

**UNIT TERMINAL OBJECTIVE**

6-5 At the completion of this unit the paramedic student will be able to integrate pathophysiological and psychosocial principles to adapt the assessment and treatment plan for diverse patients and those who face physical, mental, social and financial challenges.

**COGNITIVE OBJECTIVES**

At the completion of this unit, the paramedic student will be able to:

- 6-5.1 Describe the various etiologies and types of hearing impairments. (C-1)
- 6-5.2 Recognize the patient with a hearing impairment. (C-1)
- 6-5.3 Anticipate accommodations that may be needed in order to properly manage the patient with a hearing impairment. (C-3)
- 6-5.4 Describe the various etiologies of visual impairments. (C-1)
- 6-5.5 Recognize the patient with a visual impairment. (C-1)
- 6-5.6 Anticipate accommodations that may be needed in order to properly manage the patient with a visual impairment. (C-3)
- 6-5.7 Describe the various etiologies and types of speech impairments. (C-1)
- 6-5.8 Recognize the patient with a speech impairment. (C-1)
- 6-5.9 Anticipate accommodations that may be needed in order to properly manage the patient with a speech impairment. (C-3)
- 6-5.10 Describe the various etiologies of obesity. (C-1)
- 6-5.11 Anticipate accommodations that may be needed in order to properly manage the patient with obesity. (C-3)
- 6-5.12 Describe paraplegia/ quadriplegia. (C-1)
- 6-5.13 Anticipate accommodations that may be needed in order to properly manage the patient with paraplegia/ quadriplegia. (C-3)
- 6-5.14 Define mental illness. (C-1)
- 6-5.15 Describe the various etiologies of mental illness. (C-1)
- 6-5.16 Recognize the presenting signs of the various mental illnesses. (C-1)
- 6-5.17 Anticipate accommodations that may be needed in order to properly manage the patient with a mental illness. (C-3)
- 6-5.18 Define the term developmentally disabled. (C-1)
- 6-5.19 Recognize the patient with a developmental disability. (C-1)
- 6-5.20 Anticipate accommodations that may be needed in order to properly manage the patient with a developmental disability. (C-3)
- 6-5.21 Describe Down's syndrome. (C-1)
- 6-5.22 Recognize the patient with Down's syndrome. (C-1)
- 6-5.23 Anticipate accommodations that may be needed in order to properly manage the patient with Down's syndrome. (C-3)
- 6-5.24 Describe the various etiologies of emotional impairment. (C-1)
- 6-5.25 Recognize the patient with an emotional impairment. (C-1)
- 6-5.26 Anticipate accommodations that may be needed in order to properly manage the patient with an emotional impairment. (C-3)
- 6-5.27 Define emotional/ mental impairment (EMI). (C-1)
- 6-5.28 Recognize the patient with an emotional or mental impairment. (C-1)
- 6-5.29 Anticipate accommodations that may be needed in order to properly manage patients with an emotional or mental impairment. (C-3)
- 6-5.30 Describe the following diseases/ illnesses: (C-1)
  - a. Arthritis

