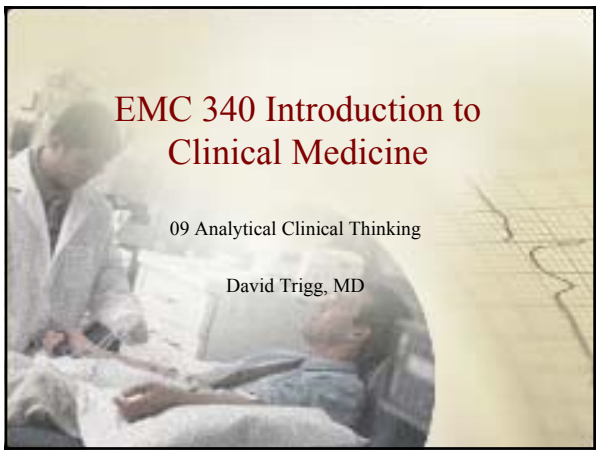
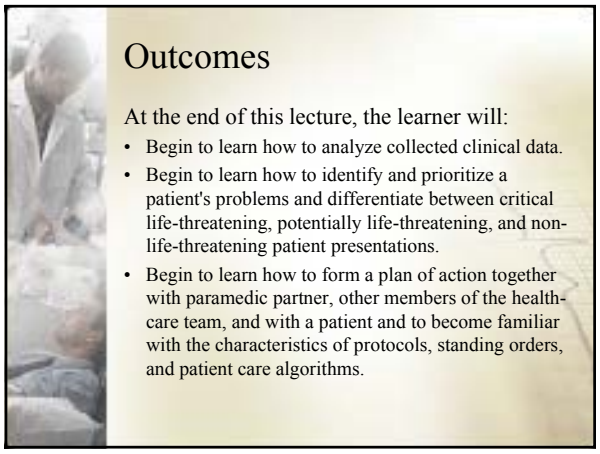


# EMC 340 Introduction to Clinical Medicine

09 Analytical Clinical Thinking

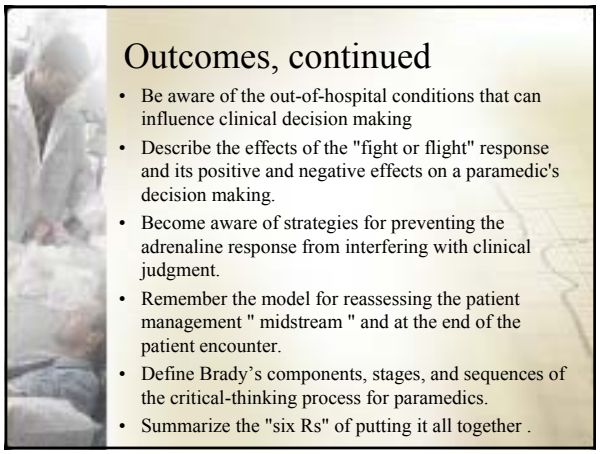
David Trigg, MD



## Outcomes

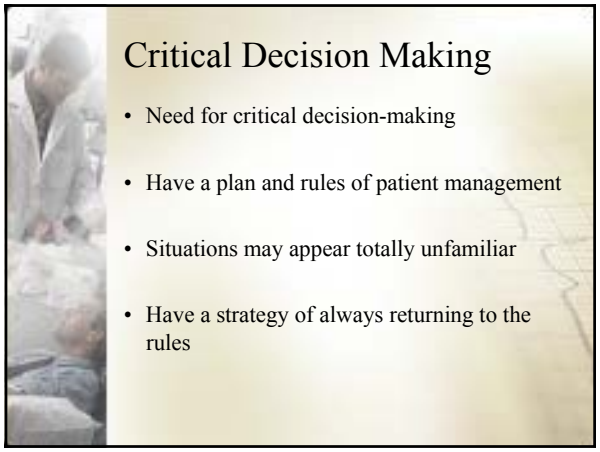
At the end of this lecture, the learner will:

- Begin to learn how to analyze collected clinical data.
- Begin to learn how to identify and prioritize a patient's problems and differentiate between critical life-threatening, potentially life-threatening, and non-life-threatening patient presentations.
- Begin to learn how to form a plan of action together with paramedic partner, other members of the health-care team, and with a patient and to become familiar with the characteristics of protocols, standing orders, and patient care algorithms.



