Chapter 51
Patients with Special Challenges

Learning Objectives

• Identify considerations in prehospital management related to physical challenges such as hearing, visual, and speech impairments; obesity; and patients with paraplegia or quadriplegia.
• Identify considerations in prehospital management of patients who have mental illness, are developmentally disabled, or are emotionally or mentally impaired.
Learning Objectives

• Describe special considerations for prehospital management of patients with selected pathological challenges.
• Outline considerations in management of culturally diverse patients.

Learning Objectives

• Describe special considerations in the prehospital management of terminally ill patients.
• Identify special considerations in management of patients with communicable diseases.
• Describe special considerations in the prehospital management of patients with financial challenges.

Hearing Impairments

• Deafness
  — Complete or partial inability to hear
  — Total deafness is rare and usually congenital
  — Partial deafness may range from mild to severe
  — Most commonly results from
    • Ear disease
    • Injury
    • Degeneration of hearing mechanism that occurs with age
  — All deafness is conductive or sensorineural and may be combination of both (mixed hearing loss)
Hearing Impairments

• Conductive deafness
  – Faulty transportation of sound from outer to inner ear
  – Often is curable
  – In adults, commonly results from buildup of earwax that blocks outer ear canal
  – May result from infection (e.g., otitis media) and from injury to eardrum or middle ear (e.g., from barotrauma)

Hearing Impairments

• Sensorineural deafness
  – Often is incurable
  – Sounds that reach inner ear fail to be transmitted to brain
    • Damage to structures within ear or to acoustic nerve, which connects inner ear to brain
  – If present in early life may be congenital

Hearing Impairments

• Sensorineural deafness
  – Can result from birth injury or from damage to developing fetus (e.g., from premature birth or a mother who has syphilis during pregnancy)
  – If occurs in later life may be caused by
    • Prolonged exposure to loud noise
    • Disease (e.g., Meniere’s disease)
    • Tumors
    • Medications
    • Viral infections
    • Natural degeneration of cochlea or labyrinth in old age
Special Considerations

• Can use several helpful techniques for recognizing patient with hearing impairment
  – Noting presence of hearing aids
  – Observing patient for poor diction
  – Inability to respond to verbal communication in absence of direct eye contact
  – Some accommodations may be needed
    • Retrieving patient’s hearing aid or other amplified listening device
    • Providing paper and pen to aid in communication

Special Considerations

• When providing care, do not shout or exaggerate lip movement
  – Speak softly and directly into patient’s ear canal, using low-pitched voice
    • About 80 percent of hearing loss is related to inability to hear high-pitched sounds

Special Considerations

• Communication
  – Ask family members to assist
  – Use pictures to illustrate basic needs and routine medical procedures
  – American Sign Language
  – Pictographs (laminated cards that show drawings of common activities)
  – Speech amplifiers
  – Wireless text communications
Special Considerations

• Notify hospital as soon as possible if patient has severe deafness
  – Some patients with severe hearing impairments will speak with unusual syntax
  – Some may use American Sign Language
  – Personnel with special training (e.g., an interpreter) may need to be summoned to assist with patient care

Visual Impairments

• Estimates indicate that over 1 million Americans are blind and 3 million are visually impaired, even with best correction
  – Normal vision depends on uninterrupted passage of light from front of eye to light-sensitive retina at back
  – Any condition that obstructs passage of light from retina can cause vision loss

Visual Impairments

• May be present at birth from congenital disorder
  – May result from other causes
    • Cataracts
    • Degeneration of eyeball, optic nerve, or nerve pathways
    • Diseases such as diabetes and hypertension
    • Eye or brain injury (e.g., trauma, chemical burns, stroke)
    • Infections such as those caused by cytomegalovirus, herpes simplex virus, bacterial ulcers
    • Vitamin A deficiency in children living in developing countries
Visual Impairments

- May be totally blind or have partial loss of vision that affects central vision, peripheral vision, or both
  - Patient with central loss of vision is usually aware of condition
  - Those who have loss of peripheral vision may be more difficult to identify
    - Loss often goes unnoticed by person until well advanced

Special Considerations

- Accommodations for these patients that may be necessary
  - Retrieving visual aids
  - Describing all procedures before performing them
  - Providing sensory information (e.g., location of obstacles) as needed

Special Considerations

- Guide ambulatory patients by “leading,” not by “pushing”
- If possible and appropriate, patient’s guide dog should be permitted to accompany patient to hospital
- Advise medical direction of patient’s special needs
  - Appropriate personnel can be made available
Speech Impairments

• Speech impairments
  – Disorders of language
  – Articulation
  – Voice production
  – Fluency (blockage of speech)
  – All can lead to inability to communicate well