- b. Cancer
  - c. Cerebral palsy
  - d. Cystic fibrosis
  - e. Multiple sclerosis
  - f. Muscular dystrophy
  - g. Myasthenia gravis
  - h. Poliomyelitis
  - i. Spina bifida
  - j. Patients with a previous head injury
- 6-5.31 Identify the possible presenting sign(s) for the following diseases/ illnesses: (C-1)
- a. Arthritis
  - 2. Cancer
  - 3. Cerebral palsy
  - 4. Cystic fibrosis
  - 5. Multiple sclerosis
  - 6. Muscular dystrophy
  - 7. Myasthenia gravis
  - 8. Poliomyelitis
  - 9. Spina bifida
  - 10. Patients with a previous head injury
- 6-5.32 Anticipate accommodations that may be needed in order to properly manage the following patients: (C-3)
- 1. Arthritis
  - 2. Cancer
  - 3. Cerebral palsy
  - 4. Cystic fibrosis
  - 5. Multiple sclerosis
  - 6. Muscular dystrophy
  - 7. Myasthenia gravis
  - 8. Poliomyelitis
  - 9. Spina bifida
  - 10. Patients with a previous head injury
- 6-5.33 Define cultural diversity. (C-1)
- 6-5.34 Recognize a patient who is culturally diverse. (C-1)
- 6-5.35 Anticipate accommodations that may be needed in order to properly manage a patient who is culturally diverse. (C-3)
- 6-5.36 Identify a patient that is terminally ill. (C-1)
- 6-5.37 Anticipate accommodations that may be needed in order to properly manage a patient who is terminally ill. (C-3)
- 6-5.38 Identify a patient with a communicable disease. (C-1)
- 6-5.39 Recognize the presenting signs of a patient with a communicable disease. (C-1)
- 6-5.40 Anticipate accommodations that may be needed in order to properly manage a patient with a communicable disease. (C-3)

- 6-5.41 Recognize sign(s) of financial impairments. (C-1)  
6-5.42 Anticipate accommodations that may be needed in order to properly manage the patient with a financial impairment. (C-3)

**AFFECTIVE OBJECTIVES**

None identified for this unit.

**PSYCHOMOTOR OBJECTIVES**

None identified for this unit.

**DECLARATIVE**

- I. Introduction
  - A. Different types of "challenged" patients
  
- II. Physical challenges
  - A. Hearing impairments
    - 1. Types
      - a. Conductive deafness
      - b. Sensorineural deafness
    - 2. Etiologies
      - a. Conductive deafness (curable)
        - (1) Infection
        - (2) Injury
        - (3) Earwax
      - b. Sensorineural deafness (many incurable)
        - (1) Congenital
        - (2) Birth injury
        - (3) Disease
        - (4) Medication-induced
        - (5) Viral infection
        - (6) Tumor
        - (7) Prolonged exposure to loud noise
        - (8) Aging
    - 3. Recognition
      - a. Hearing aids
      - b. Poor diction
      - c. Inability to respond to verbal communication in the absence of direct eye contact
    - 4. Accommodations that may be necessary
      - a. Retrieve hearing aid
      - b. Paper/ pen
        - (1) Many patients with a hearing impairment use American Sign Language (ASL)
        - (2) Different syntax than English
      - c. Do not shout
        - (1) 80% of hearing loss is related to the loss of high-pitched sounds
        - (2) Use low-pitched sounds directly into ear canal
      - d. Do not exaggerate lip movement
      - e. Interpreter
        - (1) Notify receiving facility as early as

- possible
- f. Use of an “amplified” listener (e.g., ear microphone)
- g. Use of picture that illustrate basic needs/procedures
- B. Visual impairments
  - 1. Etiologies
    - a. Injury
    - b. Disease
    - c. Degeneration of eyeball, optic nerve or nerve pathways
    - d. Congenital
    - e. Infection (C.M.V.)
  - 2. Recognition
    - a. May be difficult
  - 3. Accommodations that may be necessary
    - a. Retrieve visual aids
    - b. Describe everything that you're going to do
    - c. Provide sensory information
    - d. If ambulatory, guide by leading, not by pushing
    - e. Allow leader dogs to accompany patient
- C. Speech impairments
  - 1. Types
    - a. Language disorders
    - b. Articulation disorders
    - c. Voice production disorders
    - d. Fluency disorders
  - 2. Etiologies
    - a. Language disorders
      - (1) Stroke
      - (2) Head injury
      - (3) Brian tumor
      - (4) Delayed development
      - (5) Hearing loss
      - (6) Lack of stimulation
      - (7) Emotional disturbance
    - b. Articulation disorders
      - (1) From damage to nerve pathways passing from brain to muscles in larynx, mouth or lips
      - (2) Delayed development from hearing problems, slow maturation of nervous system
    - c. Voice production disorders

