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UNIT TERMINAL OBJECTIVE

6-4 At the completion of this unit, the EMT-Critical Care Technician student will be able to use assessment findings to formulate a management plan for the geriatric patient.

COGNITIVE OBJECTIVES

At the completion of this lesson, the EMT-Critical Care Technician student will be able to:

6-4.1 Describe dependent and independent living environments. (C-1)
6-4.2 Identify local resources available to assist the elderly and discuss strategies to refer at-risk patients to appropriate community services. (C-1)
6-4.3 Discuss expected physiological changes associated with aging. (C-1)
6-4.4 Describe common psychological reactions associated with aging. (C-1)
6-4.5 Discuss problems with mobility in the elderly. (C-1)
6-4.6 Discuss problems with continence and elimination. (C-1)
6-4.7 Describe communication strategies used to provide psychological support. (C-1)
6-4.8 Discuss factors that may complicate the assessment of the elderly patient. (C-1)
6-4.9 Discuss common complaints, injuries, and illnesses of elderly patients. (C-1)
6-4.10 Discuss pathophysiology changes associated with the elderly in regards to drug distribution, metabolism, and elimination. (C-2)
6-4.11 Discuss the impact of polypharmacy, dosing errors, medication non-compliance, and drug sensitivity on patient assessment and management. (C-1)
6-4.12 Discuss various body system changes associated with age. (C-1)
6-4.13 Discuss the assessment and management of the elderly patient with complaints related to the following body systems: (C-1)
- Respiratory
- Cardiovascular
- Nervous
- Endocrine
- Gastrointestinal

6-4.14 Describe the assessment of nervous system diseases in the elderly, including cerebral vascular disease, delirium, dementia, Alzheimer's disease and Parkinson's disease. (C-1)
6-4.15 Discuss the assessment of an elderly patient with gastrointestinal problems, including GI hemorrhage and bowel obstruction. (C-1)
6-4.16 Discuss the normal and abnormal changes with age related to toxicology. (C-1)
6-4.17 Discuss the assessment of the elderly patient with complaints related to toxicology. (C-1)
6-4.18 Describe the assessment and management of the elderly patient with toxicological problems. (C-1)
6-4.19 Discuss the assessment and management of the patient with environmental considerations. (C-1)
6-4.20 Discuss the normal and abnormal changes of the musculoskeletal system with age. (C-1)
6-4.21 Discuss the assessment and management of the elderly patient with complaints associated with trauma. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this unit, the EMT-Critical Care Technician student will be able to:

6-4.22 Demonstrate and advocate appropriate interactions with the elderly that convey respect for their position in life. (A-3)
6-4.23 Recognize and appreciate the many impediments to physical and emotional well being in the elderly. (A-2)

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PSYCHOMOTOR OBJECTIVES
At the completion of this unit, the EMT-Critical Care Technician student will be able to:

6-4.24 Demonstrate the ability to assess a geriatric patient. (P-2)
6-4.25 Demonstrate the ability to apply assessment findings to the management plan for a geriatric patient. (P-3)

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DECLARATIVE

I. Introduction
- A. Geriatrics is a population with special and varying needs
- B. Demographics
  - 1. Increasing older adult population
- C. Societal issues
  - 1. Social issues
    - a. Society's view of aging
    - b. Isolation
  - 2. Living environments
    - a. Independent living
      - (1) Spouse/ family support
      - (2) Visiting nursing
    - b. Dependent living
      - (1) Live-in nursing care
      - (2) Assisted living environments
      - (3) Nursing homes
  - 3. Financial aspects
  - 4. Ethics
    - a. Advanced directives
- D. Referral resources
  - 1. National, state, local

II. Common Problems
- A. Problems with mobility and falls
  - 1. Physical effects of decreased mobility
    - a. Poor nutrition
    - b. Difficulty with elimination
    - c. Circulation
    - d. Skin integrity
    - e. Predisposes patients to falls and injury
  - 2. Psychological effect of decreased mobility
    - a. Loss of independence
    - b. Loss of confidence
    - c. Feeling "old"
  - 3. Risk factors for falls
    - a. History of falls
    - b. Dizziness, weakness, impaired vision
    - c. Altered gait
    - d. CNS problems/ decreased mental status
    - e. Medications
  - 4. Prevention strategies
    - a. Use of assistive devices
    - b. Modify the environment
- B. Problems with sensations
  - 1. Vision
    - a. Visual changes begin at age 40 and problems increase gradually
      - (1) Cataracts