Speech Impairments

• Language disorders
  – Result from damage to language centers of brain
  – Usually result from stroke, head injury, brain tumor
  – Often exhibit aphasia (loss of power of speech) with slowness to understand speech and problems with vocabulary and sentence structure

Speech Impairments

• Aphasia can affect children and adults
  – May affect ability to speak and to comprehend written or spoken words
• Delayed development of language in child may result from
  – Hearing loss
  – Lack of stimulation
  – Emotional disturbance
  – Pragmatic language impairment
    • Developmental disorder related to autism and Asperger syndrome
Speech Impairments

• Articulation disorder
  – Inability to produce speech sounds
  – Sometimes referred to as dysarthria or motor speech disorder
  – Can result from damage to nerve pathways passing from brain to muscles of larynx, mouth, or lips
  – Often patient’s speech will be slurred, indistinct, slow, or nasal

Speech Impairments

• Disorders of articulation may result from
  – Brain injury
  – Diseases such as multiple sclerosis and Parkinson’s disease
  – Delayed development from hearing problems in children

Speech Impairments

• Phonological process disorder
  – Articulation disorder where there are difficulties with “rules of language,” such as combinations of words and syllables
  – Example include “top” for “stop,” “daw” for “dog,” and “tee” for “three”
What may cause a paramedic to become impatient when caring for a patient with a speech disorder?

Speech Impairments

• Voice production disorders
  – Characterized by
    • Hoarseness
    • Harshness
    • Inappropriate pitch
    • Abnormal nasal resonance
  – Often result from disorders that affect closure of vocal cords
  – Some caused by hormonal or psychiatric disturbances and by severe hearing loss

Speech Impairments

• Fluency disorders are not well understood
  – Marked by repetitions of single sounds or whole words and by blocking of speech
  – Example is stuttering
Special Considerations

• Once speech impairment has been identified, history taking and assessment need to be modified
  – Methods
    • Allowing extra time for patient to respond to questions
    • Clarifying what patient says
    • Asking patient to repeat an answer if it was not clearly understood
    • Offering appropriate aids (e.g., pen and paper) to assist in communications

Special Considerations

• If patient reads lips, face patient at eye level and speak slowly and clearly
  – Avoid gum chewing
  – Notify hospital if patient has a severe speech impairment
    • Appropriate personnel (e.g., audiologist or speech specialist) can be made available

Obesity

• Defined as being 30 percent above ideal body weight
  – Affects nearly 1/3 of adult U.S. population
  – Responsible for at least 300,000 deaths in U.S. each year
  – U.S. children and teens range from about 10 percent in infants and toddlers to about 18 percent in adolescents and teenagers
Obesity

• Body mass index (BMI) is used to define ideal body weight, overweight, and obesity ranges
  – Adult with BMI between 25 and 29.9 is considered overweight
  – BMI over 30 is considered obese

Obesity

• Abnormal increase in proportion of fat and cells
  – Increase is mainly in viscera and subcutaneous tissues of body
  – Known causes
    • Caloric intake that exceeds calories burned
    • Low basal metabolic rate
    • Genetic disposition for obesity

Obesity

• Complications
  – Blood (fat) lipid abnormalities
  – Cancer, including cancer of uterus, cervix, ovaries, breast, colon, rectum, and prostate
  – Depression
  – Gallbladder disease
  – Gynecological problems such as infertility and irregular periods
  – Heart disease
  – High blood pressure
Obesity

- Complications
  - Metabolic syndrome
  - Nonalcoholic fatty liver disease
  - Osteoarthritis
  - Skin problems such as intertrigo and impaired wound healing
  - Sleep apnea
  - Stroke
  - Type 2 diabetes

Obesity

- Treatment
  - Weight loss programs
  - Exercise
  - Counseling
  - Medications
  - Sometimes surgery
- Goal of treatment is lasting weight loss
- Bariatrics
  - Field of medicine that focuses on treatment and control of obesity and associated diseases

Consider this situation. A crew member makes an insensitive remark about a patient’s obesity within hearing range of the patient or the patient’s family. How will you respond?
Special Considerations

• Special considerations to caring for obese patient
  – Need to obtain thorough history
    • Will be extensive because of associated health problems
  – Be aware that symptoms patient may credit to obesity (e.g., fatigue, shortness of breath at rest or on exertion) may be signs of acute illness

Special Considerations

• Examination may call for some modifications
  – Large blood pressure cuffs
  – Positioning patient to better allow for hearing lung sounds
  – Placing ECG leads on areas of body with less fat
  – More personnel and special equipment may be needed to assist with moving patient for transport

Special Considerations

• Obese patients often are self-conscious about their weight
  – May worry about hardships they place on EMS crew and other rescuers
  – Paramedics must maintain professionalism during these patient care encounters
Paraplegia is weakness or paralysis of both legs and sometimes part of trunk.

Quadriplegia is weakness or paralysis of all four extremities and trunk.

