QUESTIONS

- Do you have trouble with bowel and/or bladder control or bladder infections? Do you use a catheter?
- Do you have difficulty with activities of daily living (grooming, bathing, food preparation, eating, dressing)?
- Do you require a personal care attendant? For what activities?
- Do you have any home modifications?
- Have the person describe the following:
  a. Loss of sensations. Where? Complete or partial?
  b. Loss of muscle functioning. Where? Complete or partial?
  c. Loss of muscle control (spasticity). Where?
  d. Muscle atrophy or weakness? Contractures? Where?
e. Problems with skin breakdown or infection? Current status of skin condition?
f. Chronic pain?
g. Physical endurance (stamina)?

Please describe the type(s) of assistive devices you utilize (wheelchair, braces, crutches, etc.) including situations in which they are used.

What types of treatment have you had for this condition (surgery, physical/occupational therapy, etc.)? When? Where?

Have you had recent diagnostic evaluations? Where? When? Name and type of primary care physician.

Can you operate a vehicle? What modifications are necessary?

What type of support system do you have (especially at home)? Are family members positive and helpful?

Do you have a shunt for cerebral spinal fluid drainage?

Do you have difficulty discriminating shapes, forms, numbers, or letters?

Do you have difficulty with fine motor skills and dexterity?

Do you have difficulty with memory or cognition?

IPE CONSIDERATIONS

Healthy activity levels and exercise are critical to these individuals' proper body maintenance. Not only are they essential to the clients' mental health, they become important to primary body functions such as circulation, bowel management, skin care, range of motion, and weight control. The counselor should become familiar with community resources, advocacy self-help groups, peer support, and recreational facilities that are accessible. The counselor should then refer the clients to these groups and facilities.

Individuals with the above conditions should be referred to a physiatrist if multiple areas of range of motion or paralysis are involved. Oftentimes the physiatrist will work with physical and occupational therapists in prescribing exercises and adaptive equipment to strengthen muscles.

The psychological and financial issues facing these clients are sometimes overwhelming. The counselor should strive to be supportive, understanding, and positive with this population. The individual should certainly be referred to a psychologist and/or support groups.

Recent technological advances in rehabilitation have dramatically changed many severely physically disabled individuals' vocational and independent living prospects. Advances in electronics, remote control, communications, etc., have opened many doors for individuals with this type of disability. The counselor should become knowledgeable about these systems, trying to integrate them (if possible) into the individualized plan.

RESOURCES

Spina Bifida Association of America, 1700 Rockville Pike, #540, Rockville, Maryland 20852; 1-800-621-3141.
Spina Bifida Adult Network (emotional support group for parents and family members) c/o Nan Gingher, Shananigan Farm, Stanforville, NY 12581; 914-758-8414.
Spina Bifida Adoption Referral Program (an organization for parents who are unprepared to raise children with spina bifida), Spina Bifida Association of American, 1700 Rockville Pike, #540, Rockville, Maryland 20852; 1-800-621-3141.
Spina Bifida Association of America, www.sbaa.org
INTRODUCTION

Even though there are fewer spinal cord injuries each year compared to other disabling conditions (approximately 10,000 new injuries each year), the physical, psychological, and economic impact to injured persons, their families, and society as a whole are profound. Nearly half of the new injuries are to young persons between the ages of 16 and 30. Males comprise nearly 80% of all spinal cord injuries. The leading causes of SCI include vehicular accidents, falls, stab and gunshot wounds, and diving accidents. A majority of SCI individuals survive and live a near normal life span.

The normal hospital stay following SCI averages 100 days. Approximately $140,000 is spent on the costs of the initial hospitalization, adaptive equipment, and home modifications. Additional lifetime costs average $600,000 and can be as high as $1.35 million, depending upon the extent of the injury.

The typical functional limitations SCI individuals face during their remaining lifetime include mobility, sensation, object manipulation, sexuality, and limitations in vocational pursuits. SCI individuals require multidisciplinary medical, psychological, and rehabilitation services to help them rebuild their lives and to provide opportunities to become independent and productive human beings. Depending upon the extent of injury, the functional limitations can include the inability to walk, and can affect arm and hand strength, dexterity, bowel and bladder control, sexual function, temperature regulation, susceptibility to infections, pressure sores, increased blood pressure, headaches, and the ability to breathe. To understand these limitations, it is necessary to know the anatomy and physiology of the spinal cord.

DESCRIPTION

The spinal cord is the major bundle of 31 nerves that carries nerve impulses between the brain and the rest of the body. The spinal cord is approximately 18 inches long and extends from the base of the brain down the middle of the back to about the waist. It has been likened to a one-inch coaxial cable. It looks like firm, white fat with the 31 nerves extending out from the cord to the muscles, skin and bones. This bundle of nerves controls movement, receives sensations, and regulates bodily excretions and secretions. The spinal cord is protected by bony structures called vertebrae that comprise the vertebral column. There are eight cervical, twelve thoracic, five lumbar, and five sacral vertebrae. The spinal nerves exit at each vertebral level. When the spinal cord is damaged, communication is disrupted between the brain and the parts of the body below the injury. Damage to the spinal cord can result in both loss of voluntary movement (paralysis) and loss of feeling. The spinal cord does not have to be severed for loss of functioning to occur.

In most SCI cases, the spinal cord is intact, but damage to the spinal cord results in loss of functioning. Injuries to the cervical vertebrae may impact taking in a breath and the functioning of the arms, elbows, and hands. Thoracic injuries impact the ability to breathe, cough, and sit up. Injuries to the lumbar or sacral vertebrae generally result in loss of functioning in the hips and legs. Injuries to the sacral area may cause fecal and/or urinary incontinence. The higher up the spinal cord injury occurs, the more body functions are affected.

There are two types of SCI: Complete injury and incomplete injury. Complete injury results in total loss of sensation and function below the injury level. “Complete” does not mean the spinal cord has been severed. Incomplete injury results in partial loss of functioning which may mean movement in one limb.
more than the other, feeling in parts of the body that cannot be moved, or more functioning on one side of the body than on the other.

There are two types of paralysis: Paraplegia refers to paralysis from approximately the waist down, while quadriplegia refers to paralysis from approximately the shoulders down. The two types of spinal cord injury, complete and incomplete injury, can occur in both paraplegia and quadriplegia.

**COMMON FUNCTIONAL LIMITATIONS**

**Anatomical and Physiological**

After a spinal cord injury, all nerves above the level of the injury continue to work as they always have. Most persons with injury at or above cervical vertebrae level 3 (quadriplegia) require a ventilator to breathe and have no extremity function. Persons with C-4 injuries regain breathing functions, but have no function in their extremities. Thus, they need assistance with nearly all daily activities, including feeding and dressing. People with injuries at C-5 are usually able to bend the arm at the elbow and have some wrist and hand function, but have no lower extremity functioning. However, people with C-5 injury are able to use a power wheelchair for mobility. Depending upon the location and severity of the injury, people with injuries below C-5 can generally lead independent lives. With certain modifications, they can operate a manual wheelchair, transfer from the wheelchair to chair or automobile, drive a properly equipped van or regular automobile, and use assistive devices to carry out daily activities.

Injuries at or below thoracic level 1 result in paralysis of the lower extremities (paraplegia). People with SCI below T-12 may be able, with much effort, to ambulate using crutches or braces. The nerves in the sacral area control the bowel, bladder, and sexual functioning. Thus, most SCI individuals lose voluntary control of their bowel and bladder functions.

While people with injuries at or below lumbar level 1 will experience impairment of bowel and bladder functioning, reflex emptying (for example, tapping on the lower abdomen to trigger voiding) may provide some degree of control over these functions. People with injuries to the sacral region usually can ambulate with little or no equipment. Their bowel and bladder functioning will usually be impaired, and they likely will not develop bowel or bladder reflexive responses.

The resulting immobility and physiological changes resulting from SCI outlined above can result in a number of complications that cause discomfort and can contribute to further debilitation, hospitalization, and sometimes, death.

- Pressure sores are constant and major problems for people with SCI. These ulcerations develop when pressure on a certain part of the body (usually the sacral or buttocks area) interferes with the blood supply and causes a breakdown and ulceration of skin in that region. Most SCI individuals cannot feel the pressure and/or, because of paralysis, cannot shift their weight to alleviate the pressure.

- Loss of range of motion or fixed deformity of a joint caused by paralysis (contractures) will result if the joints are not moved through their range of motion. These contractures interfere with the use of assistive devices including positioning in a wheelchair.

- Urinary tract infections are a recurring problem for people with SCI. People who do not retain reflexive functioning in the bladder will need catheterization in order to void. Infections commonly occur because of unsanitary procedures in using a catheter. In addition, people do not empty often enough or completely, which allows bacteria to grow and multiply. People who have no feeling in the lower part of their bodies do not receive signals telling them the bladder needs to be emptied. If the bladder becomes overly full, the urine can back up into the kidney and cause damage to these essential organs.

- People with SCI above T6 may develop autonomic dysreflexia characterized by a sudden rise in blood pressure, profuse sweating, dizziness, and headaches. Autonomic dysreflexia can result in response to a urinary tract infection, a blocked catheter, or some
Spinal Cord Injury

Chapter 43

other kind of harmful stimuli. Unless immediate treatment is administered to bring the blood pressure down, the person is at risk of having a stroke.

- SCI causes the muscles of the lower extremities to atrophy (become smaller). Even though there may not be voluntary muscle function, there may be sudden and involuntary movement (spasticity) of the legs. Spasticity may cause discomfort, embarrassment and, in the most extreme cases, project an individual out of bed or a wheelchair. These involuntary movements may impede the effective use of a wheelchair or other motorized vehicle.

- Sexual dysfunction is especially prevalent in male SCI individuals. In addition to sensation loss, men may experience an inability to achieve or sustain an erection. However, reflex erections may be possible depending upon the location and severity of the injury.

- An individual with a complete SCI above the level of C4 will most likely require a ventilator to breathe. However, because of weakened chest muscles, individuals with thoracic or higher injuries may not be able to cough to clear their lungs and are prone to infections, particularly pneumonia.

- Osteoporosis, particularly in the lower extremities, begins to develop immediately after a spinal cord injury. In addition, the decrease in bone density may make an individual more prone to broken bones.

- Some individuals with SCI experience occasional severe or persistent dull, aching pain below the point of injury. In addition, persons who use a manual wheelchair and are able to transfer from one surface to another often experience pain in their shoulders, arms, and wrists.

Psychosocial

A person’s response to a spinal cord injury evolves through a number of coping mechanisms prior to their ability to accept and adjust to the injury. Personal responses may include shock, denial, anger (rage, envy, resentment), and depression. Individual use of the coping responses will vary. Some people may fluctuate back and forth between responses, while others may employ more than one coping mechanism at a time. At one time, it was thought that a person had to go through all of the stages leading to adjustment before adjustment could be achieved. It is now recognized that people move through the various stages in different ways and may or may not pass through each stage en route to the level of adjustment that is finally achieved. The person’s personality traits, cultural and ethnic background, and social support systems will play important roles in the adjustment and acceptance process.

The first reaction to spinal cord injury will be one of shock because of the sudden and irreversible consequences of the spinal cord injury and the realization that one’s life has been irrevocably altered. A common reaction to being told you have sustained a spinal cord injury and are paralyzed is, “No, not me, it can’t be true.” This initial denial is a necessary phase and functions as a buffer after unexpected shocking news. Following this initial period of denial, individuals with spinal cord injury will react differently depending upon their personality makeup and the style and manner in which they have coped with difficult situations in the past. People who used denial as a main defense prior to the injury are likely to remain in denial for a longer period than will others who have used more constructive adjustment methods to dramatic life changes. People who confronted past stressful situations openly will be more likely to confront their injury in an open, constructive, problem-solving manner.

When the person can no longer deny the seriousness of the injury, denial is replaced with anxiety, anger, rage, envy, and resentment. The question then becomes, “Why me?” Anger is displaced in all directions and projected on the environment almost at random. This anger can be particularly devastating to family members and caregivers. During this stage, anger is directed at everything and everyone.

Following this period of stoicism, anger, and rage, persons with spinal cord injury may experience periods of depression. Approximately 25% to 40% of persons with SCI experience some form of depression. The incidence of suicide in persons with SCI is high. However, depression is a normal part
of the process in mourning the loss of independence, loss of mobility, loss of body functions, financial losses due to the inability to work and the addition of extensive medical expenses, loss of normal sexual function, and the inability to participate in many of the normal activities of life.

These defense mechanisms allow a person with SCI to deal with an extremely difficult, life-altering event. The one thing that persists through all these stages is hope. Even individuals who are the most accepting, the most resilient, and the most realistic about their injury, hope for some “magic” cure. The glimmer of hope maintains them through days, months, and years of dealing with the effects of SCI.

There are personal factors that can aid or hinder a person’s acceptance and adaptation to a spinal cord injury. A strong self-image and concept of self, an independent and optimistic attitude, motivation to overcome obstacles, and a realistic appreciation of one’s body image can aid in the adjustment. A person’s socio-economic status, age, education, intellect, financial resources, social support network, and available medical treatment can likewise impact their adjustment to the injury. The severity of the injury and the level of pain associated with the injury also impact acceptance and adaptation.

Other factors that may impact a person’s adjustment include a tendency toward shorter hospital stays for persons with SCI. This may result in less time to accept the injury and to begin to plan for the future in a controlled, relatively risk free environment. Since SCI is a very visible disability, persons with SCI will be confronted with societal and attitudinal barriers that will impact their social relationships and job opportunities. For those who are married, divorce following injury is somewhat higher among people with SCI. Conversely, opportunities for marriage are generally lower for persons with SCI. Because of the debilitating effects of SCI, work may not be an option. Workplace accommodations required of prospective employers may adversely impact SCI individuals in their search for employment. Nearly 50% of individuals admitted to the hospital with severe trauma injuries, including SCI, were intoxicated at the time of injury. Persons with SCI and substance abuse problems experience additional psychological problems in adjusting to their injury.

**TREATMENT OF SCI**

Treatment of SCI occurs in the hospital and focuses primarily on maximizing existing functions and minimizing complications immediately following injury. It is the generally held medical view that the most significant progress in regaining nerve and muscular functioning occurs in the first six months following injury. Treating physicians typically give up hope of continued improvement if there are no signs of functional recovery after two years. Any improvement after two years typically occurs in persons with incomplete injuries. Under traditional treatment, 90% of people with SCI who are paralyzed in their lower bodies one month after injury never recover.