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(2) Glaucoma
2. Hearing
a. Hearing loss
(1) Impairs the ability to communicate
(2) Hearing aids may not restore hearing to normal
3. Speech
a. Word retrieval
b. Decreased fluency of speech
c. Slowed rate of speech
d. Change in voice quality
4. Pain perception
a. Alterations for sensory deficits
b. Non specific complaints
c. Decreased ability to detect changes
C. Problems with continence and elimination
1. Incontinence
a. Incontinence is never normal
b. Involves urinary or bowel
(1) Decrease in bladder capacity
(2) Involuntary bladder contractions
(3) Decreased ability to postpone voiding
(4) Medications may affect bladder/ bowel control
c. Mild to total
d. Extremely embarrassing
e. Can lead to skin irritation or urinary tract infection
2. Elimination
a. Causes of difficulty in urination
(1) Enlargement of the prostate in men
(2) Urinary tract infections
(3) Acute or chronic renal failure
b. Causes of difficulty in bowel elimination
(1) Diverticular disease
(2) Constipation
(3) Colorectal cancer
D. Concomitant disease process

III. General assessment
A. Patience is important
B. General health assessment
1. Social history
2. Environment
a. Ability for self care
3. Social support system
4. Activity level
5. Medication history
a. Prescription medications
b. Non-prescription medications
6. Nutrition
a. Overall health is greatly affected by nutrition

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- b. Malnutrition causes dehydration and hypoglycemia
- 7. Sleep and rest

C. Communicating with the elderly patient
- 1. Use proper verbal and nonverbal communication strategies
- 2. Locate patient hearing aid or eyeglasses if needed
- 3. Turn on lights
- 4. Preserve dignity
- 5. Always explain before you do
- 6. Supportive strategies
  - a. Encourage patient to express feelings
  - b. Avoid questions which are judgmental
  - c. Confirm what the patient says
  - d. Take responsibility for communication breakdown

D. History
- 1. Common medical complaints

E. Physical exam
- 1. Mental status assessment

F. Factors complicating assessment
- 1. Multiple diseases/ complaints
- 2. Absence of classical symptoms
- 3. Failure to relate symptoms
- 4. Sensory alterations
- 5. Polypharmacy

IV. General management

A. Airway and ventilation

B. Circulation

C. Pharmacological
- 1. Pharmacological concerns
  - a. Older adults are more sensitive to drugs
  - b. Experience prolonged drug effects
  - c. Have more adverse reactions
  - d. Polypharmacy
  - e. Many chronic illnesses
  - f. Medication interaction
    - (1) Proper dosing is very important due to
      - (a) Less lean body mass
      - (b) Low fluid reserve
      - (c) Slow metabolism
      - (d) Decreased renal and hepatic function

D. Non-pharmacological

E. Transport considerations
- 1. Position of comfort
- 2. Gentle handling
- 3. Extra padding

F. Psychological support

V. Specific system pathophysiology, assessment, and management

A. Respiratory System

1. Changes with age
    a. Decreased lung function due to
        (1) Chronic exposure to pollutants
        (2) Decreased respiratory muscle tone
        (3) Changes in alveolar/ capillary exchange
        (4) Respiratory center changes
    b. Most common pulmonary diseases in the elderly
        (1) Pneumonia
            (a) Leading cause of death in the elderly
        (2) Pulmonary embolism
            (a) Mortality is high due to difficulty in diagnosis
        (3) Obstructive airway diseases
            (a) Combined bronchitis and emphysema in patients with a long history of smoking
2. Assessment
    a. History
        (1) Smoking
        (2) Home oxygen use
        (3) Medications
        (4) Breathing difficulty
            (a) Physical exam
            (b) Wheezing / prolonged expiratory phase
            (c) Breath sounds unreliable
3. Management

B. Cardiovascular system
1. Changes with age
    a. Arteries become increasingly rigid
    b. Decreased peripheral resistance
    c. Reduced blood flow to all organs
    d. Increased blood pressure
    e. Widened pulse pressure
    f. Heart muscle stiffens
    g. Increased incidence of postural hypotension
    h. Increased atherosclerosis throughout the body
    i. The heart increases in size
2. Assessment
    a. History
        (1) Cardiovascular fitness
        (2) Changes in exercise tolerance
        (3) Recent diet history
        (4) Medications
        (5) Smoking
        (6) Breathing difficulty, especially at night
        (7) Palpitations, flutter, skipped beats
    b. Physical exam
        (1) Hypertension and orthostatic hypotension
        (2) Dependent edema
        (3) Consider checking the blood pressure in both arms
        (4) Check pulses in all extremities routinely

(5) Check for dehydration
(6) Chest pain is less common in the elderly
(7) Dyspnea is the most common sign in patients over 85
(8) PVC's are present in most adults over 80