Conditions result from nerve damage in brain and spinal cord.

Patients with Paraplegia/Quadriplegia

• Usually caused by
  – Crash
  – Sports injury
  – Fall
  – Gunshot wound
  – Medical illnesses
    • Lupus
    • Multiple sclerosis
    • Stroke
Patients with Paraplegia/Quadriplegia

- Paraplegia and quadriplegia are accompanied by loss of sensation and loss of urinary control
  - Priapism may be present in some male patients

Special Considerations

- Patients with extremity and trunk paralysis may require accommodations in patient care
  - Patients may have halo traction device to stabilize spine
  - Patients may rely on home ventilator to assist with breathing

Special Considerations

- Special accommodations can complicate airway management
- Can make patient transport more difficult
  - Some paralyzed patients will have special equipment (e.g., walkers or wheelchairs)
  - Ostomies for trachea, bladder, or colon
  - Medical devices that rely on electricity or battery supply
  - Additional personnel may be required to assist with moving special equipment and to prepare patient for ambulance transport
Mental Challenges

- Mentally challenged
  - Persons who have
    - Developmental problems
    - Emotional problems
    - Behavioral problems
    - Psychological problems

Mental Illness

- Mental illness refers to any form of psychiatric disorder
  - Most forms result from following causes
    - Biological
    - Psychosocial
Mental Illness

• Biological causes
  – Schizophrenia
  – Depression
    • May result from biochemical imbalance
• Organic causes
  – Trauma
  – Illness
  – Dementia

Mental Illness

• Psychosocial causes
  – Childhood trauma
  – Child abuse or neglect
  – Dysfunctional family structure
  – Other issues that cause inability to resolve situational conflicts in person’s life

Mental Illness

• Sociocultural causes
  – Personal relationships
  – Family stability
  – Economic status
  – Other factors that result in situational stress
Special Considerations

- Recognizing a patient with mental illness may be difficult
  - Especially if symptoms are mild
- Patients with more serious disorders may have signs and symptoms consistent with mental illness

Special Considerations

- When obtaining patient history, do not hesitate to ask about
  - History of mental illness
  - Prescribed medications
  - Compliance with prescribed medications
  - Use of over-the-counter herbal products (e.g., St. John’s wort)
  - Concomitant use of alcohol or other drugs

Special Considerations

- If patient is anxious, ask patient’s permission before performing any assessment or procedure
  - Will help to establish rapport and trust during care
  - Unless call is related specifically to mental illness, care should proceed in same manner as for any other patient
- Patients with mental illness experience medical illness and injury like all other patient groups
  - If patient acts aggressively or combatively, retreat from scene and request law enforcement personnel to secure scene

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Developmentally Disabled

• Has impaired or insufficient development of brain
  – Causes inability to learn at usual rate (developmental delay)
  – Causes
    • Lack of stimulation (as seen with child abuse or neglect)
    • Severe vision or hearing impairment
    • Mental retardation
    • Brain damage before, during, or after birth
    • Severe diseases of body organs and systems

Developmentally Disabled

• Often function well with daily activities, hold jobs, live independently (or with their family or in residential group homes)
  – Some development delays may be severe and may affect any or all of major areas of human achievement
    • Walking upright
    • Fine eye-hand coordination
    • Listening
    • Language and speech
    • Social interaction

Developmentally Disabled

• Accommodations may be needed
  – Will vary depending on severity of disability
  – Allow extra time for obtaining history and performing examination
  – Additional time should be allotted for preparing patient for transport
  – When possible, member of patient’s family or caregiver should remain with patient during care
Do you think patients with developmental delays should have any input into their care? Why?

Down Syndrome

- Results from abnormal chromosome
  - Causes mild to severe mental retardation and characteristic physical appearance
  - Typical features
    - Eyes that slope upward at outer corners
    - Folded skin on either side of nose that cover inner corners of eyes
    - Small face and small facial features
    - Large and protruding tongue
    - Flattening on back of head
    - Hands that are short and broad
Down Syndrome

• In most cases, occurs from failure of two chromosomes numbered 21 in parent cell to go into separate daughter cells during first stage of sperm or egg cell formation
  – Results in triplet of chromosomes 21 (trisomy 21) rather than usual pair
  – Extra number 21 chromosome is passed on to child and leads to Down syndrome
    • Incidence of affected fetuses increases with increased maternal age, family history of Down syndrome

Down Syndrome

• Usually do not survive past their middle age
• Many are cared for at home, others live in long-term nursing care facilities
• About 25 percent have heart defect at birth
• Many have congenital intestinal disorders, hearing defects, other illnesses

Down Syndrome

• Degree of mental disability varies with intelligence quotient (IQ) that ranges from 30 to 80
  – An IQ of 80 to 120 is considered average
  – Capable of limited learning and often are affectionate and friendly
  – Extra time must be allowed for obtaining history and for performing assessment and patient care procedures
Emotionally Impaired