Following hospitalization, the most common medical treatment options for people with SCI include drug treatment to fight infections and osteoporosis, standard range-of-motion physical therapy, and educating injured persons and their families about hygiene and caregiving. Persons with high cervical injuries will be placed on a ventilator to breathe, will have a gastric tube inserted in the stomach to facilitate feeding, and will have had a tracheostomy. Most people with SCI have a colostomy and catheterization for bowel and urine evacuation. The average first year health care and living expenses directly attributed to SCI range from $122,000 to over $400,000, depending upon the extent of injury. Subsequent average yearly costs range from $8,500 for incomplete injuries to over $70,000 for high cervical injuries.

Historically, persons with SCI were placed in institutional settings such as nursing homes. Today, the majority of SCI individuals live in their pre-injury homes, group homes, rehabilitation hospitals, or other non-institutionalized facilities. Rehabilitation facilities specifically geared to persons with SCI can address the physical and medical needs as well as social and emotional issues. It is also critical that the families of persons with SCI are educated and actively involved in the care of persons with SCI. Family members are a key link to returning people with SCI to active community life.
A new and groundbreaking intensive exercise regimen has given people with a spinal cord injury new reason to hope for a miracle cure. The concept behind the activity-based recovery program for SCI is that damaged nerve cells can grow and reconnect and daily routine exercise can help regenerate nerves, increase muscle and bone mass, and improve overall health.

The activity-based recovery program utilizes a computer-controlled recumbent bike system in which electrodes stimulate leg muscles enabling a person who is paralyzed to rotate the bicycle wheels. Electrical stimulations can also be used on other muscle groups such as the arms, wrists, hands, and torso. Standard range-of-motion physical therapy coupled with aquatic therapy is used with the customized recumbent bike system to encourage muscle recovery. Daily breathing exercises and a drug treatment plan to reverse osteoporosis are also a required part of the program.

The documented anatomical and medical results of an intensive exercise regimen include increased muscle and bone density mass; the reversal of the effects of osteoporosis; a marked decrease in spasticity; fewer incidences of infections; increased cardiovascular endurance; and a reduction in medical complications. Activity-based recovery may also have some residual effect on motor function and feel. A person with SCI may, in time, be able to distinguish between hot and cold; determine when it is necessary to change body position to avoid skin ulceration; detect painful stimuli; experience human touch; and, persons with high level SCI can breathe for short periods of time without a ventilator. An intensive exercise program has proven to have little impact on bowel, bladder, or sexual functioning.

From an economic standpoint, an intensive exercise program can reduce sick days, thus improving the ability to maintain gainful employment. It is also effective in reducing the use of antibiotics and other medications thereby reducing traditional medical costs. The intensive exercise program is currently cost prohibitive for most persons with SCI. The program requires a large number of caregivers (at least six for aquatic therapy) and the equipment needed to maintain the intensive exercise program is very expensive.

The dramatic decrease in inpatient rehabilitation permitted by insurance carriers has necessitated the development of cost-effective in-home therapies. The new activity based SCI treatment and therapy may lead to the development of low-cost alternative forms of exercise equipment and treatment. SCI treatments that are currently available, but not widely used, have a proven track record. Calcium supplements and pharmacological therapy help reduce bone loss. Beginning 5 to 20 days after injury, people with incomplete SCI will see remarkable effects from the use of a treadmill with body weight support in improving walking functions. Early gait training for most people with SCI may improve gait, endurance, and energy. Motor training in conjunction with other exercises such as aquatic therapy may provide physical benefits to individuals with severe SCI.

The sooner people with SCI can start exercising upper and lower muscle groups, gait training, physical therapy, pharmacological therapy, and breathing exercises, the more beneficial these therapies will be. An exercise regimen impacts the quality of life and can have beneficial life-altering consequences.

**COMMON FUNCTIONAL LIMITATIONS**

- Ambulation
- Strength, coordination, stamina
- Self-care (eating, food preparation, dressing, toiletry, grooming, hygiene, shifts in body position
- Control of bowel and/or bladder
- Range of motion in extremities
- Muscle control, reflex control
- Grasping, handling, hand/finger dexterity
- Muscle atrophy
- Pain
- Susceptibility to infections
VOCATIONAL IMPEDIMENTS

Research has shown that people with SCI who are gainfully employed stand a much better chance of surviving SCI for a longer period. Employment enriches their lives and can play a major role in their overall health and adjustment to SCI.

The primary obstacle to employment or reemployment of people with spinal cord injuries is paralysis. However, with assistive devices and special accommodations at the work site, people with SCI may still enjoy rewarding and productive employment. The development of new technologies such as voice activated computers and the growing number of people working from their homes may provide opportunities for employment for people with SCI. Statistically, people who were employed prior to their injury have higher employment outcomes, particularly those with less severe injury. However, they may need additional education or training prior to reemployment.

The costs to employers in accommodating people with SCI will be a deterrent in their hiring decisions. People with SCI have a higher than average rate of absenteeism due to illness. Employers may be reluctant to spend the money to remove environmental barriers and to provide a climate-controlled environment necessary for some people with SCI. They may see no cost benefit to adapting the necessary equipment or providing assistive devices that are necessary for persons with SCI to perform their work tasks. In addition, most employers provide group health insurance for their employees. The annual medical costs a person with SCI may require could substantially increase an employer’s health insurance costs.

In addition to the physical impediments, age, intelligence, educational level, race or ethnicity, vocational interests, and socioeconomic variables may impact people with SCI in their ability to secure gainful employment. Primary among these personal variables is education and training which are vital to employment success for people with SCI. Research has shown that the higher the educational level, the higher the probability of employment. The mental functioning of people with SCI is the same as existed prior to injury unless there has been a specific injury to the brain. Therefore, education and training produce positive and rewarding outcomes. The level of intelligence of people with SCI will significantly impact their interest and motivation toward further education and training.

Younger people are likely to accept and adapt to their injury more quickly than an older person. They will be more prone to return to or seek out educational and training opportunities. As a result, there is a greater likelihood for employment. Older people with SCI may experience more medical problems that impair their return to work and they have less time to acquire new skills or benefit from vocational training. Minority status also impacts the ability of a person with SCI to acquire gainful employment since people in minority groups may face racial bias.

The vocational interests of a person prior to SCI will impact their employment options. It is unlikely that their interests will change because of the injury. Therefore, decisions related to education, training, and employment will reflect their personal interests and desires regardless of the physical impairments. One approach to addressing this issue is to examine the individual’s transferrable job skills. By identifying the person’s existing skills, the counselor can look for other types of employment where these skills can be used.

The support and stability of the family unit to persons with SCI may also play an important role in employment success. The loss of independence impacts all persons with SCI. Thus, preparations for going to work may take inordinate amounts of time and energy, and increased levels of stress if the
caregiver is a stranger. Family support is particularly important for persons with quadraplegia, who must rely on another person for the most basic and personal care.

The level and availability of community resources and services, including transportation, medical facilities, counseling, physical therapy, and all of the other services required by people with SCI, will impact their employment options. If the needed resources and services are not readily available within their community, the time away from the workplace to travel to the service center will increase and may detrimentally affect their work.

OBSERVATIONS DURING THE INITIAL INTERVIEW

- Does the individual use assistive devices for mobility? What type?
- What is the extent of paralysis and is there evidence of limited range of motion?
- Does the individual breathe normally?
- Is speech affected?
- Does the individual appear to have acceptable hygiene and cleanliness?
- What is the individual’s self-image and general affect?
- Does the person appear angry, depressed, or anxious?

INITIAL INTERVIEW QUESTIONS

- Would you describe the following:
  a. Loss of sensations. Where? Complete or partial?
  b. Loss of muscle functioning. Where? Complete or partial?
  c. Loss of muscle control (spasticity). Where?
  d. Muscle atrophy or weakness? Where?
  e. Problems with skin breakdown or infection? Current status of skin condition?
  f. Chronic pain?
  g. Physical endurance (stamina)?
  h. Difficulty with fine motor skills and dexterity?
- What types of treatment have you had for this condition (surgery, physical/occupational therapy, etc.)? When? Where?
- Have you had recent diagnostic evaluations? Where? When? Name and type of primary care physician.
- Do you have trouble with bowel and/or bladder control or bladder infections? Do you use a catheter?
- Do you have difficulty with activities of daily living (grooming, bathing, food preparation, eating, dressing)?
- Do you require a personal care attendant? For what activities?
- Do you have any home modifications?
- Can you operate a vehicle? What modifications are necessary?
- What type of support system do you have (especially at home)? Are family members supportive, positive, and helpful?
- Do you feel differently about yourself since the accident (mood fluctuations, anger, depression)? Do other people treat you differently?
- Do you feel you are still improving?
- What medications are you taking, and what are the side effects?
- Do you have any social/behavioral problems (taking initiative, inflexibility, irritability, social judgment, maturity, social awkwardness, aggressiveness)?
- Do you have any emotional problems (anger, anxiety, depression, suspiciousness)?
What is your job expectation and what does your family expect?
Are you experiencing any sexual dysfunction?
Do you have a close supportive caregiver?
Do you have any legal issues associated with your accident that may interfere with vocational rehabilitation?

IPE CONSIDERATIONS

- Transportation will be a significant factor in any plan.
- Work place accommodations will typically be required.
- Assistance with finding and training an attendant will be necessary.
- Job engineering should be considered.
- Consider adaptation and modification of home environment
- Examine independent living needs.
- Participation in peer support groups may be valuable.
- Extended counseling services may be necessary to address adjustment problems.

RESOURCES

Spina Bifida Association of America, www.sbaa.org
STROKE

DESCRIPTION

A stroke is when the blood supply to a part of the brain is interrupted or severely reduced, depriving brain tissue of oxygen and food. Within minutes, brain cells begin to die. There are two major types of stroke. The most common is ischemic stroke that results from blockage in an artery. The other type is hemorrhagic stroke that occurs when a blood vessel leaks or bursts. A transient ischemic attack (TIA), sometimes called a ministroke, temporarily disrupts blood flow through the brain. Almost 90 percent of strokes are ischemic strokes. They occur when the arteries to the brain are narrowed or blocked, causing severely reduced blood flow (schemia). Lack of blood flow deprives the brain of oxygen and nutrients. The most common ischemic strokes are:

- Thrombotic stroke occurs when a blood clot (thrombus) forms in one of the arteries that supply blood to the brain. The clot forms in areas damaged by atherosclerosis e.g., a disease in which the arteries are clogged by fatty deposits (plaques).
- Embolic stroke occurs when a blood clot or other debris forms in a blood vessel away from the brain (commonly the heart) and is swept through the bloodstream to lodge in narrower brain arteries (embolus). It is caused by atrial fibillation. This abnormal heart rhythm can lead to pooling of blood in the heart and the formation of clots that travel throughout the body.

Hemorrhagic stroke occurs when a blood vessel in the brain leaks or ruptures. Brain hemorrhages can results from a number of conditions including uncontrolled high blood pressure (hypertension) and weak spots in the blood vessel walls (aneurysms). There are two types of hemorrhagic stroke:

- Intracerebral hemorrhage occurs when a blood vessel in the brain bursts and spills into the surrounding brain tissue, damaging cells. Brain cells beyond the leak are deprived of blood and are damaged. High blood pressure is the most common cause of hemorrhagic stroke.
- Subarachnoid hemorrhage occurs when bleeding starts in an artery on or near the surface of the brain and spills into the space between the surface of the brain and the skull. It is often signaled by a sudden, severe “thunderclap” headache. Age is usually the cause of this type of stroke or the rupture of an abnormal tangle of thin-walled blood vessels, present at birth.

Transient ischemic attack (TIA) (Ministroke) is a brief episode of symptoms similar to those of a stroke. The cause is a temporary decrease in blood supply to a part of the brain. Many TIAs last less than five minutes. TIA occurs when a clot or debris blocks blood flow to the brain but leaves no lasting effects because the blockage is temporary.

Many risk factors can increase a person’s chances of a stroke including:

- Personal or family history of stroke, heart attack, or TIA,
- Age 55 or older,
- High blood pressure,
- High cholesterol,
- Cigarette smoking or exposure to secondhand smoke,
- Diabetes,
- Being overweight or obese,
- Physical inactivity,
- Cardiovascular disease, including heart failure, a heart defect, heart infection, or abnormal heart rhythm,
- Use of birth control pills or hormone therapies that include estrogen
- Heavy or binge drinking,
- Use of illicit drugs.
Women tend to live longer than men do and because the risk of stroke increases with age, women have more strokes and die of them each year. Blacks are more likely to have strokes than are people of other races.

**COMPLICATIONS FROM A STROKE**

A stroke can cause temporary and permanent disabilities depending upon how long the brain suffers from a lack of blood flow and the part of the brain that was affected. Complications may include:

**Paralysis or loss of muscle movement.** A stroke can cause a person to become paralyzed on one side of the body or lose control of certain muscles.

**Difficulty talking or swallowing.** A stroke may cause a person to have less control over the muscles in the mouth and throat making it difficult to talk, eat, and swallow. The stroke may have caused aphasia, a condition in which a person has difficulty expressing thoughts through language.

**Memory loss or trouble understanding.** It is common for people who have had a stroke to have some memory loss. Some people may develop problems making decisions, reasoning, and understanding concepts.

**Pain.** A stroke may cause some people to experience pain, numbness, or other strange sensations in parts of their bodies affected by the stroke. The person may have tingling feelings or be sensitive to temperature changes. This is called central pain syndrome (CPS) and develops several weeks after a stroke. It may improve with time.

**Changes in behavior and self-care.** Some people who have had a stroke may become withdrawn, less sociable, and more impulsive. They may lose the ability to care for their daily grooming needs and daily chores.

**TREATMENTS AND MEDICATIONS**

Aspirin is the best-proven immediate treatment after an ischemic stroke to reduce the likelihood of having another stroke.

Every person’s stroke recovery is different. More than likely the team of people that will help the person in the recovery process will include a neurologist, psychiatrist, dietitian, physical therapist, occupational therapist, social worker, case manager, and psychologist or psychiatrist.

If the person has had an ischemic stroke or TIA, they will recommend an anti-platelet drug such as aspirin; an anticoagulant drug such as heparin and warfarin (Coumadin) that are blood thinning drugs. Warfarin is used if the person has blood-clotting disorders, certain arterial abnormalities, an abnormal heart rhythm, or other heart problems.

A stroke is a life changing event that can affect a person’s emotional well-being. They may experience feelings of helplessness, frustration, depression, apathy, diminished sex drive and mood changes.