- (1) Disorder affecting closure of vocal cords
      - (2) Hormonal or psychiatric disturbance
      - (3) Severe hearing loss
    - d. Fluency disorders
      - (1) Not fully understood
  - 3. Recognition
    - a. Language disorders (aphasia)
      - (1) Slowness to understand speech
      - (2) Slow growth in vocabulary and sentence structure
    - b. Articulation disorders (dysarthria)
      - (1) Speech can be slurred, indistinct, slow, or nasal
    - c. Voice production disorders
      - (1) Hoarseness
      - (2) Harshness
      - (3) Inappropriate pitch
      - (4) Abnormal nasal resonance
    - d. Fluency disorders
      - (1) Stuttering
  - 4. Accommodations that may be necessary
    - a. Allow patient time to respond to questions
    - b. Provide aids when available
- D. Obesity
  - 1. Etiologies
    - a. Caloric intake exceeds calories burned
    - b. Low basal metabolic rate
    - c. Genetic predisposition
  - 2. Accommodations that may be necessary
    - a. Obtaining medical history
      - (1) Often extensive medical history
    - b. Assessment
      - (1) Use appropriately sized diagnostic devices
    - c. Management
      - (1) Maintain professionalism
    - d. Transport
      - (1) May require additional assistance
- E. Patients with paraplegia/ quadriplegia
  - 1. Description
    - a. Paraplegia
      - (1) Weakness or paralysis of both legs
    - b. Quadriplegia
      - (1) Paralysis of all four extremities and the

- trunk
- 2.2 Accommodations that may be necessary
  - a. Assessment
    - (1) May require airway management
      - (a) Patients with halo traction device
    - (2) Observe for ostomies
      - (a) Trachea
      - (b) Bladder
      - (c) Colon
    - (3) Priapism may be present
  - b. Transport
    - (1) May require additional assistance/ equipment
- F. Other physically challenged patients

### III. Mental challenges

- A. Mental illness
  - 1. Description
    - a. Any form of psychiatric disorder
  - 2. Etiologies
    - a. Psychoses
      - (1) Caused by complex biochemical brain disease
    - b. Neuroses
      - (1) Disease related to personality
  - 3. Recognition
    - a. Behavior may be unaffected
    - b. May present with signs and symptoms consistent with illness
  - 4. Accommodations that may be necessary
    - a. Obtaining history
      - (1) Don't be afraid to ask about
        - (a) History of mental illness
        - (b) Prescribed medications
        - (c) Whether patient is taking medications as prescribed
        - (d) Concomitant ingestion of alcohol, other drugs
    - b. Assessment
      - (1) Be sure to solicit permission before beginning
    - c. Management
      - (1) Treat as you would any patient that does not have a mental illness, unless call is related specifically to the mental illness; patients

- with mental illness also experience myocardial infarctions, hypoglycemic episodes, and dislocated shoulders
- B. Developmental disabilities
  - 1. Description/ etiologies
    - a. Impaired/ insufficient development of the brain, causing an inability to learn at the usual rate
  - 2. Recognition
    - a. History
  - 3. Accommodations that may be necessary
    - a. Obtaining history
    - b. Assessment
    - c. Management
    - d. Transport
  - 4. Down's syndrome
    - a. Description/ etiologies
      - (1) A chromosomal abnormality resulting in mild to severe mental retardation, and a characteristic physical appearance
    - b. Recognition (typical)
      - (1) Eyes slope up at outer corners; folds of skin on either side of nose cover the inner corners of eye
      - (2) Small face and features
      - (3) Large and protruding tongue
      - (4) Flattening on back of the head
      - (5) Hands short and broad
    - c. Accommodations that may be necessary
      - (1) Obtaining history, consider
        - (a) Approximately 25% have a heart defect at birth
        - (b) IQ varies from 30-80
      - (2) Assessment
      - (3) Management
      - (4) Transport
- C. Emotional impairments
  - 1. Description/ etiologies
    - a. Neurasthenia
    - b. Anxiety neurosis
    - c. Compulsion neurosis
    - d. Hysteria
  - 2. Recognition
    - a. History