- Persons with emotional problems often suffer from anxiety disorders
  - Can result in wide range of physical or mental symptoms attributed to mental stress
  - Distinguishing between symptoms produced by stress and those that indicate serious medical illness may be difficult
    - Management should always focus on presenting complaint
    - Assume the most serious cause

Special Considerations

- Signs and symptoms that may result from emotional impairment include somatic complaints such as
  - Chest discomfort
  - Tachycardia
  - Dyspnea
  - Choking
  - Syncope

Special Considerations

- Must gather full history from patient
  - Thorough examination also is essential to rule out serious illness
  - Prehospital care for these patients (in absence of serious illness) mainly is supportive
  - Includes calming measures and transport for physician evaluation
Emotionally/Mentally Impaired

- Persons who have impaired intellectual functioning (mental retardation)
  - Results in inability to cope with normal responsibilities of life
  - Can be classified further with IQ assessment
    - Mild (IQ 55 to 70)
    - Moderate (IQ 40 to 54)
    - Severe (IQ 25 to 39)
    - Profound (IQ less than 25)

Emotionally/Mentally Impaired

- More severe grades of emotional/mental impairment usually have specific physical cause (e.g., brain damage or Down syndrome)
- Mild emotional/mental impairment often has no specific cause, possibly
  - Poverty
  - Malnutrition
  - Heredity

Emotionally/Mentally Impaired

- Mild mental retardation is the most common form of emotional/mental impairment
  - Accounts for about 85 percent of retarded population
Special Considerations

• Changes to normal patient care vary based on patient’s level of retardation
  – Many with mild retardation show no symptoms other than slowness in carrying out mental tasks
  – Others with moderate to severe retardation may have limited to absent speech
  – Neurological problems are common
  – May require extra time and care in patient assessment, management, transportation

Pathological Challenges

• Certain pathological conditions may require special assessment and management skills
  – Arthritis
  – Cancer
  – Cerebral palsy
  – Cystic fibrosis
  – Multiple sclerosis
    – Muscular dystrophy
    – Poliomyelitis
    – Previous head injury
    – Spina bifida
    – Myasthenia gravis

Arthritis

• Inflammation of joints, characterized by pain, stiffness, swelling, redness
• Has many forms and varies widely in its effects
  – Two forms of arthritis are common
    • Osteoarthritis that results from cartilage loss and wear and tear of joints (common in elderly patients)
    • Rheumatoid arthritis (autoimmune disorder that damages joints and surrounding tissues)
Special Considerations

- Arthritis
  - Patients often have decreased range of motion and mobility
  - May limit physical exam
    - Ensure patient comfort whenever possible
  - Determine current medication use (e.g., analgesics) before administering drugs

Special Considerations

- Arthritis
  - Transport strategies must take into account patient's limited mobility
  - Must adjust equipment (e.g., backboards and splints) to fit patient (not vice versa)
    - Can be achieved by supplying adequate padding to fill all voids
Cancer

- Group of diseases that allows for unrestrained growth of cells in one or more body organs or tissues
  - Malignant tumors most often develop in major organs
    - Lungs
    - Breasts
    - Intestine
    - Skin
    - Stomach
    - Pancreas
  - May occur in cell-forming tissues of bone marrow and in lymphatic system, muscle, bone

Special Considerations

- Patients with cancer often are very ill
  - Signs and symptoms depend on site of origin of cancer
    - Often no signs are visible
    - Medical treatment (e.g., chemotherapy or radiation) for many cancers can produce obvious signs and symptoms and various illnesses that may initiate EMS response
    - Patients with cancer at increased risk for pulmonary embolism

Special Considerations

- Signs and symptoms associated with chemotherapy and radiation
  - Anorexia
  - Depression
  - Fatigue
  - Gastrointestinal upset
  - General malaise
  - Loss of appetite
  - Loss of hair (alopecia)
  - Pain
Special Considerations

- Requests for emergency services for patients with advanced cancer often related to patient’s pain medication
  - Example patients whose pain is no longer relieved by medicine, accidental overdose
    - May result in an altered level of consciousness or respiratory depression

Special Considerations

- If patient’s pain is not being managed, consult with medical direction
  - Larger than normal doses may need to be given to provide pain relief
  - If overdose is suspected, initiate standard care for narcotic overdose

Special Considerations

- Obtain full patient history, including list of all medications
  - Anticancer drugs
  - Pain medications through transdermal skin patches that contain analgesic agents
  - Surgically implanted devices (e.g., mediports)
  - If IV therapy necessary, additional time should be allotted to access patient’s peripheral veins or medication port
    - Strict aseptic technique is especially important in these patients
    - Often are immunocompromised
Special Considerations