**RISK FACTORS**

Knowing the stroke risk factors and adopting a healthy lifestyle are the best steps to preventing a stroke. The following are the risk factors and recommendations for controlling them:

- High blood pressure (hypertension). This is the most important thing a person can do to reduce the risk of a stroke. Exercise, manage stress, maintain a healthy weight, and limit the amount of
sodium and alcohol are ways to keep high blood pressure in check. Add more potassium to the diet may also help.

- Lower the amount of cholesterol and saturated fat. Eating less saturated fat and trans fats may reduce the plaques in the arteries.
- Do not smoke as it raises the risk of stroke for both the smoker and nonsmokers exposed to secondhand smoke.
- Control diabetes through diet, exercise, weight control, and medication.
- Maintain a healthy weight. Being overweight contributes to other risk factors e.g., high blood pressure, cardiovascular disease, and diabetes, as well as a stroke.
- Eat a diet containing five or more daily servings of fruits and vegetables.
- Exercise regularly. Aerobic exercise reduces the risk of stroke by lowering blood pressure, increasing the level of high-density lipoprotein (HDL) cholesterol, and improves the overall health of the blood vessels and heart. It helps a person lose weight, control diabetes, and reduces stress.
- Drink alcohol in moderation, if at all. Binge drinking and heavy alcohol consumption increase the risk of high blood pressure and of ischemic and hemorrhagic strokes. However, drinking small amounts of alcohol can increase HDL cholesterol and decrease the blood’s clotting tendency that reduce the risk of ischemic stroke.
- Do not use illicit drugs.

COMMON FUNCTIONAL LIMITATIONS

- Stamina
- Strength
- Mobility
- Mood and/or behavior changes
- Attention, concentration, memory
- Decision-making
- Impulse control
- Complex skills
- Motor control
- Speed
- Behavior
- Social skills
- Personality changes
- Communication skills

VOCATIONAL IMPEDIMENTS

Usually the functional limitations resulting from a stroke are numerous, and one can easily show a connection between those and vocational problems. Many times the individual has worked before and cannot return to the previous job, or needs special help in order to return to it. Primarily, the counselor needs to look at the communication skills and residual physical capacities. Stamina and emotional problems can also be problematic.

- The counselor needs some medical information suggesting stability (a reasonable prognosis).
- Will the person alter his/her risk factors, e.g., smoking, drinking, diet, exercise regime?
- Will he/she comply with the medical recommendations?
- What degree of support does the family provide?
Is the person realistic about his/her limitations so that agreement can be reached on a feasible vocational goal?

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Is the person’s mood appropriate (exaggerated, depressed, angry)?
- What is his/her general physical appearance?
- Are dress, grooming, and hygiene appropriate?
- How is the person’s gait?
- Is writing legible?
- Are there problems with expression and reception of speech?
- Are there problems with vision?
- Does the person maintain eye contact? How is his/her self-image?
- Are there obvious memory problems? Is the person oriented as to time and place?
- Did they use devices for mobility? Are mobility devices used?

**INITIAL INTERVIEW QUESTIONS**

- Do you have any residual weakness or problems with balance/coordination?
- What extremities have been affected?
- Are there problems carrying out activities requiring hearing, vision, strength, or ambulation?
- Any loss of specific skills (speech, driving, reading, writing)?
- How independent are you in activities of daily living (feeding, toileting, shaving)?
- Do you feel differently about yourself since the stroke (mood fluctuations, anger, depression)? Do other people treat you differently?
- Any problems with memory or concentration?
- Has your ability to make decisions been affected?
- Any changes in eating or sleeping habits?
- Do activities take longer to complete?
- Do you feel you are still improving?
- What medications are you taking, and what are the side effects?

**IPE CONSIDERATIONS**

Working as a team is very important. Include the family, health-care professionals, rehabilitation professionals (counselor, evaluator, placement specialist, independent living specialist), and other agency professionals (mental health professionals, workers’ compensation professionals, social service professionals and social security professionals) who are involved with the client.

- Emphasize accommodation rather than remediation.
- Provide realistic counseling, be direct and confrontational, focusing on acceptance of disability and the situation (the way you are versus the way you think you are, or want to be).
- Consider short-term versus long-term training.
- Choose job goals that will result in company medical insurance benefits.
- Follow the medical recommendations.
- Modify the risk factors.
➢ Consider job site engineering or accommodation, and focus on returning to work with former employer whenever possible.
➢ Follow-up after employment may need to be longer than with many other disabilities.

RESOURCES

American Stroke Association, www.strokeassociation.org
www.acponline.org/atpro/timssnet/catalog/books/stroke.htm
TRAUMATIC BRAIN INJURY

DESCRIPTION

Traumatic brain injury is damage to the brain as the result of an injury. The injury usually results from a violent blow or jolt to the head that causes the brain to collide with the inside of the skull. A bullet or shattered piece of skull can also cause traumatic brain injury.

Mild traumatic brain injury may cause temporary dysfunction of brain cells. More serious traumatic brain injury can result in bruising, torn tissues, bleeding, and other physical damage to the brain resulting in long-term complications or death.

The degree of damage can depend on the nature of the event and the force of the impact. The injury may include one or more factors as follows:

- Damage to the brain cells may be limited to the area directly below the point of impact on the skull.
- A severe blow or jolt can cause multiple points of damage as the brain bounces back and forth in the skull.
- A severe rotational or spinning jolt can cause the tearing of cellular structures.
- An object penetrating the skull can cause severe, irreparable damage to brain cells, blood vessels, and protective tissues around the brain.
- Bleeding in or around the brain, swelling, and blood clots can disrupt the oxygen supply to the brain causing widespread damage.

Common events causing traumatic brain injury include:

**Falls.** Falling out of bed, slipping in the bath, falling down steps, falling from ladders, and other related falls are the most common cause of traumatic brain injury, particularly in older adults and children.

**Vehicle-related collisions.** Collisions involving cars, motorcycles, or bicycles and pedestrians are a common cause of traumatic brain injury particularly among young adults in their early 20s.

**Violence.** Ten percent of traumatic brain injuries are caused by gunshot wounds, domestic violence, or child abuse.

**Sports injuries.** Boxing, football, baseball, lacrosse, skateboarding, hockey, and other high-impact or extreme sports cause traumatic brain injuries.

**Explosive blasts and other combat injuries.** Active-duty military personnel suffer traumatic brain injury from explosive blasts. It is believed that the pressure wave passing through the brain significantly disrupts brain function. Severe blows to the head from shrapnel or other debris, and falls or bodily collisions with objects following a blast result in traumatic brain injury.

SYMPTOMS OF TRAUMATIC BRAIN INJURY

The signs and symptoms of mild traumatic brain injury (concussion) may include:

- Loss of consciousness for a few seconds to a few minutes,
- No loss of consciousness, but a state of being dazed, confused, or disoriented,
The signs and symptoms of moderate to severe traumatic brain injuries may appear within the first hours to days after the head injury and include:

- Loss of consciousness from a few minutes to hours,
- Profound confusion,
- Agitation, combativeness, or other unusual behavior,
- Slurred speech,
- Inability to wake from sleep,
- Weakness or numbness in extremities,
- Loss of coordination,
- Loss of bladder or bowel control,
- Persistent headache or headache that worsens,
- Convulsions or seizures,
- Dilation of one or both pupils,
- Clear fluids draining from nose or ears.

**COMPLICATIONS OF TRAUMATIC BRAIN INJURY**

Complications can occur immediately or soon after a traumatic brain injury. Severe injuries increase the risk of a greater number and more severe complications.

**Altered consciousness**

Moderate to severe traumatic brain injury can result in prolonged or permanent changes in a person’s state of consciousness, awareness, or responsiveness. These include coma, vegetative state, minimally conscious state (self-awareness or awareness of one’s environment), locked-in syndrome (aware of surroundings and awake but cannot move or speak).

**Seizures**

Some people will have seizures within the first week. Injuries that are more serious may result in recurring seizures (post-traumatic epilepsy).

**Infections**

Skull fractures and penetrating wounds can tear the protective tissues (meninges) surrounding the brain enabling bacteria to enter the brain (meningitis). This is especially dangerous because it could spread to the rest of the nervous system.

**Nerve damage**

Cranial nerve damage results from injuries to the base of the skull. Cranial nerve damage may result in facial muscle paralysis, double vision caused by damage to nerves responsible for eye movement, loss of the sense of smell, vision, and facial sensation.
**Cognitive Problems**
Traumatic brain injury can result in problems with memory, learning, reasoning, problem solving, mental processing, judgment, attention or concentration, multitasking, organization, decision-making, beginning or completing tasks.

**Communication problems**
Language and communication problems can cause frustration, conflict, and misunderstanding. These problems may include difficulty understanding, producing, and writing language (aphasia); deciphering nonverbal signals; changes in tone, pitch or emphasis to express emotions, attitudes, or subtle differences in meaning; starting or stopping conversations; reading cues from listeners; following conversations; inability to organize thoughts and ideas; inability to use muscles needed to form words (dysarthria).

**Behavioral changes**
Changes in behavior may include difficulty with self-control, inaccurate self-image, social situations are uncomfortable, verbal or physical outbursts.

**Emotional changes**
Emotional changes may include depression, anxiety, mood swings, irritability, lack of motivation.

**Sensory problems**
These problems include persistent ringing in the ears, difficulty recognizing objects, impaired hand-eye coordination, blind spots or double vision, a bitter taste or bad smell, persistent tingling, itching, or pain, trouble with balance or dizziness.

**Degenerative brain diseases**
Diseases that may result in the gradual degeneration of brain cells and gradual loss of brain functions due to a traumatic brain injury include Alzheimer’s disease (dementia), Parkinson’s disease, Dementia pugilistica (repetitive blows to the head in boxing).

**TREATMENT OF TRAUMATIC BRAIN INJURY**
The treatment for people with moderate to severe traumatic brain injury focuses on maintaining a sufficient supply of blood and oxygen, maintaining blood pressure, and securing the head and neck from further injury. Depending upon the severity and location of the injury diuretics, anti-seizure, and coma-inducing drugs will be administered. Emergency surgeries may be necessary to remove clotted blood (hematomas), to repair skull fractures, and opening a window in the skull to relieve pressure by draining accumulated cerebral spinal fluid or to relieve swelling.
Once the person is stabilized they will usually require rehabilitation to relearn basic skills e.g., walking and talking. The length and type of rehabilitation depends upon the severity of the injury and the injured part of the brain. The rehabilitation specialists may include physiatrist, occupational therapist, physical therapist, speech and language pathologist, neuropsychologist or psychiatrist, social worker or case manager, rehabilitation nurse, traumatic brain injury nurse specialist, recreational therapist, and vocational counselor.

**COMMON FUNCTIONAL LIMITATIONS**
- Balancing, lifting, walking
- Strength, coordination
- Vision, hearing, communication skills
- Pain and headaches
Memory, organizational and planning ability, concrete thinking
Attention span/distractibility
Writing skills, reading skills, visual-spatial skills
Lack of initiative, inflexibility, irritability
Social judgment, maturity
Social awkwardness
Feelings of isolation, impulsiveness, aggressiveness
Anger, depression, anxiety, low self-esteem
Behavioral problems, suspiciousness
Low self-care skills, low safety skills
Problems handling money
Inability to carry out previously learned tasks
Slowness

VOCATIONAL IMPEDIMENTS

Normally, it is not difficult to determine that an individual with TBI has a vocational impediment. These individuals often have numerous obvious physical complications and resulting functional limitations that can easily be tied to inability to perform job tasks. If they have worked prior to the injury, they may have tried to return to work and been unable to perform adequately. They often cannot generalize prior learning in new situations.

The counselor should be careful to assess those individuals who exhibit no obvious functional limitations. These individuals may present themselves quite well yet, upon assessment, you find severe job related deficits in cognitive, social, and behavioral areas. In general, anyone who has experienced unconsciousness can be expected to have functional and vocational limitations.

Many individuals feel that cognitive rehabilitation will result in an ability to carry out all premorbid function. Once again, there is a tremendous amount of controversy over this, although the general thinking is that a complete return to premorbid function is rare and cannot be expected routinely. The length of time the individual was unconscious usually gives some indication as to ultimate vocational success. The individual often presents difficulties in terms of processing, e.g., does not understand, forgetful, anxious, and lacking insight into why things are not working. The VR counselor should interview not only the individual with the injury, but also whoever is the functioning caretaker (family, nursing home, or hospital). Frequently, the physical presentation belies many subtle disorders of significance in rehabilitation planning.

The individual may appear to have one or two major problems that seem to be the most significant in terms of rehabilitation, e.g., speech, ambulation, or coordination. However, the counselor can expect that other areas in fact may be as significant or more so in terms of long-term employment. The three features that usually affect employability are perplexity, distractibility, and fatigue. These are related to cognitive functions that are related to psychological processes involved in the disability. Perplexity relates to confusion when facing new situations, and the tendency to withdraw or become angry about these new problems. Distractibility relates to the inability to attend to tasks within the environment, and the tendency to do activities that are not related to the activity at hand. Fatigue for many individuals causes the inability to carry out activities for any meaningful period. Short-term memory is another significant deficit that causes a major barrier to employment.

Considerations should be given to the expectations of the individual and the family. Many times these individuals have unrealistic expectations of their abilities or aptitudes and this should be explored during planning. The family is also the best source of information about the individual. It is time consuming, but often necessary, to bring both the client and his/her family to the point of considering alternative work possibilities as there is frequently an unrealistic desire to return to pre-injury work.
Situational assessments and on-the-job evaluations will be more helpful in assessing work related skills than vocational evaluations that focus on cognitive and functional aptitudes.

**OBSERVATIONS DURING INITIAL INTERVIEW**

- Is there paralysis or evidence of other physical problems?
- Is speech affected?
- Does the person have problems with mobility/gait?
- Are assistive devices used for mobility?
- Does the person appear to have memory problems?
- Is there a problem with social maturity or awkwardness?
- Does the person appear angry, depressed, anxious, or exhibit low self-esteem?
- Is the person’s dress and grooming appropriate?

**INITIAL INTERVIEW QUESTIONS**

- Do you have physical problems (balance, lifting, walking, strength)?
- Do you have any sensory or motor problems (vision, coordination, pain perception, hearing)?
- Do you have any cognitive problems (memory, writing, organizational and planning ability, communication, attention, reading)?
- Do you have any social/behavioral problems (taking initiative, inflexibility, irritability, social judgment, maturity, social awkwardness, impulsiveness, aggressiveness)?
- Do you have any emotional problems (anger, anxiety, depression, suspiciousness)?
- Do you have problems in activities of daily living, particularly in handling money?
- Do you experience seizures?
- Are you currently under treatment? Do you feel you are continuing to improve?
- What is your job expectation and what does your family expect?
- Do you have a close supportive caregiver?
- Do you have any legal issues associated with your accident that may interfere with vocational rehabilitation?
- How long were you unconscious?