3. Management
   a. Conditions
   b. Dysrhythmias

C. Nervous system
1. Changes with age
   a. Cognition requires perceptual organs and the brain
   b. Cognitive function is not affected by the normal aging process
   c. Slight changes in the following are normal
      (1) Difficulty with recent memory
      (2) Psychomotor slowing
      (3) Forgetfulness
      (4) Decrease in reaction time
2. Assessment
   a. Best if conducted over time
   b. Ask family or caretakers for information to determine the progression
   c. Focus on the patient's perceptions, thought processes, and communication
   d. Provide an environment with minimal distractions
   e. Mental status/ cognitive functioning exam
      (1) Be calm, unhurried
      (2) Ask clear, direct questions
      (3) Give the patient time to respond
      (4) Establish normal patterns of behavior and changes in behavior
      (5) Include ability to perform activities of daily living
      (6) Look for patterns of behavior over time
      (7) Assess the patient's mood and affective or emotional state
   f. Assess for
      (1) Weakness
      (2) Chronic fatigue
      (3) Changes in sleep patterns
      (4) Syncope or near syncope
   g. Management

D. Endocrine system
1. Diabetes
   a. Approximately 20% of older adults have diabetes
   b. Almost 40% have some impaired glucose tolerance
   c. Most commonly type II
2. Thyroid diseases
3. Assessment
4. Management

E. Gastrointestinal system
1. Conditions
   a. Hiatal hernia
   b. GI hemorrhage
      (1) Increased risk
   c. Bowel obstruction

2. Assessment
   a. Look for indication of malnutrition
3. Management

F. Common medical conditions
   a. Stroke
      (1) Transient ischemic attack
   b. Delirium
      (1) Organic brain dysfunction
      (2) Potentially reversible, if caught early
      (3) Can progress into chronic mental dysfunction
      (4) Possible causes
         (a) Tumor
         (b) Metabolic disorders
         (c) Fever
         (d) Drug reaction
         (e) Alcohol intoxication/ withdrawal
      (5) Assessment
         (a) Acute onset of anxiety
         (b) Unable to focus
         (c) Unable to think logically or maintain attention
         (d) Memory is intact
   c. Dementia
      (1) Increases with age
      (2) Half of nursing home patients have some form of dementia
      (3) Generally considered irreversible
      (4) Patient becomes dependent on others
      (5) Causes include
         (a) Strokes
         (b) Genetic or viral factors
         (c) Alzheimer's
      (6) Assessment
         (a) Progressive disorientation
         (b) Shortened attention span
         (c) Aphasia, nonsense talking
         (d) Hallucinations
         (e) Caretaker exhaustion
         (f) Severely limits ability to communicate
   d. Alzheimer's disease
      (1) Pathophysiology
      (2) Assessment
   e. Parkinson's disease
      (1) Pathophysiology
      (2) Assessment

VI. Special considerations
   A. Toxicology considerations
      1. Decreased kidney function alters elimination
      2. Increased likelihood of CNS side effects
      3. Altered GI absorption

4. Decreased liver blood flow alters metabolism and excretion
5. Substance abuse
   a. Common problem
   b. Stress is a factor
   c. Polypharmacy
   d. Assessment
      (1) Often very subtle signs
      (2) Small amounts of alcohol can cause intoxications
      (3) Mood swings, denial, and hostility
      (4) Question family and friends
      (5) Confusion
      (6) History of falls
      (7) Anorexia
      (8) Insomnia
      (9) Vision and memory changes
      (10) Poor dexterity
   e. Management requires identification and referral

B. Environmental considerations
   1. Hypothermia in the elderly
   2. Hyperthermia in the elderly
   3. Prevention strategies

C. Trauma considerations
   1. Bones fracture with mild trauma
      a. Osteoporosis and muscle weakness increase likelihood of fractures
      b. Susceptible to stress fractures of femur, pelvis, tibia
      c. Hip fracture is the most common acute orthopedic condition
   2. Reduced cardiac reserve decreases the ability to compensate for blood loss
   3. Head injuries are more serious
      a. Brain shrinkage allows brain to move
      b. Subdural hematoma may develop more slowly
   4. Burn injuries are more serious
      a. Increased severity due to pre-existing disease
      b. Skin changes result in increased burn depth
      c. Decreased defense against infection
   5. Slower healing
   6. Mortality rates markedly increased
   7. Post injury disability more common
   8. Assessment
      a. Fractures can be occult due to diminished pain perception
      b. Observe scene for clues of abuse
   9. Management
      a. Immobilization
         (1) Packaging should include bulk, and padding to fill in areas
         (2) Kyphosis may require extra padding under the shoulders to maintain alignment
      b. Dentures may need to be removed
      c. Oxygen is very important due to vascular disease
      d. Monitor fluid administration for signs/ symptoms of pulmonary edema
      e. Prevent hypothermia by keeping patient warm

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f. ECG monitoring is indicated due to increased cardiac disease
g. Transportation
   (1) Appropriate mode
   (2) Appropriate facilities
h. Psychological support/ communications strategies

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