• Consult with medical direction and follow protocols before using surgically implanted port for fluid or drug therapy
  – Special techniques are required to access these devices

Special Considerations

• Course of disease and medical regimen of care for cancer patients can be devastating for patient, family, and loved ones
  – Provide emotional support for all involved
  – Ensure patient’s comfort
  – Transport to hospital where patient is being treated for their cancer, when possible

Cerebral Palsy

• General term for nonprogressive disorders of movement and posture
  – Disease results from damage to fetal brain during
    • Later months of pregnancy
    • Birth
    • Newborn period
    • In early childhood
Cerebral Palsy

• Most common cause is cerebral dysgenesis (abnormal cerebral development) or cerebral malformations
  – Other less common causes
    • Fetal hypoxia
    • Birth trauma
    • Maternal infection
    • Kernicterus (excessive fetal bilirubin, associated with hemolytic disease)
    • Postpartum encephalitis, meningitis, or head injury

Cerebral Palsy

• Often diagnosed during child’s first year of life when parents notice unusual muscle tone during holding
  – Sometimes notice feeding difficulties
  – No cure exists
  – Those with moderate disability may live with relative independence and have near-normal life expectancy

Types of Cerebral Palsy

• Three distinct types of cerebral palsy exist
  – Spastic paralysis
  – Athetosis
  – Ataxia
Types of Cerebral Palsy

- Spastic paralysis
  - Produces abnormal stiffness and contraction of groups of muscles
  - Child may be categorized as
    - Diplegic
    - Hemiplegic
    - Quadriplegic

- With diplegic, all four limbs are affected
  - Legs affected more severely than arms
- With hemiplegic, limbs on only one side of body are affected
  - Arm is usually more severe than leg
- With quadriplegic, all four limbs are severely affected, not necessarily symmetrically

- Athetosis
  - Produces involuntary writhing movements and loss of coordination and balance
  - Hearing defects, epilepsy, and other CNS disorders often present
  - 30 to 50 percent have mental retardation
  - Most persons with quadriplegia are severely retarded
Types of Cerebral Palsy

• Ataxia
  – Least common form
  – Have disturbed sense of balance and depth perception
  – Usually have poor muscle tone (hypotonic), staggering walk, and unsteady hands
  – Results from damage to cerebellum, brain’s major center for balance and coordination

How can you determine the normal level of functioning in a patient with cerebral palsy?

Special Considerations

• Weakness, paralysis, and developmental delay vary by type and severity of disease
  – Some children with mild cerebral palsy attend regular schools
  – Others with more severe forms of disease never learn to walk or communicate well
    • May require lifelong skilled nursing care
  – Accommodations while providing care
    • Allow extra scene time for physical examination
    • Extra resources and personnel to aid transport
Cystic Fibrosis

- Inherited metabolic disease of lungs and digestive system that manifests in childhood
  - Caused by defective, recessive gene inherited from each parent
  - Defective gene causes glands in lining of bronchi to produce excessive amounts of thick mucus

Cystic Fibrosis

- Predisposes person to chronic lung infections
  - Pancreas fails to produce enzymes required for breakdown of fats and their absorption from intestine
  - Alterations in metabolism cause classic symptoms
    - Pale, greasy-looking, foul-smelling stools (often noticeable soon after birth)
    - Persistent cough and breathlessness
    - Lung infections that often develop into pneumonia, bronchiectasis, bronchitis

Cystic Fibrosis

- Other features of disease include stunted growth and sweat glands that produce abnormally salty sweat
- In some cases, child may fail to thrive
  - Many patients survive into adulthood
  - Poor health is common
Special Considerations

• Older patients (and parents of children) generally are aware of their disease
  – Some may be oxygen dependent
  – May need respiratory support and suctioning to clear airway of mucus and secretions
  – Many will use inhalants
  – Expect lengthy history and physical exam because of nature of disease and associated medical problems

Special Considerations

• Some patients received heart and lung transplants
  – May require transfer to specialized medical facilities for treatment
  – If parents are unaware of possibility of cystic fibrosis in presence of signs and symptoms described previously, advise physician at hospital of suspicions

Multiple Sclerosis

• Progressive and incurable autoimmune disease of CNS that destroys patches of myelin in brain and spinal cord
  – Scarring and destruction of tissues cause symptoms that range from numbness and tingling to paralysis and incontinence
Multiple Sclerosis

• Cause unknown
  – May have heritable or viral component
  – Many persons lead active, normal lives between exacerbations of illness
  – Usually begins early in adult life, becomes active for brief time, then resumes years later

Multiple Sclerosis

• Symptoms vary with affected areas of CNS
  – Brain involvement
    • Ataxia
    • Blurred or double vision
    • Clumsiness
    • Fatigue
    • Muscle weakness
    • Numbness, weakness, or pain in the face
    • Slurred speech
    • Vertigo