**IPE CONSIDERATIONS**

Because much of the neurological recovery occurs in the first 6 to 12 months after injury, it may be wise to delay thorough assessment or work related services until later in the recovery process.

Working as a team is very important. Include the family, health-care professionals, rehabilitation professionals (counselor, evaluator, placement specialists, independent living specialists), and other agency professionals (mental health professionals, workers’ compensation professionals, social service professionals and social security professionals) who are involved with the client.

- Emphasize accommodation rather than remediation.
- Provide realistic counseling. Be direct and confrontational, focusing on acceptance of the disability and the situation, (the way you are versus the way you think you are or want to be).
- Provide training for the specific job skills needed. Transfer of skills is questionable for TBI, so attempts should be made to focus on the exact skills needed. The best approach may be training on the job they will be performing, using a job coach.
Consider job site engineering or accommodation as needed.
Follow-up after employment may need to be longer than with many other disabilities.
Focus on accommodation strategies to learn job skills. Learn alternative ways to accomplish tasks (work aids, checklists, calendaring, and time scheduling).

**RESOURCES**


Brain Injury Association, www.biansa.org


Rubin, S. E. (Ed.). *Contemporary Challenges to the Rehabilitation Counseling Profession*, Brookes Publishing Co.


VISUAL IMPAIRMENTS

DESCRIPTION

Visual impairments are anatomic or functional disturbances in the sense of vision affecting central visual acuity, field of vision, color perception, or binocular visual function.

The term visual impairment usually refers to persons with an acuity ranging from 20/70 to 20/200. Many eye conditions are degenerative in nature and can eventually lead to legal or even total blindness.

The American Medical Association in 1934 established the most widely accepted definition of legal blindness in the United States and it is recognized in most states as law. Blindness is defined as a central visual acuity not exceeding 20/200 in the better eye with best correction, or a limit in the field of vision to such a degree that its widest diameter subtends an angle of no greater than 20 degrees. Legal blindness in children is usually caused by tumors, infections, injuries, or retrolental fibroplasia (typically found in babies born prematurely who have had oxygen therapy). Diabetic retinopathy, cataracts, glaucoma, macular degeneration, infections, injuries, and genetic conditions most commonly cause legal blindness in adults.

DIABETIC RETINOPATHY

This is the number one cause of new cases of blindness in the United States. It has been estimated that 80% of those with juvenile-onset diabetes will experience diabetic retinopathy within 15 years. Diabetes contributes to the formation of cataracts and to a type of severe glaucoma. It can also cause proliferative diabetic retinopathy in which new blood vessels form in the retina. These fragile new vessels also extend into and cloud the vitreous, and tend to bleed easily. The blood clot may then be replaced by opaque fibrous tissue that can ultimately result in a retinal detachment.

CATARACTS

Cataracts are the leading cause of visual loss among adults 55 and older. They can also be congenital or develop as a secondary condition. A cataract is a clouding of the lens that is responsible for focusing light and producing clear, sharp images. The formation of cataracts can be a normal part of the aging process or they can also be the result of ocular trauma or inflammation, eye injuries, certain medications, and may be associated with certain systemic disorders such as electric shock, rubella, Down's syndrome, retinitis pigmentosa, and certain therapeutic drugs such as steroids.

GLAUCOMA

Glaucoma is a disease caused by increased intraocular pressure resulting from either a malformation or malfunction of the eye’s drainage structures. Vision loss is progressive and permanent. It can be congenital or develop as a secondary condition.

Glaucoma can initially be asymptomatic and vision loss may occur prior to being diagnosed during a routine eye examination. However, some individuals experience sudden decrease of vision, extreme pain, headaches, tearing, nausea, and glare and light sensitivity.

MACULAR DEGENERATION

Macular degeneration is a degenerative condition of the macula. It is the most common cause of vision loss in the United States in those 50 or older. Macular degeneration is caused by the hardening of the arteries that nourish the retina. This hardening of the arteries deprives the sensitive retinal tissue of oxygen and nutrients that the retina needs to function and thrive. As a result, the central vision deteriorates and causes sight loss.
Retinitis Pigmentosa
Retinitis pigmentosa (RP) is a hereditary, bilateral disease that causes the receptors in the retina to gradually degenerate. The first symptom of RP is the inability to see in dim lighting that is then followed by restrictions in the peripheral vision. The progression of RP may vary, but eventually acuity and color perception are affected. Vision loss is permanent and individuals are often left with only light perception.

Retinopathy of Prematurity
Retinopathy of prematurity (ROP), previously known as retrolental fibroplasia is a potentially blinding condition affecting the retina of newborns. The factors that put infants at greatest risk of developing ROP are low birth weight and premature delivery.

ROP causes abnormal blood vessels to develop in the retina, known as neovascularization, which interferes with the delivery of a sufficient oxygen supply. ROP may also be accompanied by other secondary conditions including detached retinas.

COMMON FUNCTIONAL LIMITATIONS

- Reading
- Writing
- Walking
- Driving
- Space perception
- Form perception
- Depth perception
- Color discrimination
- Field of vision deficit
- Night vision deficit

VOCATIONAL IMPEDIMENTS
An inability to distinguish sizes, shapes, distances, motion, or colors would cause obvious vocational impediments. Limited visual acuity, depth perception, or field of vision can limit the individual's job alternatives. The individual may also have problems with transportation if there is an inability to drive. If the individual has not acquired good compensatory skills to compensate for visual impairment, his or her options will be somewhat limited.

Persons with visual impairments should be considered as potential referrals to the agency or bureau that specifically serves blind and visually impaired individuals. The more severe the visual impairment, the more obvious such a referral becomes because of the expertise that can be provided through those organizations.

Employability potential would rest upon the individual's functioning abilities regardless of the degree of visual impairment. An abundance of training and technological aids is available for overcoming barriers caused by loss of sight.

OBSERVATIONS DURING INITIAL INTERVIEW

- Is the person wearing glasses?
- Does the individual have obvious signs of eye abnormality (discoloration or abnormal eye movement)?
Does the person exhibit difficulty in reading materials or signing forms?
Does the person need assistance in travel (cane, guide dog, or sighted aide)?
Does the person exhibit signs of poor adjustment (shuffling steps, lack of eye contact, poor orientation)

**INITIAL INTERVIEW QUESTIONS**

- What is the specific cause of the visual impairment?
- How long have you had the visual impairment?  (Avoid stereotyping individuals with specific conditions.)
- Has your vision loss been a gradual process or was it a sudden onset?
- Is your remaining vision constant and reliable?  (Diabetic retinopathy, for example, frequently causes variations in visual acuity.)
- Do you have blurring of vision or double vision?
- Do you have a driver's license and is it restricted?  (Driving is often the most difficult activity for visually impaired persons to give up and many continue long after it is no longer safe for them to do so.)
- Have you had any adjustment services to deal with your vision loss?
- Do you use any alternative skills or adaptive technology to compensate for your vision loss?  (Braille, speech output for computer use, OCR and scanners are useful, not only for totally blind persons, but also for those who do not have adequate sight to efficiently accomplish tasks with their residual vision.)

**IPE CONSIDERATIONS**

- Counseling should be considered for those having difficulties in adjusting to the loss of sight.
- Technological aids should be considered for enhancing residual vision or for overcoming inefficient sight.  Examples range from enlargement or speech output for computer access to light sensors that can be used to allow blind individuals to function more efficiently.
- Training might be required in the areas of mobility, Braille, etc. These skills would greatly assist totally blind clients as well as those with vision impaired significantly enough to require effective alternatives.
- Job site modification might well be needed.

**RESOURCES**

A discussion of eligibility must begin with a review of the Congressional intent for the state/federal vocational rehabilitation program. The Workforce Investment Act of 1998, in Section 100, states the following:

### TITLE I—VOCATIONAL REHABILITATION SERVICES

(a) FINDINGS; PURPOSE; POLICY

(1) FINDINGS- Congress finds that—

(A) Work—

(i) is a valued activity, both for individuals and society; and

(ii) fulfills the need of an individual to be productive, promotes independence, enhances self-esteem, and allows for participation in the main stream of life in the United States.

(B) As a group, individuals with disabilities experience staggering levels of unemployment and poverty;

(C) Individuals with disabilities, including individuals with the most significant disabilities, have demonstrated their ability to achieve gainful employment in integrated settings if appropriate services and support are provided;

(D) Reasons for significant numbers of individuals with disabilities not working, or working at levels not commensurate with their abilities and capabilities, include—

(i) discrimination;

(ii) lack of accessible and available transportation;

(iii) fear of losing health coverage under the medicare and medicaid programs carried out under titles XVIII and XIX of the social Security Act (42 U.S.C. § 1395 et seq. and § 1396 et seq.) or fear of losing private health insurance; and,

(iv) lack of education, training, and supports to meet job qualification standards to secure, retain, regain, or advance in employment;

(E) Enforcement of title V and of the Americans with Disabilities Act (42 U.S.C. §§ 12101 et seq.) holds the promise of ending discrimination for individuals with disabilities;

(F) The provision of workforce investment activities and vocational rehabilitation services can enable individuals with disabilities, including individuals with the most significant disabilities, to pursue meaningful careers by securing gainful employment commensurate with their abilities and capabilities; and

(G) Linkages between the vocational rehabilitation programs established under this title and other components of the statewide workforce investment systems are critical to ensure effective and meaningful participation by individuals with disabilities in workforce investment activities.

(2) PURPOSE- The purpose of this title is to assist states in operating statewide comprehensive, coordinated, effective, efficient, and accountable programs of vocational rehabilitation, each of which is—
(A) an integral part of the statewide workforce investment system; and
(B) designed to assess, plan, develop, and provide vocational rehabilitation services for
individuals with disabilities, consistent with their strengths, resources, priorities,
concerns, abilities, capabilities, interests, and informed choice, so that such
individuals may prepare for and engage in gainful employment.

(3) POLICY- It is the policy of the United States that such a program shall be carried out in a
manner consistent with the following principles:
(A) Individuals with disabilities, including individuals with the most significant
disabilities, are generally presumed to be capable of engaging in gainful employment
and the provision of individualized vocational rehabilitation services can improve
their ability to become gainfully employed.
(B) Individuals with disabilities must be provided the opportunities to obtain gainful
employment in integrated settings.

The above quotation from the Workforce Investment Act of 1998 makes a number of important
points.

- Work is the major focus of vocational rehabilitation services.
- Persons who experience disabilities can work if provided with appropriate support and services.
- There are a number of barriers to obtaining work for persons with disabilities including
discrimination, transportation, loss of benefits, and lack of education, training, and support.
- The term “individual with the most significant disabilities” replaces most severely disabled.
- Title V of the Workforce Development Act and the Americans with Disabilities Act are seen as
major components of what is needed to end discrimination for persons with disabilities.
- Vocational rehabilitation services are to be planned and provided so that they are consistent with
what makes each person with a disability unique; including such things as interests, strengths,
resources, abilities, and capabilities. These services are to be provided within the concept of
informed choice.
- Most importantly, persons with disabilities are presumed to be capable of gainful employment
and individualized vocational rehabilitation services are seen as improving their ability to become
gainfully employed.
- Finally, persons with disabilities must be given the opportunity to be employed in integrated
settings.

ELIGIBILITY

A person is eligible for vocational rehabilitation services if that person:

- **Is an individual with a disability,** i.e., has a physical or mental impairment which for
such individual constitutes or results in a substantial impediment to employment, and can
benefit in terms of employment outcomes from vocational rehabilitation services
provided pursuant to titles I, III, or VI.

A substantial impediment is one that will prevent or make very difficult obtaining,
retaining, or preparing for employment consistent with the person’s capacities and
abilities.

Note that for other sections of the act, including titles II, IV, V, and VII, an individual
with a disability is defined slightly differently, i.e., has a physical or mental impairment
which substantially limits one or more of such person’s major life activities; has a record
of such impairment; or is regarded as having such an impairment. This definition, which
is used for such programs as the independent living program, does not require that the
individual have a substantial impediment to employment or be able to benefit in terms of
employment outcomes from vocational rehabilitation services. Employment is not an
issue for these sections of the act.
Requires vocational rehabilitation services to prepare for, secure, retain, or regain employment. This requirement is sometimes overlooked in the eligibility process. The counselor must determine that there is a vocational rehabilitation service that is needed by the client in order to “prepare for, secure, retain, or regain employment.” Simply being a person with a disability is not enough.

Presumption of Eligibility

A person who is receiving benefits under title II (Social Security Disability Insurance) or title XIV (Supplemental Security Income) of the Social Security Act (42 U.S.C. § 401 et seq. and § 1381 et seq.) shall be:

a. considered an individual with a significant disability for the purposes of the basic vocational rehabilitation program (title I).

b. presumed eligible for vocational rehabilitation services under title I. This presumption is dependent on the person having the intent to achieve an employment outcome consistent with the person’s strengths, resources, priorities, concerns, abilities, capabilities, interests, and informed choice. The exception to this presumption of eligibility is when a state vocational rehabilitation agency can demonstrate by clear and convincing evidence that the person is incapable of benefiting in terms of an employment outcome from vocational rehabilitation services due to the severity of the disability.

Nothing within this section on presumption of eligibility shall be interpreted to create an entitlement to any vocational rehabilitation services. This is an important point. Being presumed eligible does not carry with it an entitlement to specific services. The determination of what services are provided is still made jointly by the client and the counselor through the development of an Individualized Plan for Employment.

Presumption of Benefits

A person shall be presumed to be someone who can benefit in terms of an employment outcome from vocational rehabilitation services, unless the state vocational rehabilitation agency can demonstrate by clear and convincing evidence that such person is incapable of benefiting in terms of an employment outcome from vocational rehabilitation services due to the severity of the disability.

Prior to making a determination of inability to benefit, the state agency must explore the person’s abilities, capabilities, and capacity to perform in work situations through the use of trial work experiences, unless the person cannot take advantage of such experiences. Such experiences must be of sufficient variety and over a sufficient period to determine the eligibility of the individual or to determine the existence of clear and convincing evidence that the person is incapable of benefiting in terms of employment due to the severity of the disability. During the trial work period, the person must be provided appropriate support and training.

Use of Existing Information in Eligibility Determination

It is clear from the Rehabilitation Act Amendments of 1998 that state agencies are to make maximum use of existing information in the process of determining eligibility and formulation of the Individualized Plan for Employment. This includes any existing and current information available from other programs and providers, particularly information from education officials, the Social Security Administration, the individual, and the individual’s family.

