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UNIT TERMINAL OBJECTIVE

3-4 At the end of this unit, the paramedic student will be able to apply a process of clinical decision making to use the assessment findings to help form a field impression.

COGNITIVE OBJECTIVES

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

3-4.1 Compare the factors influencing medical care in the out-of-hospital environment to other medical settings. (C-2)
3-4.2 Differentiate between critical life-threatening, potentially life-threatening, and non life-threatening patient presentations. (C-3)
3-4.3 Evaluate the benefits and shortfalls of protocols, standing orders and patient care algorithms. (C-3)
3-4.4 Define the components, stages and sequences of the critical thinking process for paramedics. (C-1)
3-4.5 Apply the fundamental elements of critical thinking for paramedics. (C-2)
3-4.6 Describe the effects of the “fight or flight” response and the positive and negative effects on a paramedic’s decision making. (C-1)
3-4.7 Summarize the “six Rs” of putting it all together: Read the patient, Read the scene, React, Reevaluate, Revise the management plan, Review performance. (C-1)

AFFECTIVE OBJECTIVES

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

3-4.8 Defend the position that clinical decision making is the cornerstone of effective paramedic practice. (A-3)
3-4.9 Practice facilitating behaviors when thinking under pressure. (A-1)

PSYCHOMOTOR OBJECTIVES

None identified for this unit.

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DECLARATIVE

I. Introduction and key concepts
- A. The cornerstones of effective paramedic practice
  - 1. Gathering, evaluating, and synthesizing information
  - 2. Developing and implementing appropriate patient management plans
  - 3. Applying judgment and exercising independent decision making
  - 4. Thinking and working effectively under pressure
- B. The out-of-hospital environment
  - 1. Unlike other environments where medical care is traditionally rendered
  - 2. Unique, heavily influenced by factors that don't exist in other medical settings
- C. The spectrum of patient care in out-of-hospital care in the out-of-hospital setting
  - 1. Obvious, critical life-threats
    - a. Major, multi-system trauma
    - b. Devastating single system trauma
    - c. End stage disease presentations
    - d. Acute presentations of chronic conditions
  - 2. Potential life-threats
    - a. Serious, multi-system trauma
    - b. Multiple disease etiologies
  - 3. Non life-threatening presentations
- D. Providing guidance and authority for paramedic action and treatments
  - 1. Protocols, standing orders, and patient care algorithms
    - a. Can clearly define and outline performance parameters
    - b. Promote a standardized approach
  - 2. Limitations of protocols, standing orders and patient care algorithms
    - a. Only addresses "classic" patient presentations
      - (1) Non-specific patient complaints don't follow model
      - (2) Limited clarity of presenting patient problems
    - b. Don't speak to multiple disease etiologies
    - c. Don't speak to multiple treatment modalities
    - d. Promotes linear thinking, "cookbook medicine"

II. Components, stages, and sequence of critical thinking process for paramedics
- A. Concept formation
  - 1. MOI/ scene assessment
  - 2. Initial assessment and physical examination
  - 3. Chief complaint
  - 4. Patient history
  - 5. Patient affect
  - 6. Diagnostic tests
- B. Data interpretation
  - 1. Data gathered
  - 2. Paramedic knowledge of anatomy and physiology, and pathophysiology
  - 3. Paramedic attitude
  - 4. Previous experience base of the paramedic
- C. Application of principle
  - 1. Field impression/ working diagnosis
  - 2. Protocols/ standing orders
  - 3. Treatment/ intervention

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D. Evaluation
   1. Reassessment of patient
   2. Reflection in action
   3. Revision of impression
   4. Protocol/ standing orders
   5. Revision of treatment/ intervention
E. Reflection on action
   1. Run critique
   2. Addition to/ modification of experience base of the paramedic

III. Fundamental elements of critical thinking for paramedics
   A. Adequate fund of knowledge
   B. Ability to focus on specific and multiple elements of data
   C. Ability to gather and organize data and form concepts
   D. Ability to identify and deal with medical ambiguity
   E. Ability to differentiate between relevant and irrelevant data
   F. Ability to analyze and compare similar situations
   G. Ability to recall contrary situations
   H. Ability to articulate decision making reasoning and construct arguments

IV. Considerations with field application of assessment based patient management
   A. The patient acuity spectrum
      1. EMS is activated for countless reasons
      2. Few out-of-hospital calls constitute true life-threatening emergencies
         a. Minor medical and traumatic events require little critical thinking and have relatively easy decision making
         b. Patients with obvious life-threats pose limited critical thinking challenges
         c. Patients who fall on the acuity spectrum between minor and life-threatening pose the greatest critical thinking challenge
   B. Thinking under pressure
      1. Hormonal influence i.e. “fight or flight” response impacts paramedic decision making both positively and negatively
         a. Enhanced visual and auditory acuity
         b. Improved reflexes and muscle strength
         c. Impaired critical thinking skills
         d. Diminished concentration and assessment ability
      2. Mental conditioning is the key to effective performance under pressure
         a. Skills learned at a pseudo-instinctive performance level
         b. Automatic response for technical treatment requirements
   C. Mental checklist for thinking under pressure
      1. Stop and think
      2. Scan the situation
      3. Decide and act
      4. Maintain clear, concise control
      5. Regularly and continually reevaluate the patient
   D. Facilitating behaviors
      1. Stay calm, don’t panic
      2. Assume and plan for the worst; err on the side of the patient
      3. Maintain a systematic assessment pattern
      4. Balance analysis, data processing and decision making styles

- a. Situation analysis styles - reflective versus impulsive
- b. Data processing styles - divergent versus convergent
- c. Decision making styles - anticipatory versus reactive

E. Situation awareness
1. Reading the scene
2. Reading the patient

F. Putting it all together - “the six Rs”
1. Read the patient
   - a. Observe the patient
     - (1) Level of responsiveness/ consciousness
     - (2) Skin color
     - (3) Position and location of patient - obvious deformity or asymmetry
   - b. Talk to the patient
     - (1) Determine the chief complaint
     - (2) New problem or worsening of preexisting condition?
   - c. Touch the patient
     - (1) Skin temperature and moisture
     - (2) Pulse rate, strength, and regularity
   - d. Auscultate the patient
     - (1) Identify problems with the lower airway
     - (2) Identify problems with the upper airway
   - e. Status of ABCs - identifying life-threats
   - f. Complete and accurate set of vital signs
     - (1) Use as triage tool to estimate severity
     - (2) Can assist in identifying the majority of life threatening conditions
     - (3) Influenced by patient age, underlying physical and medical conditions, and current medications
2. Read the scene
   - a. General environmental conditions
   - b. Evaluate immediate surroundings
   - c. Mechanism of injury
3. React
   - a. Address life-threats in the order they are found
   - b. Determine the most common and statistically probable cause that fits the patient’s initial presentation
   - c. Consider the most serious condition that fits the patient’s initial presentation
   - d. If a clear medical problem is elusive, treat based on presenting signs and symptoms
4. Reevaluate
   - a. Focused and detailed assessment
   - b. Response to initial management/ interventions
   - c. Discovery of less obvious problems
5. Revise management plan
6. Review performance at run critique