Multiple Sclerosis

• Symptoms vary with affected areas of CNS
  – Spinal cord involvement
    • Extremities that feel heavy and become weak
    • Spasticity
    • Tingling, numbness, or feeling of constriction in any part of body
Multiple Sclerosis

• Symptoms may occur singly or in combination
  – May last from several weeks to several months
  – Attacks vary in intensity and may be precipitated by injury, infection, physical or emotional stress
  – Some patients become disabled, bedridden, incontinent early in middle life

Multiple Sclerosis

• Symptoms may occur singly or in combination
  – Disabled patients often suffer from
    • Painful muscle spasms
    • Constipation
    • Urinary tract infection
    • Skin ulcerations
    • Mood swings
  – Managed with medications, physical therapy, counseling

Special Considerations

• Some patients may be difficult to examine
  – May be unable to provide complete medical history because of nature of illness
  – Allow extra time for patient assessment and to prepare patient for transport
  – Patient should not be expected to ambulate
  – In severe cases, respiratory support may be indicated
Muscular Dystrophy

• Inherited muscle disorder that results in slow but progressive degeneration of muscle fibers
  – Classified according to
    • Age that symptoms first appear
    • Rate at which disease progresses
    • Way in which is inherited
  – Incurable
    • Genetic counseling and testing is appropriate for persons with family history

Muscular Dystrophy

• Most common form is Duchenne’s muscular dystrophy
  – Caused by sex-linked recessive gene that affects only males
  – Rarely diagnosed before age 3
  – Signs and symptoms
    • Child who is slow in learning to sit up and walk
    • Unusual gait
    • Curvature of spine
    • Muscles that become bulky as they are replaced by fat

Muscular Dystrophy

• Eventually, most children will be unable to walk
  – Many do not live past their teenage years as a result of chronic lung infections and congestive heart failure
  – With other less common forms, patients may live well into their middle years with varying degrees of muscle weakness
Special Considerations

- Accommodations depend on person’s age, weight, and severity of disease
  - Young children may be fairly easy to examine and prepare for transport
  - When caring for older patients, extra personnel may be needed to move patient to ambulance
  - In severe cases, patient may need respiratory support

Poliomyelitis

- Infectious disease caused by poliovirus hominis
  - Spread through direct and indirect contact with infected feces and by airborne transmission
  - Attacks with variable severity
    - Asymptomatic infection
    - Febrile illness without neurological complications
    - Aseptic meningitis
    - Paralytic disease (including respiratory paralysis)
    - Possible death

Poliomyelitis

- Incidence of polio cases has declined since Salk and Sabin vaccines were made available in 1950s
  - May affect nonimmune adults and indigent children
  - Signs and symptoms
    - Fever
    - Malaise
    - Headache
    - Intestinal upset
Poliomyelitis

- Majority of persons with nonparalytic form recover fully
- In paralytic form, extensive paralysis of muscles of legs and lower trunk can occur

Special Considerations

- Caring for a patient with paralytic polio who has respiratory paralysis may call for advanced airway support to ensure adequate ventilation
  - Patients on home ventilators typically have tracheostomy
  - If lower body is paralyzed, catheterization of bladder may be needed
  - Extra resources and personnel may be needed to prepare patient for transport

Previously Head-Injured Patients

- Traumatic brain injury can result from many types of trauma
  - Can affect many cognitive, physical, psychological skills
  - Physical deficits
    - Ambulation
    - Balance and coordination
    - Fine motor skills
    - Strength
    - Endurance
Previously Head-Injured Patients

• Traumatic brain injury can result from many types of trauma
  – Cognitive deficits
    • Language and communication
    • Information processing
    • Memory
    • Perceptual skills
    • Psychological status often is altered

Special Considerations

• Depending on patient’s area of brain injury, obtaining a history and performing assessment and care may be difficult
  – Some patients may need restraint
  – Family and other caregivers should be involved in managing patient (when appropriate)
  – Interview to determine whether patient’s actions and responses are “normal” or “baseline” for patient
  – Additional time should be allotted at scene to provide care

Why are previously head-injured patients at high risk for injury?
Spina Bifida

- Congenital defect
  - Part of one or more vertebrae fails to develop
  - Leaves portion of spinal cord exposed
  - Ranges in severity from that of minimal evidence of defect to child who is severely disabled

Spina Bifida

- In severe cases
  - Legs of some children may be deformed with partial or full paralysis
  - Loss of sensation in all areas below level of defect
  - Associated abnormalities
    - Hydrocephalus with or without brain damage
    - Cerebral palsy
    - Epilepsy
    - Mental retardation
Special Considerations