Determinations that a person is a person with a disability or a person with a significant disability made by officials of other agencies, and particularly education officials, shall be used to the extent possible in making eligibility decisions.
Assessment for Determining Eligibility and Vocational Rehabilitation Needs

The determination of eligibility for vocational rehabilitation services and rehabilitation needs shall be based on a review of existing information, and where such information is unavailable or insufficient, the provision of assessment activities to generate the necessary information. Such assessment activities should be comprehensive enough to determine the unique strengths, resources, priorities, concerns, abilities, capabilities, interests, and informed choice, including the need for supported employment. The assessment may include an appraisal of the patterns of work behavior of the person and the services needed for the person to acquire occupational skills, develop work attitudes, work habits, work tolerance, and social and behavioral skills necessary for successful job performance. As appropriate, the person should also be referred to determine the need for rehabilitation technology services. While the intent of this assessment is to be comprehensive, information gathering should be limited to the specific information needed to determine eligibility, identify the rehabilitation needs of the person, and to develop the Individualized Plan for Employment. In addition to using the assessment to determine eligibility, assessing vocational rehabilitation needs, and developing the plan, the information gathered can be used to assign priority under the agency’s order of selection, where applicable.

Determination of Ineligibility

An ineligibility decision shall only be made only after the person or the person’s representative has been provided with an opportunity for full consultation on the proposed decision. The person or representative shall also be informed in writing (and other appropriate communication modes as needed) of the ineligibility determination, including the reasons for the determination and the remedies available if the person is dissatisfied with the determination. These remedies shall include the procedures for review by an impartial hearing officer. Information on the availability of the Client Assistance Program shall also be provided in the written documentation.

Decisions of ineligibility must be reviewed within 12 months. Following that, a review will be done at the request of the person or the person’s representative.

Timelines for Eligibility Decisions

Eligibility decisions are to be made within 60 days of application unless exceptional and unforeseen circumstances beyond the control of the state agency preclude making the decision within 60 days and the agency and the person agree to a specific extension of time. The other justification for exceeding 60 days is if the agency is providing the person an opportunity to explore the person’s abilities, capabilities, and capacity to perform in work settings under trial work experiences.

Documentation of the Disability:

1. Is there evidence that the person has a physical or mental impairment?
2. What is it?
3. If more than one impairment, what are the other impairments?
4. Is the person receiving either SSI or SSDI benefits from the Social Security Administration?
5. Do the impairments result in a substantial impediment to employment? If so, in what ways?
6. Are vocational rehabilitation services going to be required to prepare for, secure, retain, or regain employment? If so, what services will be required?
7. What are the functional limitations resulting from the disability?
8. Do these limitations affect vocational functioning and activities?
DOCUMENTATION OF IMPEDIMENTS TO EMPLOYMENT

The Rehabilitation Act Amendments of 1992 substituted the word “impediment” for the word “handicap.” Prior to 1992, a substantial handicap was defined as a "physical or mental disability (in light of attendant medical, psychological, vocational, educational, and other related factors) which impedes or will impede by the time the I.W.R.P. is completed, an individual's occupational performance by preventing or making it very difficult to obtain, retain, or prepare for employment consistent with the person’s capacities and abilities" (highlight added). The section highlighted above would seem to constitute a workable definition of a substantial impediment to employment. If no substantial impediment exists, the person is not eligible.

Consider the following questions to help determine how the disability and resulting limitations create a substantial impediment for the person.

- Has the person lost jobs because of the disability?
- Does the person have an unstable work history? If so, has the disability contributed to this?
- Is the person prevented from doing the type of work previously performed because of the restrictions of the disability?
- Do the restrictions of the disability limit the kinds of jobs the person can do?
- Will the person have difficulty obtaining employment because of employer attitudes?
- Is there evidence of problems in school that relate to the disability?
- Is there evidence of problems in daily activities that relate to the disability?
- Will the person’s disability interfere with or cause problems with preparing for an occupation commensurate with the person’s capacities? (For example, would the disability cause problems completing necessary training?)
- If the person is currently employed:
  b. Is the person underemployed because of the disability (working substantially below capacity - not just seeking promotion)?
  c. Is the person’s job in jeopardy and, if so, is this related to the disability? (Are modifications or changes causing them difficulty in performing necessary duties, and is the difficulty related to the disability?)
  d. Is the job aggravating their disability?

The most important question is, “What are the barriers that make it difficult for this person to prepare for, obtain, or keep a job and are these barriers related to the disability?” This question not only determines substantial impediment to employment, but also focuses all planning activities. If a substantial impediment does exist, are there related factors (history of dependence, poor attitude toward work, poor work history, low educational level, lack of family support) that need to be considered? Finally, ask yourself how the related factors impact upon vocational functioning.

The Rehabilitation Amendments of 1992 removed the eligibility criterion of reasonable expectation in The Rehabilitation Act of 1973. The amendments state “It is presumed that an individual can benefit in terms of an employment outcome from vocational rehabilitation services...” This change in the law has brought about a need to change our way of looking at the long-term outlook for a particular person being served by vocational rehabilitation services. Where in the past we were trying to predict the potential for success as a part of the eligibility determination process, we now need to look at the same type of predictors, but for a different purpose. The factors that might have predicted a strong likelihood for failure when we were determining eligibility must now be considered in terms of barriers to employment that must be overcome through careful planning and service delivery.

In the original version of this manual, each chapter had a section titled “reasonable expectation.” Although the concept of reasonable expectation has been removed, the material contained in those sections was too valuable to be deleted. With some minor revisions in content, these sections have been
titled “other impediments to employment.” The following general questions relating to employment barriers should be considered:

- What services will be needed to enable the person to correct, compensate, or circumvent the identified functional limitations and other impediments to employment?
- How available are the required services? What issues will be raised when attempting to access these services?
- What are the residual functional capacities that can be used to overcome impediments as they relate to work?
- How can medical, psychological, diagnostic, and other information be used to address impediment to employment?
- What actions need to be taken to address factors such as stability of disability, previous work history, motivation, etc., as they produce impediments to employment?
- How can disincentives (e.g., SSI, SSDI, and Workers' Compensation) be turned into assets?

**RESOURCES**

INITIAL INTERVIEW
DICTATION GUIDE

The rehabilitation counselor, to ensure that appropriate information is gathered in the initial interviews, can use this guide. It should be apparent from the volume of information needed in most cases that a single interview is not going to be sufficient to gather this information. This guide helps the counselor structure the summary that is prepared for the case file and helps assure that all needed information is collected. The questions posed are general questions to be asked of all applicants. Specific questions of importance based on the disability are provided in later sections of the handbook.

➢ Presenting information
   a. Where was the initial interview held and how did the client get there?
   b. Who referred the client to VR?
   c. Why was the client referred to VR?
   d. What is the client's perception of the problem?
   e. How does the client perceive VR and VR services?
   f. Is he or she a former client? If so, what were the services and outcome?

➢ Medical disabilities and limitations
   a. What are the client's current disabilities?
   b. Is the client currently taking any medication?
   c. Is the client currently involved in medical treatment?
   d. Are there any further treatment plans?
   e. Is there a history of other disabilities or treatment?
   f. What level of adjustment to the disability and treatment has the client achieved?

➢ Psychological disabilities and limitations
   a. Is there a history of emotional or behavioral problems?
   b. Is a current psychological or psychiatric exam required?
   c. Is testing or evaluation needed but not required?
   d. Is the client currently receiving counseling or treatment?
   e. Does the client make statements about problem behavior?

➢ Vocational handicap
   a. How does the disability cause a problem in getting a job?
   b. How does the disability cause a problem in keeping a job?
   c. How does the disability cause a problem in preparing for a job?
   d. How does the disability cause a problem in daily activities?

➢ Legal Considerations
   a. Is the client currently involved with the legal system in any way?
   b. Is the client currently on parole or probation? Restrictions? (May need signed release)
   c. Has the driver’s license been revoked? For what reason (alcohol, drugs)?
   d. Is the client involved with the Workers Compensation Court system?
   e. Is a Workers Compensation Court settlement being considered?
   f. Are there legal implications for the way the client sustained the disability?
g. Is the client paying child support (court ordered or voluntary)?

- **Vocational history and interests**
  a. What are the client's job motivations, interests, expectations, or vocational objectives?
  b. What is the client's work history?
  c. If not currently employed, has the client recently looked for work?
  d. What usable work skills does the client have?
  e. What are the client's work habits?
  f. How did the client relate to others on previous jobs?
  g. What vocational interests does the client have? Are they vocationally relevant?
  h. Is there need for vocational evaluation/adjustment/job seeking skills?

- **Education and training**
  a. What is the client's educational history?
  b. What was the outcome of previous training?
  c. Why did interruptions or incompletions occur?
  d. What previous vocational training has the client had?
  e. What is the client's attitude toward additional training?

- **Family and living situation**
  a. Describe the family unit.
  b. How has the client's disability affected the family?
  c. How stable is the family situation?
  d. Will the family support the client and a VR plan?
  e. What is the current housing situation?
  f. Is residence likely to change during the VR process?

- **Economic Considerations**
  a. What are the current sources of financial support?
  b. What standard of living expectations do the client and family have?
  c. What special or potential resources does the client have?
  d. Is litigation possible or pending?

- **Independent living**
  a. Can the client do self-care activities without assistance? With assistance?
  b. Can the client do home management activities alone? With assistance?
  c. Can the client manage money?
  d. Can the client care for children alone? With assistance?
  e. Can the client enter and leave essential areas of home without assistance? Enter and leave a car or bus?
  f. Is transportation available to the client?
  g. Is an independent living referral needed?

- **Other involved agencies and persons**
  a. What agencies and persons are involved with the client?
  b. How should VR be involved with them?

- **Impressions**
  a. What are counselor’s impressions, descriptions, and observations?
  b. Was a counseling relationship established?
➢ **To do**
   a. What requests for examinations or records will be made?
   b. What other things did the counselor agree to do?
   c. What is the client expected to do, and when is he or she to do it?
   d. What areas of information or questions should be answered or investigated in subsequent interviews?
GLOSSARY OF COMMON MEDICAL TERMS

ABDUCTION: The movement of an extremity (an arm or leg) away from the midline of the body. The muscles that perform this function are generally called abductors.

ABSCESS: Localized collection of pus in a cavity.

ACCOMMODATION: A method of compensation in which an externally imposed system or device enables a person to accomplish a given task.

ADDUCTION: A movement that draws a displaced body part (arm or leg) toward the center or midline of the body. The muscles that perform this function are generally called adductors.

ANALGESIC: Causing a painless, although fully conscious, state.

ANEMIA: A decrease in red blood cells or amount of hemoglobin, or both, in the bloodstream, resulting in paleness and weakness.

ANEURYSM: A sac formed by the “ballooning out” of the weakened wall of an artery or the wall of the heart.

ANGINA PECTORIS: Chest pain caused by heart disease.

ANGIOGRAPHY: Process of visualizing blood vessels with X rays after first injecting a radiopaque substance. Arteriogram would be X ray of an artery using this technique.

ANOREXIA NERVOSA: A mental illness characterized by morbid preoccupation with body weight, the persistent belief that one is overweight despite actual evidence to the contrary, and persisted efforts to keep losing weight to the detriment of one's physical health. The afflicted individual may actually lose close to half their premorbid weight.

ANXIETY: A pervasive sense of tension or apprehension, often in response to anticipated danger of unknown origin.

AORTA: The largest artery in the body leading out from the heart.

APHAKIA: Absence of the lens of an eye.

APHASIA: A general language deficit affecting the ability to read, write, listen, and talk, usually secondary to stroke or traumatic brain damage.
ARTERIOSCLEROSIS: Hardening, thickening, and loss of elasticity of the walls of arteries.

ARTHROPLASTY: Surgical repair of a joint.

ARTHROSCOPY: Direct examination of a joint surgical procedure.

ASTHMA: Recurring spasmodic shortness of breath with wheezing.

ATAXIA: Total or partial inability to coordinate voluntary bodily movements, especially muscular movements.

ATHEROSCLEROSIS: Extremely common form of arteriosclerosis in which deposits of fatty substances are formed within and beneath the innermost layers of arterial walls.

ATRIUM: The upper chamber on either side of the heart. The right atrium receives venous blood and the left atrium receives arterial blood.

AUTONOMIC NERVOUS SYSTEM: Divided into the sympathetic and parasympathetic systems. Functions automatically and controls motor functions of the heart, lungs, intestines, glands, and other internal organs, and the smooth muscles, blood vessels, and lymph vessels.

BIOFEEDBACK: The process whereby an instrument is used to inform a subject of the magnitude of a particular function, such as muscle activity, to assist person's control of that function.

BIOPSY: Removal and examination microscopically of body tissue, usually for diagnostic purposes.

BIPOLAR DISORDER: A mental illness characterized by discrete episodes of grandiosity, extreme euphoria, increased energy, hyperactivity, rapid speech and thoughts, as well as increased participation in risky behavior, often alternating with discrete periods of depression.

CARCINOMA: The most common type of malignant growth cancer.

CARDIAC CATHETERIZATION: A diagnostic procedure in which a thin tube is passed via artery or vein until it reaches inside the heart to record pressures in various chambers and to inject radiopaque dyes for X-ray visualization.

CARDIOVASCULAR: Pertaining to heart and blood vessels.

CAROTID: Designating, of, or near either of the two principal arteries, one on each side of the neck, which convey the blood from the aorta to the head.

CARTILAGE: A gristle or elastic substance attached to articular bone surfaces. It is a kind of dense connective tissue, usually at the joints.

CAT: An abbreviation for special x-ray techniques to visualize cross sections of various body structures; e.g., CAT scan of brain.

CENTRAL NERVOUS SYSTEM: Comprised of the brain and spinal cord.
CEREBROVASCULAR: Pertaining to blood vessels of the brain.

CERVICAL: Pertaining to the neck.

CIRCUMVENTION: A strategy that “Gets Around” a specific functional limitation by identifying only those jobs which do not require the skill for successful completion.

CIRRHOsis: A disease of the liver frequently associated with alcoholism.

CLAUDICATION: Pertains to pains in legs upon walking.

COGNITIVE ABILITY: The ability to accumulate and retain new knowledge.

COLOSTOMY: The surgical creation of an opening between the colon and the body surface.

CORONARY: A left or right artery that supplies blood to the heart muscle.

CORTISONE: One of the steroid hormones produced by the adrenal gland.

CRANIAL NERVES: Nerves that originate in the brain, including the 12 cranial nerves.