- 3. Accommodations that may be necessary
    - a. Obtaining history
    - b. Assessment
    - c. Management
    - d. Transport
  - D. Emotional/ mental impairments (EMI)
    - 1. Description/ etiologies
    - 2. Recognition
      - a. History
    - 3. Accommodations that may be necessary
      - a. Obtaining history
      - b. Assessment
      - c. Management
      - d. Transport
- IV. Pathological challenges
- A. Arthritis
    - 1. Description
      - a. Inflammation of a joint; characterized by pain, stiffness, swelling, redness
    - 2. Types/ etiologies
    - 3. Accommodations that may be necessary
      - a. Assessment
        - (1) Decreased range of motion/ mobility may limit physical exam
        - (2) Be sure to solicit current medications before considering the administration of medications
      - b. Management/ transport
        - (1) Limited ability to be mobile
        - (2) Make equipment fit patient, not vice-versa; pad all voids
  - B. Cancer (malignant tumor)
    - 1. Description/ etiologies
      - a. Various; dependent on primary site
    - 2. Recognition
      - a. Various; dependent on primary site
    - 3. Accommodations that may be necessary
      - a. Obtaining history
      - b. Assessment
        - (1) Look for transdermal pain medication on skin
      - c. Management
        - (1) Mediport access
      - d. Transport

- C. Cerebral palsy
  - 1. Description
    - a. Nonprogressive disorders of movement and posture
  - 2. Types
    - a. Spastic paralysis
      - (1) Abnormal stiffness and contraction of groups of muscles
    - b. Athetosis
      - (1) Involuntary, writhing movements
    - c. Ataxia
      - (1) Loss of coordination and balance
  - 3. Etiologies
    - a. Most occur before birth
    - b. Prepartum
      - (1) Cerebral hypoxia
      - (2) Maternal infection
      - (3) Kernicterus
    - c. Postpartum
      - (1) Encephalitis
      - (2) Meningitis
      - (3) Head injury
  - 4. Recognition
    - a. Spastic
      - (1) Muscles of one or more extremities are permanently contracted
    - b. Athetoid
      - (1) Involuntary writhing movement
    - c. Quadriplegia
    - d. Mental retardation in about 75% of all people with CP
    - e. Many people with athetoid and diplegic cerebral palsy are highly intelligent
  - 5. Accommodations that may be necessary
    - a. Transport
      - (1) May require additional resources to facilitate transport
      - (2) May need suctioning, due to increased oral secretions
      - (3) If contractures are present, pad appropriately; do not force extremities to move
- D. Cystic fibrosis (Mucoviscidosis)
  - 1. Description

- a. An inherited metabolic disease of the lungs and digestive system, manifesting itself in childhood
  - 2. Etiology
    - a. A defective, recessive gene
  - 3. Recognition
    - a. History
    - b. Patient may be oxygen-dependent
    - c. Salty taste on skin
    - d. Productive cough
  - 4. Accommodations that may be necessary
    - a. Management
      - (1) May require respiratory support, suctioning, oxygen
- E. Multiple sclerosis
- 1. Description
    - a. A progressive autoimmune disease of the CNS, whereby scattered patches of myelin in the brain and spinal cord are destroyed
  - 2. Etiologies
    - a. Unknown
  - 3. Recognition
    - a. If brain is affected
      - (1) Fatigue
      - (2) Vertigo
      - (3) Clumsiness
      - (4) Muscle weakness
      - (5) Slurred speech
      - (6) Ataxia
      - (7) Blurred or double vision
      - (8) Numbness, weakness or pain in the face
    - b. If spinal cord is affected
      - (1) Tingling, numbness, or feeling of constriction in any part of the body
      - (2) Extremities may feel heavy and become weak
      - (3) Spasticity may be present
  - 4. Accommodations that may be necessary
    - a. Assessment
      - (1) Recognize characteristic presentations
      - (2) May be accompanied by
        - (a) Painful muscle spasms
        - (b) UTI
        - (c) Constipation
        - (d) Skin ulcerations

