Objectives

- List the key elements of paramedic practice
- Discuss limitations of protocols, standing orders, algorithms
- Outline key components of the critical-thinking process for paramedics

Objectives

- Identify elements necessary for an effective critical-thinking process
- Describe situations that may necessitate the use of critical thinking while giving prehospital patient care
- Describe six elements needed for effective critical decision making in the field
Scenario

You respond to a private home for a person who has fallen down the steps. Your elderly patient is awake, slightly confused, and moves all extremities. He has a normal heart rate, but his blood pressure is low and his skin is pale and cool. His wife hands you a bag with his "heart" medicine.

Discussion

• Does this patient face an obvious life threat?
• What part of his initial presentation doesn’t fit?
• How might his home medicines affect his clinical presentation?
• What treatment should be considered?

Cornerstones of Effective Paramedic Practice

• Gather, evaluate, synthesize information
• Develop and implement patient management plans
• Apply judgment and exercise independent decision making
• Think and work effectively under pressure
Spectrum of Prehospital Care

- Obvious, critical life threats
  - Major multisystem trauma
  - Devastating single-system trauma
  - End-stage disease presentations
  - Acute presentations of chronic conditions

- Potential life threats
  - Serious multisystem trauma
  - Multiple disease etiologies

- Non-life-threatening presentations
  - Minor illness or injury
  - EMS system misuse

Protocols, Standing Orders, Patient Care Algorithms

- Benefits
  - Standardized approach
  - Define, outline performance

- Limitations
  - Don’t fit nonspecific complaints
  - Don’t address multiple etiologies
  - Promote linear thinking

Components, Stages, and Sequences
Concept Formation

- Information gathered to form general impression of patient
  - The "what" of patient story

Concept Formation

- Elements
  - Scene assessment
  - Chief complaint
  - History
  - Affect
  - Initial assessment
  - Physical exam
  - Diagnostic tests

Data Interpretation

- Data gathered
- Paramedic knowledge
  - Anatomy and physiology
  - Pathophysiology
- Paramedic attitude
- Experience of paramedic
**Application of Principle**

- Field impression/working diagnosis
- Protocols/standing orders
- Treatment/intervention

**Evaluation**

- Patient reassessment
- Reflection in action
- Revision of impression
- Protocol/standing orders
- Revision of treatment/intervention

**Reflection on Action**

- Run critique
- Addition to/modification of paramedic experience base
Fundamental Elements of Critical Thinking for Paramedics

- Adequate fund of knowledge

- Ability to:
  - Focus on specific and multiple data elements
  - Gather and organize data and form concepts
  - Identify and deal with medical ambiguity

Fundamental Elements of Critical Thinking for Paramedics

- Ability to:
  - Differentiate relevant and irrelevant data
  - Analyze and compare similar situations
  - Recall situations where diagnosis was incorrect
  - Explain decision-making reasoning and construct arguments

Field Application of Assessment-Based Patient Management

- Systematic means of:
  - Analyzing patient's problems
  - Determining how to solve them
  - Carrying out action plan
  - Evaluating effectiveness

- Integration of:
  - Interpersonal skills
  - Scientific knowledge
  - Skills
Patient Acuity Spectrum

- EMS activated for many reasons
- Few prehospital calls true life threats
- Minor medical and traumatic events require little critical thinking
  - Usually relatively easy decision making

Obvious life threats may pose limited critical-thinking challenges
- May fit "model" for standardized treatment (e.g., cardiac arrest)
- Patients between minor and life-threatening events can pose greatest critical-thinking challenge

Thinking Under Pressure

- Hormonal "fight or flight" response
  - Positive
    - Enhanced visual and auditory acuity
    - Improved reflexes and muscle strength
  - Negative
    - Impaired critical-thinking skills
    - Diminished concentration and assessment ability
Mental Conditioning
- Key to effective performance under pressure
  - Skills learned at pseudoinstinctive performance level
  - Automatic response for technical treatment requirements

Mental Checklist
- Stop and think
- Scan the situation
- Decide and act
- Maintain clear and concise control
- Regularly and continually reevaluate patient

Facilitating Behaviors
- Stay calm; do not panic
- Assume and plan for worst; err on side of patient
- Maintain systematic assessment pattern
- Balance analysis, data processing, and decision-making styles
Decision-Making Styles

- Situational analysis
  - Reflective versus impulsive
- Data processing
  - Divergent versus convergent
- Decision making
  - Anticipatory versus reactive

Read the Patient

- Observe
  - Level of responsiveness
  - Skin color
  - Position and location
- Talk
  - Find chief complaint
  - New problem or worsening preexisting condition?
- Touch
  - Skin temperature and moisture
  - Pulse rate, strength, and regularity
- Auscultate
  - Lower airway
  - Upper airway

Identify life threats

- Vital signs
  - Triage tool to estimate severity
  - Assists in identifying life threats
  - Influenced by age, physical and medical conditions, and current medications
Read the Scene

- Environmental conditions
- Evaluate immediate surroundings
- Mechanism of injury

React

- Address life threats in the order found
- Determine most common and probable cause that fits patient’s presentation
- Consider most serious condition that fits patient’s initial presentation
- If clear medical problem is elusive, presenting signs and symptoms

Reevaluate

- Focused and detailed assessment
- Response to initial management/interventions
- Discovery of less obvious problems
Revise Management Plan

Review Performance

- Run critique
  - Identification of areas that can be improved on similar calls in the future

Conclusion

The paramedic must be able to gather, evaluate, and synthesize information; develop and implement appropriate management plans; apply judgment and exercise independent decision making; and think and work effectively under pressure.