- Because of varying degrees, care must be tailored to patient’s specific needs
  - Some patients require no special accommodations
  - Others need extra on-scene time for assessment and management
  - Additional resources and personnel to prepare patient for transport may be needed

Myasthenia Gravis

- Autoimmune disorder in which muscles become weak and tire easily
  - Damage occurs to muscle receptors responsible for transmitting nerve impulses
  - Commonly affects muscles of eyes, face, throat, extremities

Myasthenia Gravis

- Rare disease that can begin suddenly or gradually
  - Can occur at any age but usually appears in women between the ages of 20 and 30 and in men over 50 years of age
  - Classic signs and symptoms
    - Drooping eyelids, double vision
    - Difficulty speaking
    - Difficulty chewing and swallowing
    - Difficult extremity movement
    - Weakened respiratory muscles
Myasthenia Gravis

• Affected muscles become fatigued with use
  – May recover completely with rest
  – May be worsened by infection, stress, medications, menstruation
  – Often can be controlled with drug therapy to enhance transmission of nerve impulses in muscles
    • Removal of thymus gland may improve condition
  – In small number of patients, will progress to paralysis of throat and respiratory muscles
    • May lead to death

Special Considerations

• Accommodations required will vary based on patient’s presentation
  – In most cases, supportive care and transport
  – In respiratory distress, take measures to ensure adequate airway and ventilatory support
Culturally Diverse Patients

- Individuals vary in many ways, and huge diversity exists in populations of all cultures
  - Diversity is term once used mainly to describe “racial awareness”
    - Now refers to differences of any kind
    - Age, race, class, religion, gender, sexual preference, personal habitat, physical ability
  - Good health care depends on sensitivity toward these differences

What kinds of diversity are there in your classroom? How do you feel about that diversity?

Culturally Diverse Patients

- Experiences of health and illness vary widely as result of different beliefs, behaviors, and past experiences
  - May conflict with learned medical practice of paramedic
  - By revealing awareness of cultural issues, paramedic conveys interest, concern, respect
Culturally Diverse Patients

- When dealing with patients from different cultures, remember following key points
  - Individual is “foreground,” culture is “background”
  - Different generations and individuals within same family may have different sets of beliefs
  - Not all persons identify with their ethnic cultural background
  - All persons share common problems or situations
  - Respect integrity of cultural beliefs

- When dealing with patients from different cultures, remember following key points
  - Realize that persons may not share your explanations of causes of their ill health but may accept conventional treatments
    - You do not have to “convert” patient to your way of thinking to get desired result

- When dealing with patients from different cultures, remember following key points
  - You do not have to agree with every aspect of another’s culture, nor does the person have to accept everything about yours for effective and culturally sensitive health care to occur
  - Recognize your personal cultural assumptions, prejudices, and belief systems
    - Do not let them interfere with patient care
Special Considerations

• Regardless of patient’s cultural background, education, occupation, or ability to speak English, most patients will be anxious during an emergency event
  – If paramedic does not speak patient’s language, communication should begin using English first
  – Patient may understand or speak some English words or phrases
  – Bystanders, coworkers, or family members may be available to assist

• In some areas, special translator devices for non-English-speaking patients are available
  – If patient does not speak or understand English, try to communicate with signs or gestures
  – Hospital should be notified as soon as possible so arrangements for interpreter can be made

• If time allows, perform all assessment procedures slowly and with patient’s permission
  – “Private space” is culturally defined
  – Best approach is to point to area of body to be examined before touching patient
Special Considerations

• Respect patient’s need for modesty and privacy at scene and during transport
  – Women and men of some cultures have very strict religious beliefs regarding personal modesty and appropriateness of being touched, especially by strangers
  – When possible, every effort should be made to honor wishes, protect their privacy, ensure their comfort

Terminally Ill Patients

• As health care professionals, paramedics will care for terminally ill patients
  – Often will be emotionally charged events
  – Will require great deal of empathy and compassion for patient and his or her loved ones
  – If emotions at scene are out of control, take control and try to calm persons involved

Terminally Ill Patients

• If EMS has been called during late stages of a patient’s terminal illness or for change in patient’s condition, full history should be obtained
  – Patient or family should be asked about advance directives and appropriateness of resuscitation procedures
  – Review carefully any documentation made available concerning advance directives (e.g., a do-not-resuscitate order)
  – Advanced directives should be discussed with medical direction so that care decisions can be made
Special Considerations

• Care of a terminally ill patient
  – Often is mainly supportive and limited to calming and comfort measures
  – May include transport for physician evaluation
  – Many will be involved in hospice care to help deal with death and dying
  – Pain assessment and management are important aspects of caring for these patients

Special Considerations

• Try to gather full pain medication history and examine patient for presence of transdermal drug patches or other pain-relief devices
  – Medical direction may advise analgesics or sedative to ensure patient’s comfort following an assessment of
    • Vital signs
    • Level of consciousness
    • Medication history