CYSTITIS: Bladder infection or inflammation.

DECUBITUS ULCER: Bedsore or pressure ulcer caused by prolonged bed rest, with vascular compression.

DELUSION: A false personal belief, generally based upon an incorrect inference about external reality and unshakably held despite what to others would be incontrovertible and obvious proof or evidence to the contrary. Such beliefs are not accepted by the person's cultural group and are generally so extreme as to defy credibility.

DEPRESSION: A mental illness most commonly characterized by feeling sad or marked despair, having low self esteem, problems sleeping, eating, and a loss of interests in otherwise enjoyable activities. Thoughts about death or suicide are also quite common, as are decreased energy, motivation, and problems concentrating on usual tasks.

DIABETES MELLITUS: A condition associated with high blood sugar.

DIALYSIS: Artificial process for cleaning bloods either by peritoneal or artificial kidney machine.

DIPLOPIA: Double vision.

DISTAL: Situated away from a point of origin or attachment.

DIURETIC: Increasing the secretion and flow of urine.

DORSAL: Pertaining to the back or a position toward or on the backside of a structure (posterior).
DYSPHASIA: Same as aphasia, although generally used for a less severe speech or language disturbance.

DYSPNEA: Difficulty in breathing.

DYSURIA: Painful urination.

ECHOCARDIOGRAM: Non-invasive technique for visualizing thickness of heart walls and character of heart valves.

EDEMA: Swelling, resulting from excessive fluid accumulation in tissues.

ELECTROCARDIOGRAM (ECG or EKG): Graphic tracing of electrical activity produced by heart muscle during contraction.

ELECTROENCEPHALOGRAM (EEG): Graphic tracing of electrical activity developed in the brain (brain waves).

ELECTROMYOGRAPHY (EMG): A technique for recording muscle action potentials for detection of nerve and muscle disease.

EMBOLUS: Undissolved material, such as a clot, carried by the blood from one vessel into a smaller one that is thereby obstructed.

EMPHYSEMA: One type of chronic lung disease.

EXACERBATION: A periodic or recurrent flare-up of a process (usually a disease) in which it becomes active.

EXTENSION: Straightening or unbending of a joint. Opposite of flexion.

FISTULA: An abnormal passage between two internal organs or between an internal organ and the surface of the body.

FLEXION: Bending at a joint, such as elbow or knee (opposite of extension).

GAIT: Manner or style of walking.

GLAUCOMA: Increased pressure in the eye.

HALLUCINATION: A false perception that can appear immediately and incredibly genuine. This can include hearing voices, seeing things, or having bizarre bodily sensations that defy other's credibility.

HEART MURMUR: An abnormal heart sound heard through a stethoscope, caused by defects in heart valves.

HEMATOMA: A local swelling or tumor filled with blood.

HEMATURIA: Presence of blood in urine.
HEMIPLEGIA (OR HEMIPARESIS): Muscular weakness of one side of the body.

HODGKIN'S DISEASE: One of the malignant diseases of lymph nodes.

HYPERTENSION: High blood pressure.

HZ (HERTZ): A unit to measure frequency. One cycle per second.

ILEOSTOMY: Surgical creation of an opening through the abdominal wall into the ileum, the lowest part of small intestine.

INTERCOSTAL: Between the ribs.

ISCHEMIA: Deficiency of blood in a part of the body, caused by constriction or obstruction of blood vessels.

JAUNDICE: A yellowish-lemon color to the skin and whites of the eye commonly seen in liver disease.

LAMINECTOMY: Surgical procedure used for disc disease.

LUMBO-SACRAL: Pertaining to the low back.

MALIGNERING: The willful, deliberate, and fraudulent feigning or exaggeration of symptoms of illness or injury, usually done to escape duty or work.

METASTASIS: Transfer of disease from one organ or part to another not directly connected with it. Usually referred to with the spread of a malignancy or cancer.

MULTIPLE SCLEROSIS: Chronic disease of central nervous system.

MYELOGRAM: X-ray of spinal cord after radiopaque injection.

MYOCARDIAL INFARCTION: Death of heart muscle due to lack of blood supply ("heart attack").

NEPHRITIS: Infection or inflammation of kidneys (acute or chronic).

ORTHOSIS: A device (such as a splint or brace) applied to the body to modify position or motion.

ORTHOTIST: A specialist in orthopedic devices such as splints, braces, and corsets.

OSTEOARTHRITIS (degenerative arthritis): Joint disease associated with degenerative changes generally in older individuals.

OSTEOMYELITIS: Infection of bone.

OSTEOPOROSIS: Abnormal loss of bone density.

PANIC ATTACK: A discrete episode marked by sudden anxiety, feelings of impending doom, problems breathing, palpitations, and light headed in the absence of clear evidence for physical disease.
PATHOLOGY: All the conditions, processes, or results of a particular disease.

PERIPHERAL NERVOUS SYSTEM: The part of the nervous system that consists of nerves outside brain and spinal cord.

PERIPHERAL VASCULAR DISEASE: Term used for disease of arteries and veins in the limbs, but usually meaning peripheral arterial disease.

PERSONALITY DISORDER: A long-standing pattern of maladaptive behavior that is offensive to almost everyone around the person, but usually not seen by the person as problematic. Typically, people who have personality disorders are among those with whom it is most difficult to get along. They tend to alienate others to the extent they often claim they have few friends, tend to blame others for their troubles, and have a repeated pattern of conflicts with others.

PHLEBITIS: Inflammation of a vein.

PHYSIATRIST: A medical specialist in physical medicine and rehabilitation.

PROGNOSIS: A prediction of the probable course of an individual's disease and chances of recovery.

PRONATION: A turning down or downward. Turning the palm downward.

PROSTHESIS: A device that attaches to the body that attempts to duplicate lost function.

PROSTHETIST: An individual who specializes in fitting and fabrication of prosthetic devices.

PROXIMAL: Situated nearest to the center of the body. The opposite of distal.

PSYCHOSIS: Severe mental impairment distorting reality perception.

QUADRICEPS: The large muscle at the front of the thigh, just above the knee that straightens the leg.

REMEDICATION: A method of compensation in which an internal system is created to enable one to function. It assumes that a potential to add to a repertoire of skills exists and that given the appropriate teaching strategies, learning can and will occur.

REMISSION: A periodic or recurrent interval where a disease becomes inactive or quiescent.

RETINITIS PIGMENTOSA: A group of diseases of the retina causing contraction of the visual field.

RETINOPATHY: A change in appearance of retina due to disease.

RHEUMATOID ARTHRITIS: A severe form of arthritis associated with joint destruction over period of time.

SARCOMA: A type of tumor, quite often malignant.

SCHIZOPHRENIA: A mental illness primarily characterized by hallucinations, delusions, disorganized thinking, and bizarre behavior grossly out of context with external reality.
SCIATICA (sciatic nerve): Any painful condition in the hip and thigh region especially neuritis of the long nerve

SEIZURES (epilepsy): Types are grand mal, petit, complex, mixed, etc.

SPASTICITY: A condition usually associated with stroke or spinal cord disease whereby stretch reflexes are exaggerated producing involuntary muscle contractions.

SUBCUTANEOUS: Beneath the skin.

SUPINATION: A turning upward. Turning the palm upward.

SYNCOPE: A faint.

SYSTEMIC: Pertaining to or affecting the whole body.

THROMBOPHLEBITIS: Inflammation of a vein usually associated with clot formation.

THROMBOSIS: Coagulation of the blood in the heart or a blood vessel, forming a clot.

THROMBUS: The fibrinous clot attached at the site of thrombosis.

TRACHEOSTOMY: Creation of an opening into the trachea through the neck.

TRAUMA: Wound or injury.

VENTRAL: Of or pertaining to, or situated on the front or lower side or surface (anterior).

VERTIGO: Difficulty with balance or equilibrium, dizzy.
COMMON DRUGS IN GENERAL USE

ACE INHIBITORS: A group of drugs used for hypertension.

ALPHA-ADRENERGIC BLOCKERS: Used for the treatment of Benign Prostatic Hyperplasia (BPH) and hypertension.

ANTIARRHYTHMICS: A group of drugs used for atrial and ventricular arrhythmias.

ANTIBIOTIC ANTINEOPLASTICS: A group of drugs used in the treatment of various cancerous tumors.

ANTIOBIOTICS: A large group of drugs used in infectious diseases.

ANTIVAN: Anxiety disorders associated with depressive symptoms.

ANTIVERT: Controls dizziness and motion sickness.

ARTANE: Anti-Parkinson agent and used to relieve side effects of anti-psychotic drugs.

ATAMET: Parkinson’s disease

BETA-BLOCKERS: A group of drugs used for hypertension, angina, cardiac arrhythmias, migraine.

CALAN: Angina, arrhythmias, and hypertension.

CALCIUM CHANNEL BLOCKERS: A group of drugs used in the treatment of angina, arrhythmias, and hypertension.

CARAFATE: Heals duodenal ulcer.

CARDIZEM: Hypertension, angina, atrial flutter, tachycardia.

CARISOPRODOL: Muscle relaxant for acute musculoskeletal conditions.

CISPLATIN: Used in the treatment of various tumors (testicular, ovarian and bladder).

CODEINE: Narcotic pain reliever.

COGENTIN: Anti-Parkinson agent; used to relieve side effects of anti-psychotic drugs.
CORTISONE: A corticosteroid with many uses.

COUMADIN: An anticoagulant.

DEMEROL: Narcotic pain reliever.

DIABINESE: Lowers the blood glucose in patients with non-insulin-dependent diabetes.

DIGITALIS (LANOXIN): Treatment of heart failure and atrial fibrillation.

DILANTIN: Anticonvulsant that controls grand mal and temporal lobe seizures.

DIURIL: Diuretic and antihypertensive agent.

ELAVIL: Antidepressant with sedative effects.

FUROSEMEDE: Strong diuretic in treatment of edema caused by congestive heart failure, cirrhosis of the liver, and renal disease.

GLYBURIDE: Treatment for non-insulin-dependent diabetes mellitus.

HALCION: Short-term treatment for insomnia – addictive.

HALDOL: Management of psychotic disorders, Tourette’s Disorder and severe behavior problems or hyperactivity in children.

HYDRODIURIL: Diuretic in controlling edema, hypertension.

INDERAL: Hypertension, angina pectoris due to coronary atherosclerosis, cardiac arrhythmias, myocardial infarction, migraine, tremors.

INDOCIN: Anti-inflammatory agent for rheumatoid arthritis, osteoarthritis, bursitis, tendinitis, gout.

INSULIN (HUMULIN): Diabetes mellitus.

ISORDIL TITRADOSE: Prevention of angina pectoris due to coronary artery disease.

LIBRIM: Relieves anxiety, withdrawal symptoms of acute alcoholism.

LITHIUM CARBONATE: Diminishes mood swings in manic depressive patients.

LOXITANE: Manages manifestations of psychotic disorders and schizophrenia.

MOBAN: Manages manifestations of psychotic disorders and schizophrenia.

MORPHINE: Narcotic used for pain.

NARDIL: Antidepressant.

NITROGLYCERIN: Relieves angina pectoris due to coronary artery disease.
NORPRAMIN: Antidepressant.

PENICILLINS: Fight infections including anthrax, meningitis, syphilis, Lyme disease, rheumatic fever.

PHENOBARBITAL: Used in the treatment of seizure disorders as an anti-convulsant and for insomnia.

PROCANBID (PROCAINAMIDE HYDROCHLORIDE): Cardiac antiarrhythmia.

PROCARDIA: Antianginal drug in treatment of angina.

QUINIDINE GLUCONATE: Controls atrial fibrillation/flutter.

SINEQUAN: Psychoneurosis, depression, anxiety, sleep disorder, fear, apprehension.

SORBITRATE: Angina pectoris due to coronary artery disease.

STELAZINE: Manages manifestations of psychotic disorders.

SYMMETREL: Treatment of Parkinson’s disease and to relieve side effects of antipsychotic drugs.

TEGRETOL: Anticonvulsant drug, grand mal.

THEOPHYLINE: Asthma and bronchospasm associated with emphysema and chronic bronchitis.

THORAZINE: Manage psychotic disorders and severe behavioral problems.

TOFRANIL: Antidepressant.

TRICYCLIC ANTIDEPRESSANTS: A group of drugs used in the treatment of depression, obsessive-compulsive disorder.

VALIUM: Short-term relief of anxiety disorders, acute alcohol withdrawal, muscular spasms.

XANAX: Management of anxiety disorder, panic disorder.
OVERVIEW OF PSYCHOTROPIC MEDICATIONS

WILLIAM A. COCHRAN, PH.D.

INTRODUCTION

The field of psychopharmacology is currently growing rapidly. Attempting to understand this field by memorizing a list of frequently prescribed medications is both fruitless and frustrating. This chapter will be organized by describing the major classes of psychotropic medications, the effects they theoretically have on the brain, and by listing the “first-line” medications used today within each class. This will allow the reader to achieve two objectives:

- To better understand new medications as they come on the market, and
- To be familiar with a shorter list of psychotropic medications most frequently used today.

THE NEURON AND MEDICATION STRATEGIES

To understand the effects of medications (pharmacodynamics—the effect of the drug on the body), a basic understanding of the site where the drug expresses its effect, the neuron, is needed.

Neurons can be thought of as information processors receiving information from sensory organs such as the eye, ear, and skin, or from other neurons. There are billions of neurons in the brain and spinal cord, mostly inter-connected with each other. Neurons transmit information by means of neural impulses (biochemical electrical signals) and neurotransmitters. The neural impulses pass from neuron to neuron anywhere they are interconnected in the brain and spinal cord.

Five parts of the neuron are necessary for a basic understanding of how neurons communicate or transmit and receive information to each other. These five parts are the dendrite, the cell body, the axon, the synapse, and receptor sites.

The dendrite receives information from either sensory organs or another neuron. When this happens, the neuron generates a biological electrical signal, the neural impulse, which travels from one end of the neuron (the dendrite) to the other (the axon).

The cell body utilizes oxygen, glucose, and various amino acids to produce neural impulses and neurotransmitters. When a neural impulse reaches the end of the axon, little packages of different chemical substances called neurotransmitters are released into a small microscopic gap called the synapse. These neurotransmitters are brain chemicals that allow neurons to send information to and receive information from other neurons, and send information to themselves (autoreceptors) to modify their own activity. When the neurotransmitter is released into the synapse, one of six outcomes can take place.