- (e) Changes of mood, from euphoria to depression
  - b. Management
    - (1) Possible respiratory support
  - c. Transport
    - (1) Patient should not be expected to ambulate
- F. Muscular dystrophy
  - 1. Description
    - a. An inherited muscle disorder of unknown cause in which there is slow but progressive degeneration of muscle fibers
  - 2. Recognition
    - a. History
    - b. Little or no movement of muscle groups
  - 3. Accommodations that may be necessary
    - a. Management
      - (1) Possible respiratory support
    - b. Transport
      - (1) Patient should not be expected to ambulate
- G. Poliomyelitis
  - 1. Description/ etiologies
    - a. Caused by a virus, which usually results in a mild illness
    - b. In more serious cases, it attacks the CNS; may result in paralysis or death
  - 2. Recognition
    - a. History
    - b. Patients with severe polio may present with paralysis (including respiratory)
  - 3. Accommodations that may be necessary
    - a. Management
      - (1) If lower extremities are paralyzed, patient may require catheterization
      - (2) If respiratory paralysis, patient may require tracheostomy
    - b. Transport
      - (1) Patient should not be expected to ambulate
- H. Patients with previous head injuries
  - 1. Recognition
    - a. Physical appearance may be uncharacteristic
    - b. Speech and mobility may be affected
    - c. Short term memory loss
  - 2. Accommodations that may be necessary

- a. Obtaining history
  - b. Assessment
  - c. Management
  - d. Transport
- I. Spina bifida
- 1. Description
    - a. A congenital defect in which part of one or more vertebrae fails to develop, leaving a portion of the spinal cord exposed
  - 2. Etiology
    - a. Unknown
  - 3. Recognition
    - a. History
  - 4. Accommodations that may be necessary
    - a. Management/ transport
      - (1) Patient should not be expected to ambulate, altho  
ugh  
most  
can
- J. Myasthenia gravis
- 1. Description
    - a. A disorder in which muscles become weak and tire easily
    - b. Eyes, face, throat, and extremity muscles most commonly affected
  - 2. Etiology
    - a. Autoimmune disorder of unknown etiology
  - 3. Recognition
    - a. Drooping eyelids, double vision
    - b. Difficulty speaking
    - c. Chewing, swallowing may be difficult
    - d. Movement of extremities may be difficult
    - e. Respiratory muscles may be weakened
  - 4. Accommodations that may be necessary
    - a. Assessment/ management
      - (1) History
      - (2) Accommodations vary, based upon presentation
- V. Culturally diverse patients
- A. Variables
    - 1. Ethnicity, religion, gender, homelessness, etc. may dictate various accepted medical practices

- a. May conflict with learned medical practice of the paramedic
    - 2. Patients who speak a language other than English have unique challenges
  - B. Recognition
  - C. Accommodations that may be necessary
    - 1. Assessment/ management/ transport
      - a. Be sure to obtain permission to treat when possible
      - b. Attempt to recruit an interpreter, or consider translator device (e.g. AT&T language line) for non-English speaking patients; notify receiving facility as soon as possible if an interpreter will be needed
- VI. Terminally ill patients
  - A. Variables
  - B. Accommodations
    - 1. Obtaining history
      - a. Advance directives, DNR
    - 2. Assessment
      - a. Pain assessment (transdermal delivery of pain medications) - quantify and qualify
      - b. Management
      - c. Transport
- VII. Patients with communicable diseases
  - A. Review of etiologies
  - B. Accommodations
    - 1. Obtaining history
    - 2. Assessment
    - 3. Management
      - a. Precautions will depend upon modes of transmission
    - 4. Transport
- VIII. Financial challenges
  - A. Description
    - 1. May be apprehensive about seeking medical care
  - B. Accommodations
    - 1. Management
    - 2. Transport