Patients with Communicable Diseases

• Exposure to some infectious diseases can be significant health risk to paramedics
  – Crucial to ensure personal protection on every response
  – Required precautions depend on mode of transmission and on ability of pathogen to cause disease
    • Simple measures of protection greatly reduce exposure to pathogens
Special Considerations

• Some infectious diseases take toll on emotional well-being of affected patients, families, loved ones
  – Psychological aspects of providing care include emphasis on
    • Recognizing each patient as individual with unique health care needs
    • Respecting each person's personal dignity
    • Providing considerate, respectful care focused on person's individual needs

How do you think you’ll feel when called to care for a patient who is HIV positive or has AIDS?

Financial Challenges

• More than 45.7 million Americans and 1/3 of persons living in poverty are estimated to have no health insurance
  – Insurance coverage held by many others would not carry them through catastrophic illness
  – Financial challenges for health care can quickly result from loss of job and depletion of savings
Financial Challenges

- Financial challenges combined with medical conditions that require uninterrupted treatment or that occur in presence of unexpected illness or injury can deprive patient of basic health care
  - Most medical personnel and health care facilities recognize their ethical duty to provide services immediately, without regard to payment, in emergencies

Financial Challenges

- Homelessness
  - Many have multiple health problems often direct result of homelessness
    - Chronic illness
    - Frostbite
    - Leg ulcers
    - Respiratory infections
  - At greater risk for trauma from
    - Muggings
    - Beatings
    - Rape

Financial Challenges

- Homelessness
  - Precludes
    - Good nutrition
    - Good personal hygiene
    - Basic first aid
Financial Challenges

- Homelessness
  - Some with mental disorders may use alcohol or other drugs to self-medicate
  - Those with addictive disorders often at risk of HIV and other communicable diseases
  - Be familiar with services in community for homeless
    - Know where to refer for food and shelter

Consider patients with chronic illness and no insurance. How do you think financial pressures influence medication compliance in these patients?

Special Considerations

- Persons with financial challenges often are anxious about seeking medical care
  - Ability to pay for emergency care generally is not concern for EMS personnel
  - According to Emergency Medical Services Agenda for the Future, “the focus of public access is the ability to secure prompt and appropriate EMS care regardless of socioeconomic status, age, or special need”
Special Considerations

• For all those who contact EMS with perceived requirement for care, subsequent response and level of care provided must be commensurate with situation
  – When caring for patient with financial challenges who is concerned about cost of receiving needed health care, explain
    • Patient’s ability to pay should never be factor in obtaining emergency care
    • Federal law requires that care be provided, regardless of patient’s ability to pay

• In cases in which no life-threatening condition exists, ask patient which hospital is covered through patient’s health plan or insurance policy
  – When patient does not have insurance coverage, tell patient about alternative facilities for health care for patient’s present condition
  – Patient also should be counseled about future situations that do not require transport for emergency department evaluation
    • Provide approved list of alternative health care sites that can provide medical care at costs that are much less than those charged by emergency departments
Summary

• Certain accommodations may be needed for a hearing-impaired patient, which include helping with the patient’s hearing aid, providing paper and pen to aid in communication, speaking softly into the patient’s ear, and speaking in clear view of the patient.

• When caring for a visually impaired patient, help the patient use his or her glasses or other visual aids.
  – Describe all procedures before performing them.

Summary

• Allow extra time for history of a patient with a speech impairment.
  – If appropriate, provide aids such as a pen and paper to assist in communication.

• When caring for an obese patient, use the proper sized diagnostic devices.
  – Secure extra personnel if needed to move patient for transport.

Summary

• When transporting patients with paraplegia or quadriplegia, extra personnel may be needed to move special equipment.

• Once rapport and trust have been established with a patient who has mental illness, proceed with care in the standard manner.
Summary

• When caring for a patient with developmental delays, allow enough time to obtain a history, perform an assessment, deliver care, and prepare for transport

• Challenge in assessing patients with emotional impairments is distinguishing between symptoms produced by stress and those caused by serious medical illness

Summary

• Pathological conditions may call for special assessment and management skills
  – Ask about current medications and patient’s normal level of functioning

• Diversity refers to differences of any kind
  – Includes race, class, religion, gender, sexual preference, personal habitat, and physical ability
  – Good health care depends on sensitivity toward these differences

Summary

• Often, calls involving care of a terminally ill patient will be emotionally charged
  – Require great deal of empathy and compassion for patient and his or her loved ones

• Some infectious diseases will take a toll on the emotional well-being of affected patients, their families, and loved ones
  – Be sensitive to psychological needs of the patient and his or her family
Summary

• Financial challenges can deprive a patient of basic health care services
  – These patients may be reluctant to seek care for illness or injury

Questions?