- First, the neurotransmitter can flow across the synaptic gap and attach itself to a receptor site located on the dendrite of another neuron. These receptor sites operate in a lock-and-key fashion with the receptor being the lock and the neurotransmitter being the key that fits into the lock. When the neurotransmitter fits into a receptor site, this can eventually generate a neural impulse in the next neuron. This gives rise to one kind of medication strategy, which is to block or inhibit (prevent) the neurotransmitter from occupying the post-synaptic receptor site. This is done by the medication occupying the receptor site before the natural neurotransmitter is able to enter the site. The outcome of this is to lower the effects of the neurotransmitters. It is as if the neurotransmitter is now available in lower concentrations.
When a medication leads to a lowering of the amounts of the available neurotransmitter, it is called an **antagonist**. When a medication leads to increases in neurotransmitter, it is called an **agonist**.

- A second outcome that occurs when a neurotransmitter is released into the synapse is that the releasing process, when the neural impulse reaches the end of the axon and generates the release of a neurotransmitter, can be promoted. This results in more available neurotransmitter in the synapse, increasing concentrations.

- A third outcome is the neurotransmitter being eaten or metabolized in the synapse by an enzyme, for example, **monoamine oxidase** (MAO). This makes possible another medication strategy, which is to inhibit the action of the enzyme. This allows more neurotransmitters to stay in existence, thus increasing their concentrations.

- A fourth outcome is handled by **reuptake mechanisms** that are located in the end of the axon. The job of the reuptake mechanisms is to retrieve the neurotransmitter before it attaches to a receptor site, is metabolized by MAO, or is simply excreted. While this reuptake process does conserve the neurotransmitter, it also reduces available amounts of active neurotransmitters. Thus, a frequently used medication strategy is to block or inhibit the reuptake mechanism. This prevents the reuptake function of the neuron and increases the amount of available active neurotransmitter.

- A fifth outcome that occurs when a neurotransmitter is released into the synapse is the blocking or inhibiting of **autoreceptors** located on the presynaptic neuron. Usually, when the autoreceptor is occupied by a neurotransmitter, this becomes a message that the neuron delivers to itself that it should slow down activity including manufacture and release of neurotransmitters. When the auto receptor is blocked by being occupied by a medication, the braking or inhibitory effect never occurs, and the result is an increase in available amounts of active neurotransmitter. This represents a relatively new strategy, with only a few medications using this approach.

- A sixth outcome is excretion. There are no psychotropic medication strategies based on altering excretion patterns.

The medications used for different psychiatric disorders change the quantity of neurotransmitters in the synapse. Note that none of the medications directly increase or decrease a neurotransmitter. Rather, they indirectly influence the amount of available active neurotransmitter. In general, the brain strives to maintain an optimum range of a particular neurotransmitter, and problems occur when either too much or too little of a neurotransmitter is available. One problem that arises with many medications is that when a psychotropic medication is prescribed and taken, it affects neurotransmitters in all the brain’s synapses and receptor sites (one cause of unwanted side effects). Current psychopharmacological efforts are aimed at developing drugs that are more specific in both the areas and types of receptor sites they affect.

There is an ongoing dynamic interaction between the amount of active neurotransmitter (that amount that can occupy a receptor site of some kind) and the number of available receptor sites. In general, when too much of an active neurotransmitter exists, the cell reacts by lowering the number of receptor sites. This is called **down-regulation**. When too little of a neurotransmitter exists, the cell reacts by increasing the number of receptor sites. This is called **up-regulation**. When optimal amounts of the transmitter are available, the number of receptor sites is presumed to be at optimal levels. One of the reasons why some medications take a long time to establish a therapeutic effect is that this up and down regulation process takes time to occur.
FIVE BROAD CLASSES OF NEUROTRANSMITTERS

Five broad classes of neurotransmitters (NT’s) currently are targeted by most psychotropic medications. While there are hundreds of neurotransmitters in the brain, currently only five are targeted by most psychopharmacological approaches. This article will focus on one category of NT’s, monoamines. Five are listed below. Other ongoing research will broaden this number in the future to other types of NT’s, but these represent current practice.

One neurotransmitter thought to be associated with cognitive functions such as attention and concentration is Dopamine (DA). One reason for this is that all medications that are used to treat psychotic disorders, which represent a disruption in thinking, are dopamine blockers. That is, the drug attaches itself to the post-synaptic receptor site located on the dendrite of a neuron before the neurotransmitter is able to attach. This reduces the available amount of dopamine (DA). Too much dopamine (DA) is thought to be a cause of the acute symptoms of a psychotic disorder – delusions and hallucinations. Another reason that dopamine is thought to be associated with cognitive functions is that attention/concentration disorders are thought to benefit from medications that may increase amounts of dopamine (DA). Psychostimulant medications have been shown to make Attention Deficit Disorder better and psychotic symptoms worse.

Two neurotransmitters thought to be associated with mood disorders (e.g., depression and mania) and anxiety disorders are Serotonin (5-HT) and Norepinephrine (NE). One current theory is that mood disorders are associated with too little of these neurotransmitters and the neurons are in the up-regulated mode. One cause of anxiety disorders, on the other hand, is associated with the availability of too much of these two neurotransmitters, and neurons are in the down-regulated state. Another neurotransmitter thought to be involved with anxiety is low levels of Gamma-Aminobutyric-Acid (GABA).

More recently, efforts have been made to deal with dementia, particularly the memory symptoms. Drugs that enhance levels of Acetylcholine (thought to be associated with the function of memory) have been developed. Likewise, drugs that are anticholinergic (reduce levels of acetylcholine) frequently disrupt memory as a side effect.

As stated, the above classes of NT’s are still the broad targets of most medications on the market. There are other classes of NT’s being investigated (e.g., neuropeptides) but these are not in the marketplace yet.

SIX BROAD CLASSES OF MEDICATIONS

There are six broad classes of psychotropic medications that primarily operate on the neurotransmitters listed above: antipsychotics (neuroleptics), antidepressants, mood stabilizers, antianxiety medications (anxiolytics), psychostimulants, and antidementia medications. The brand name of the medication will be listed first and the generic name will follow in parentheses.

Antipsychotics (Neuroleptics)

The antipsychotic medications (neuroleptics) are used to treat psychotic symptoms. In schizophrenic disorders, a distinction is made between positive and negative symptoms. The positive symptoms are the more acute florid symptoms of psychosis and include both hallucinations and delusions. Lethargy or amotivational/avolitional behavior, as well as disorganized thinking, marks the negative symptoms.

Typical antipsychotics (e.g., Haldol or Prolixin) are dopamine blockers (thus, reduce levels of DA) and are usually effective in treatment of the positive symptoms. They have a great many side effects, however, and either have no effect on negative symptoms or can make them worse. One of the side effects is involuntary motor movements (Parkinson-like) which is the result of both reduced dopamine,
and dopamine and acetylcholine not being in balance. Thus, a second medication that is anticholinergic (reduces acetylcholine and brings acetylcholine and dopamine back into balance) is given to deal with the involuntary motor movements. Two common ones used in the past were Artane and Cogentin. Currently, Cogentin or more likely, its generic equivalent Benztropine is the one most used.

More recently, a class of atypical antipsychotics has been developed. To be considered as atypical the medication must be equally effective in treating the positive symptoms of schizophrenia and must show efficacy in treating the negative symptoms and have fewer side effects in comparison with the typical neuroleptics. Currently, the most prescribed of these atypical antipsychotics are SDA’s (Serotonin Dopamine Antagonists). The dopamine blocking effect of this drug is believed to control the positive symptoms while the serotonin blocking effect of this drug is thought to control the negative symptoms. Since there is an interaction between serotonin and dopamine in which serotonin inhibits the action of dopamine; side effects caused by the typical neuroleptics are reduced unless high dosage levels are prescribed.

The first-line (drug most likely to be initially selected for treatment) choices in the United States currently are five SDA’s—Risperdal (Risperidone), Zyprexa (Olanzapine), Seroquel (Quetiapine), Geodon (Ziprasidone), and Abilify (Aripiprazole). In Europe, Solian (Amisulpride) may be used as well. Initially, these medications (the atypicals) were thought to have a better side-effect profile than the typical antipsychotics. However, the use of Cogentin (Benztropine) to control motoric side effects is growing and the return to the use of Haldol is increasing. Another side effect of the above-mentioned atypicals is blood sugar regulation, which may make them unsuitable for diabetics.

In treating psychotic disorders due to schizophrenia, treatment is most likely going to be for a lifetime. Psychotic disorders associated with other disorders (e.g., mood disorders) are most likely to be treated on a PRN (as needed) basis.

ANTIDEPRESSANTS

There are several classes of antidepressants depending on their particular pharmacodynamic actions. Most antidepressants inhibit the reuptake of serotonin and/or norepinephrine, some inhibit the action of MAO (an enzyme), and a newer one blocks an autoreceptor site. All of these lead to an increase in the levels of serotonin and/or norepinephrine and eventually the down-regulation of the receptor sites.

➢ Tricyclic Antidepressants (TCA’s): an older class of antidepressants that inhibit the reuptake of both serotonin and norepinephrine; thus, leading to the increase of those two neurotransmitters and eventually the down-regulation of their receptor sites. Unfortunately, they occupy a variety of other receptor sites that cause side effects. The most important of these is cardiotoxicity that can lead to heart problems. TCA’s are important treatment monitoring consideration with persons who are actively suicidal. Examples of commonly used TCA’s are Tofranil (Imipramine) and Elavil (Amitriptyline). TCA’s despite their side effects are still considered first-line for severe depression, unless there is evidence of a heart condition.

➢ Monoamine Oxidase Inhibitors (MAO-I): this class of medications operates by inhibiting the action of the enzyme MAO; thus leading to increases in dopamine, serotonin, and norepinephrine. A problem with increasing norepinephrine is when it is combined with a certain food substance, tyramine (contained in many common foods), it can cause a sudden increase in blood pressure, which can be life threatening. Examples of MAO-I are Eldepryl (Selegiline), Nardil (Phenelzine), and Parnate (Tranylcypromine). However, these are not usually used to treat depression, but instead, symptoms of Parkinson’s disease (Selegiline) and panic attacks (Nardil and Parnate).

➢ Selective Serotonin Reuptake Inhibitors (SSRI’s): this class of medications selectively inhibits the reuptake of serotonin; thus, leading to an increase in that neurotransmitter and eventually the down-regulation of the 5-HT receptor sites. While these medications do have side effects (sexual dysfunction being an important one), two side effects they do
not have are cardiotoxicity and the interaction with the food substance tyramine. Thus, they are much safer than the other classes of antidepressants, and usually they treat depression just as well as the other medications. Examples of commonly used SSRI’s for treatment of depression are Prozac (Fluoxetine), Serafem (Fluoxetine), Paxil (Paroxetine), Zoloft (Sertraline), Celexa (Citalopram); and Lexapro (Escitalopram). Luvox (Fluvoxamine) is usually used in the treatment of obsessive-compulsive disorder. The above medications are usually considered first-line for the treatment of mild to moderate depression.

- Norepinephrine Dopamine Reuptake Inhibitors (NDRI’s): this class of medications blocks or inhibits the neuronal reuptake of those neurotransmitters. The only commonly used antidepressant in this class is Wellbutrin (Bupropion). It is the only energizing antidepressant available. It does not cause the side effect of sexual dysfunction. Wellbutrin, using a different brand name, is used to treat some addictions such as tobacco (Zyban). This medication is now considered a first-line medication for the treatment of depression along with the SSRI’s.

- Serotonin Norepinephrine Reuptake Inhibitors (SNRI’s): this class of antidepressants is like the TCA’s, but without the side effects of TCA’s. They still continue to have the side effects of SSRI’s and may be provocative of anxiety and panic attacks. Venlafaxine (Effexor), Duloxetine (Cymbalta), and Desvenlafaxine (Pristiq) are the most commonly prescribed in this class.

- Serotonin-2 Antagonist/5-HT Reuptake Inhibitors (SARI’s): this class of medications has a dual action. They block the specific post-synaptic serotonin (5-HT-2) receptor site (all neurotransmitter receptor sites are subdivided into multiple specific receptor sites with specific functions) and also inhibit or block the presynaptic serotonin reuptake mechanism. Blocking or inhibiting the 5-HT-2 site enables the medication to be less likely to cause the side effects of sexual dysfunction and agitation/anxiety depending on the part of the brain the 5-HT-2 receptor is located. This differs from general SSRI’s that only inhibit the reuptake mechanism, which leads to all types of 5-HT receptor sites being more activated, and the typical side effects that SSRI’s have. Two commonly used medications from this class are Trazodone (Desyrel) and Serzone (Nefazodone). Trazodone (Desyrel) is not used as much as an antidepressant, but is used as a sleep aid because of its highly sedating side effect. Serzone (Nefazodone) was associated with liver toxicity and removed from the market.

- Alpha-2 Antagonist: this class of drugs operates by blocking or inhibiting the alpha-2 autoreceptors. The effect of this is to block the inhibitory or braking effect the autoreceptor typically has. This in turn leads to an increase of available neurotransmitter, in this case norepinephrine. The only drug in this category that is beginning to have some common use is Remeron (Mirtazapine) which is currently considered a first-line medication, and it’s use is increasing.

The first-line medications when antidepressants are prescribed are the SSRI’s (Prozac, Zoloft, Paxil, and Celexa for depression; Luvox for obsessive-compulsive disorder), SNRI’s (Effexor, Pristiq, and Cymbalta) or Wellbutrin, primarily because of the cardiotoxicity and diet issues. While Remeron was at one point considered a second-line medication, its use is increasing. TCA’s are still considered as first-line in the treatment of severe depression unless there is a cardiac condition. As mentioned, Trazodone is frequently prescribed, but only as a sleep aid. The TCA’s are also used to treat chronic pain and are prescribed in sub therapeutic dosage levels (lower than would be used for treating depression) for this purpose. A new medication for migraine headaches, Imitrex (Sumatriptan), is a highly selective vascular 5-HT-1 agonist that causes vasoconstriction.
MOOD STABILIZERS
These medications are used to treat the manic phase of Bipolar Disorder. Two of the medications are also antiseizure drugs. The medications most commonly seen in this class are Lithobid/Eskalith (Lithium), Depakene/Depakote (Valproate), Lamictal (Lamotrigine) and Seroquel (Quetiapine). Lithium and Tegretol do not affect the neurotransmitters directly, but stabilize neuronal functions in general, while Depakote is thought to increase levels of GABA. Depakote has become the first-line choice in this group because of its relative side-effect profile compared to Lithium and Tegretol. Other uses of mood stabilizers are treatment of chronic pain (Tegretol) and pathologic aggression (Depakote). A second-line medication, an antiseizure medication, increasingly used for mood stabilization is Neurontin (Gabapentin). Another antiseizure medication that might be used as a mood stabilizer is Trileptal (Oxcarbazepine).

ANXIOLYTICS (ANTIANXIETY)
There are two theories of anxiety, one related to Gamma-Aminobutyric-Acid (GABA), and the other related to excessive levels of Serotonin and Norepinephrine with cells in the down-regulated state.

For GABA, there are natural receptors that exist on chloride ion channels. Anything that causes the channel to open promotes reduction of anxiety, sedation, and muscle relaxation, reduction of convulsions, amnesia, and dependency on the drug. When the channel is closed, it promotes promnesia (increases memory), anxiety, and the tendency for muscle convulsions. Benzodiazepines (minor tranquilizers) influence GABA. When both a benzodiazepine and GABA occupy their respective receptor sites on an ion channel, the channel will open even further then when just GABA is available. However, a benzodiazepine by itself, without GABA available, will have no influence on the ion channel size. It only works in combination with GABA.

The most commonly prescribed benzodiazepine is Xanax (Alprazolam). It is commonly used for long-term treatment of panic disorders and posttraumatic stress disorder. Other benzodiazepines still frequently prescribed are Klonopin (Clonazepam), Valium (Diazepam), and Ativan (Lorazepam).

Ambien (Zolpidem) is a new sleep aid that, while it shares some properties of benzodiazepines, is considered a non-benzodiazepine hypnotic. It does not have muscle relaxant or anticonvulsant effects, but does work with GABA to preserve deep sleep.

For serotonin (5-HT) and norepinephrine (NE), the theory is that there are excessive levels of both NT’s. Buspar (Buspirone) is the treatment of choice for generalized anxiety disorder. This medication is called a partial agonist. These medications are capable of either increasing or decreasing levels of a given neurotransmitter. Buspar will alter serotonin by either decreasing levels of 5-HT or up regulating the number of receptor sites, or increasing levels of 5-HT and down regulating the number of receptor sites. The SSRI’s and MAO-I’s are also used to treat panic episodes and obsessive-compulsive disorder. The first-line treatment for a variety of anxiety disorders, however, is Cognitive Behavioral Therapy (CBT) with medication used as an adjunct. If medication is used, because of addiction or drug-dependence concerns with benzodiazepines, SSRI’s are currently more likely to be used.

In regard to norepinephrine, this neurotransmitter produces fight-flight behaviors such as dilated pupils, tachycardia, tremor, sweating, and anxiety/fear. This is related to nervous system activities outside the brain, and these receptor site activities can be blocked from occurring. A common medication used to control the physical symptoms of anxiety is the beta-blocker, Propranolol (Inderal).

PSYCHOSTIMULANTS
Psychostimulants are used to treat Attention Deficit Disorder. Their pharmacodynamic action is to promote the pre-synaptic release of Dopamine and, to a lesser extent, Norepinephrine. They also inhibit the reuptake of Dopamine. Two medications most commonly used in this category are Adderall (combination of amphetamines) and Ritalin (Methylphenidate). Concerta is a time-release version of Metyphenidate. Cylert (Pemoline) is less frequently prescribed for Attention Deficit Disorder because of the effects it has on the liver. A new drug that has come out in the last few years is Strattera (Atomoxetine) that is not a stimulant medication but is a norepinephrine re-uptake inhibitor.
ANTIDEMENTIA

More recently, treatments have been developed for dementia, Alzheimer’s type. The two available medications inhibit an enzyme, cholinesterase, or acetylcholinesterase, which metabolizes acetylcholine. These two medications are Tacrine (Cognex) and Aricept (Donepezil). The treatment efficacy is of more benefit in the earlier stages of cognitive decline.

RESOURCES

## HERBAL MEDICINES

### Reported Uses

<table>
<thead>
<tr>
<th><strong>ANGELICA</strong></th>
<th>Treat headaches, backaches, improve circulation in lower extremities, relieve osteoporosis, hay fever, asthma.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BILBERRY</strong></td>
<td>Treat visual and circulatory problems, glaucoma, cataracts, diabetic retinopathy, macular degeneration.</td>
</tr>
<tr>
<td><strong>CAPSICUM</strong></td>
<td>Treat bowel disorders, pain associated with postherpetic neuralgia, rheumatoid arthritis, osteoarthritis, diabetic neuropathy, and other neuropathic pain and complex pain syndromes.</td>
</tr>
<tr>
<td><strong>CAT’S-CLAW</strong></td>
<td>Treat arthritis and rheumatism and inflammatory GI disorders such as diverticulitis, gastritis, Crohn’s disease, dysentery, and ulcerations.</td>
</tr>
<tr>
<td><strong>CHAMOMILE</strong></td>
<td>Treat insomnia, stomach disorders, menstrual disorders, migraine, epidermolysis bullosa.</td>
</tr>
<tr>
<td><strong>ECHINACEA</strong></td>
<td>A wound-healing agent and as a nonspecific immunostimulant for the supportive treatment of upper respiratory tract infections and urinary tract infections.</td>
</tr>
<tr>
<td><strong>FENNEL</strong></td>
<td>Increases libido.</td>
</tr>
<tr>
<td><strong>FLAX</strong></td>
<td>Treat irritable bowel syndrome and diverticulitis and as a supplement to decrease risk of hypercholesterolemia and atherosclerosis.</td>
</tr>
<tr>
<td><strong>GARLIC</strong></td>
<td>Treat asthma, diabetes, inflammation, heavy metal poisoning, and reduce morbidity in AIDS patients.</td>
</tr>
<tr>
<td><strong>GINGER</strong></td>
<td>An anti-inflammatory agent for arthritis and relieve pain and swelling caused by rheumatoid arthritis, osteoarthritis.</td>
</tr>
<tr>
<td><strong>GINKO</strong></td>
<td>Treat cerebrovascular disease, arrhythmias, asthma, senile macular degeneration, hearing loss, improve mental alertness and overall brain function.</td>
</tr>
<tr>
<td><strong>GINSENG</strong></td>
<td>A sedative, antidepressant, sleep aid, and diuretic.</td>
</tr>
<tr>
<td><strong>GOLDENSEAL</strong></td>
<td>Treat anorexia, tuberculosis, cancer.</td>
</tr>
<tr>
<td><strong>GRAPESEED (PINEBARK)</strong></td>
<td>Treat circulatory disorders, pain, swelling with peripheral circulatory disorders, inflammatory conditions, cancer.</td>
</tr>
<tr>
<td>HERBAL MEDICINES</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td><strong>KAVA</strong></td>
<td>An antipsychotic, controls seizures in epileptic patients, anxiety disorders, depression, insomnia, asthma, pain, rheumatism, venereal disease, muscle spasms.</td>
</tr>
<tr>
<td><strong>MILK THISTLE</strong></td>
<td>Extracts used to treat acute and chronic liver disease, hepatitis C.</td>
</tr>
<tr>
<td><strong>NETTLE</strong></td>
<td>Treat rheumatism, asthma, tuberculosis, diabetes, gout, cancer, hypertension, heart failure, urinary, bladder, and kidney disorders.</td>
</tr>
<tr>
<td><strong>PASSION FLOWER</strong></td>
<td>A sedative and treats nervousness.</td>
</tr>
<tr>
<td><strong>PRIMROSE</strong></td>
<td>Treat asthmatic coughs, GI disorders, multiple sclerosis, asthma, Raynaud’s disease, Sjögren’s syndrome and to calm hyperactive children.</td>
</tr>
<tr>
<td><strong>SAINT JOHN’S WORT</strong></td>
<td>Treat depression, cancer, kidney disorders. HIV infection, cutaneous T-cell lymphoma, Kaposi’s sarcoma.</td>
</tr>
<tr>
<td><strong>VALERIAN</strong></td>
<td>A sedative and to treat tension, nervous sleep disorders.</td>
</tr>
</tbody>
</table>
## COMMON ABBREVIATIONS AND PREFIXES

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACE</td>
<td>Angiotensin-converting enzyme</td>
</tr>
<tr>
<td>ADH</td>
<td>Antidiuretic hormone</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired immunodeficiency syndrome</td>
</tr>
<tr>
<td>AV</td>
<td>Atrioventricular</td>
</tr>
<tr>
<td>b.i.d.</td>
<td>Twice daily</td>
</tr>
<tr>
<td>BPH</td>
<td>Benign prostatic hyperplasia</td>
</tr>
<tr>
<td>CBC</td>
<td>Complete blood count</td>
</tr>
<tr>
<td>CNS</td>
<td>Central nervous system</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>CSF</td>
<td>Cerebrospinal fluid</td>
</tr>
<tr>
<td>CV</td>
<td>Cardiovascular</td>
</tr>
<tr>
<td>CVA</td>
<td>Cerebrovascular accident</td>
</tr>
<tr>
<td>DNA</td>
<td>Deoxyribonucleic acid</td>
</tr>
<tr>
<td>ECG</td>
<td>Electrocardiogram</td>
</tr>
<tr>
<td>ectomy</td>
<td>To cut out – to remove.</td>
</tr>
<tr>
<td>EEG</td>
<td>Electroencephalogram</td>
</tr>
<tr>
<td>EENT</td>
<td>Eyes, ears, nose, throat</td>
</tr>
<tr>
<td>FDA</td>
<td>Food and Drug Administration</td>
</tr>
<tr>
<td>g</td>
<td>Gram</td>
</tr>
<tr>
<td>G</td>
<td>Gauge</td>
</tr>
<tr>
<td>GI</td>
<td>Gastrointestinal</td>
</tr>
<tr>
<td>gtt</td>
<td>Drops</td>
</tr>
<tr>
<td>GU</td>
<td>Genitourinary</td>
</tr>
<tr>
<td>H</td>
<td>Histamine</td>
</tr>
<tr>
<td>heme</td>
<td>Pertaining to blood—iron.</td>
</tr>
<tr>
<td>hemi</td>
<td>One half</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>HIV</td>
<td>Human immunodeficiency virus</td>
</tr>
<tr>
<td>h.s.</td>
<td>At bedtime</td>
</tr>
<tr>
<td>hyper</td>
<td>Overactive (above normal).</td>
</tr>
<tr>
<td>hypo</td>
<td>Under active (below normal).</td>
</tr>
<tr>
<td>I.D.</td>
<td>Intradermal</td>
</tr>
<tr>
<td>I.M.</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>IPPB</td>
<td>Intermittent positive-pressure breathing.</td>
</tr>
<tr>
<td>itis</td>
<td>Inflammation usually ascribed to infection or arthritis.</td>
</tr>
<tr>
<td>IU</td>
<td>International unit</td>
</tr>
<tr>
<td>I.V.</td>
<td>Intravenous</td>
</tr>
<tr>
<td>kg</td>
<td>Kilogram</td>
</tr>
<tr>
<td>M</td>
<td>Molar</td>
</tr>
<tr>
<td>mcg</td>
<td>Microgram</td>
</tr>
<tr>
<td>mEq</td>
<td>Milliequivalent</td>
</tr>
<tr>
<td>MI</td>
<td>Myocardial infarction</td>
</tr>
<tr>
<td>Na</td>
<td>Sodium</td>
</tr>
<tr>
<td>NaCl</td>
<td>Sodium chloride</td>
</tr>
<tr>
<td>NG</td>
<td>Nasogastric</td>
</tr>
<tr>
<td>NSAID</td>
<td>Nonsteroidal anti-inflammatory drug</td>
</tr>
<tr>
<td>od</td>
<td>Right eye</td>
</tr>
<tr>
<td>os</td>
<td>Left eye</td>
</tr>
<tr>
<td>ostectomy</td>
<td>The surgical cutting of bone.</td>
</tr>
<tr>
<td>ostomy</td>
<td>Any operation in which an artificial opening is formed between two hollow organs or between one or more such organs and the abdominal wall for discharge of intestinal contents or urine.</td>
</tr>
<tr>
<td>OTC</td>
<td>Over-the-counter</td>
</tr>
<tr>
<td>para</td>
<td>Along side</td>
</tr>
<tr>
<td>PCA</td>
<td>Patient-controlled analgesia</td>
</tr>
<tr>
<td>peri</td>
<td>Around</td>
</tr>
<tr>
<td>P.O.</td>
<td>By mouth</td>
</tr>
<tr>
<td>P.R.</td>
<td>By rectum</td>
</tr>
<tr>
<td>p.r.n.</td>
<td>As needed</td>
</tr>
<tr>
<td>PVC</td>
<td>Premature ventricular contraction</td>
</tr>
<tr>
<td>q</td>
<td>Every</td>
</tr>
<tr>
<td>q.i.d.</td>
<td>Four times daily</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>RBC</td>
<td>Red blood cell</td>
</tr>
<tr>
<td>RDA</td>
<td>Recommended daily allowance</td>
</tr>
<tr>
<td>REM</td>
<td>Rapid eye movement</td>
</tr>
<tr>
<td>S.C.</td>
<td>Subcutaneous</td>
</tr>
<tr>
<td>t.i.d.</td>
<td>Three times daily</td>
</tr>
<tr>
<td>U</td>
<td>Units</td>
</tr>
<tr>
<td>WBC</td>
<td>White blood cell</td>
</tr>
</tbody>
</table>
CASE MANAGEMENT
For Rehabilitation Health Professionals

Edited By
Fong Chan, Ph.D.  CRC
University of Wisconsin-Madison

Michael J. Leahy, Ph.D.  CRC
Michigan State University

Jodi L. Sauners, Ph.D.  CRC
University of Iowa

Two Volumes – 27 Chapters

MULTICULTURAL ISSUES IN
REHABILITATION AND ALLIED HEALTH

Edited By
Paul Leung, Ph.D.  CRC
University of North Texas

Carl R. Flowers, Ph.D.  CRC CLPC
Southern Illinois University-Carbondale

William B. Talley, Rh.D.
University of Maryland Eastern Shores

Priscilla R. Sanderson, Ph.D.  CRC
Arizona Cancer Center

Aspen Professional Services
jandrew@socket.net
aspenprofessionalservices.com
REHABILITATION SERVICES:
An Introduction for the Human Services Professional

Edited By
Jason D. Andrew, Ph.D. CRC/R NCC
Aspen Professional Services

Clayton W. Faubion, Ph.D. CRC
University of Maryland-Eastern Shores

PSYCHOLOGY OF DISABILITY

Edited By
Joseph F. Stano, Ph.D.
Springfield College

PRIVATE REHABILITATION:
EVOLVING OPPORTUNITIES

Edited By
Thomas D. Upton, Ph.D., CRC
Southern Illinois University-Carbondale