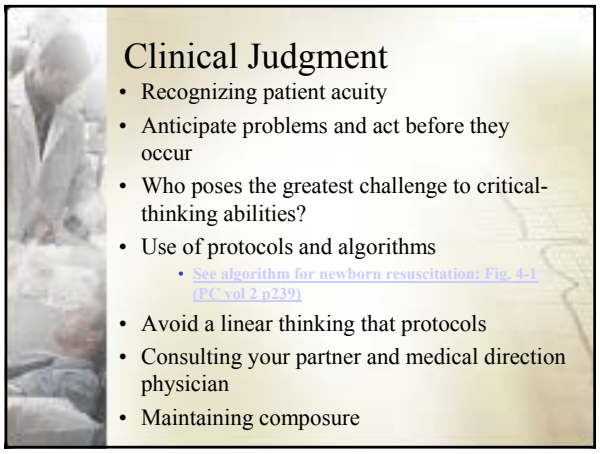
## Outcomes, continued

- Be aware of the out-of-hospital conditions that can influence clinical decision making
- Describe the effects of the "fight or flight" response and its positive and negative effects on a paramedic's decision making.
- Become aware of strategies for preventing the adrenaline response from interfering with clinical judgment.
- Remember the model for reassessing the patient management " midstream " and at the end of the patient encounter.
- Define Brady's components, stages, and sequences of the critical-thinking process for paramedics.
- Summarize the "six Rs" of putting it all together .



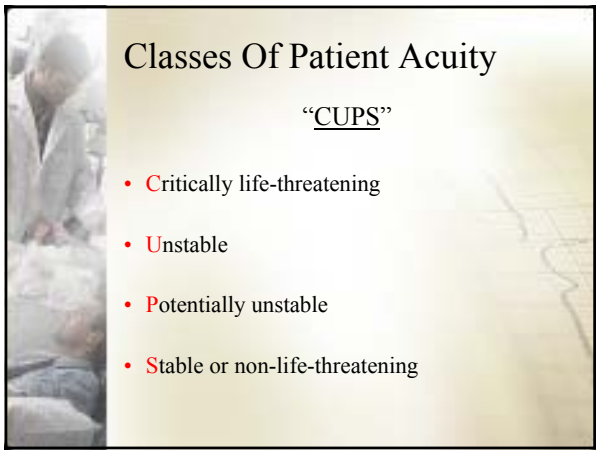
## Critical Decision Making

- Need for critical decision-making
- Have a plan and rules of patient management
- Situations may appear totally unfamiliar
- Have a strategy of always returning to the rules



## Clinical Judgment

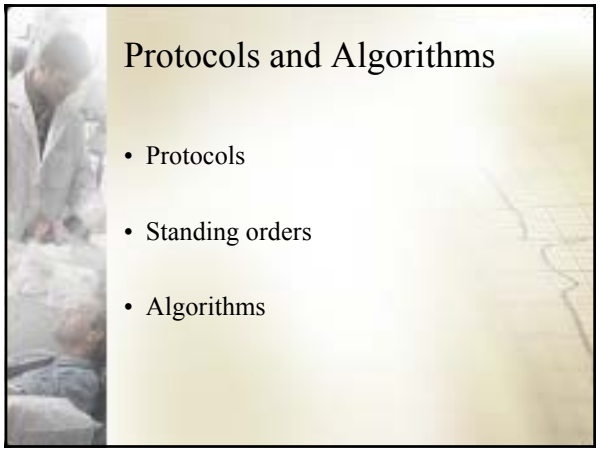
- Recognizing patient acuity
- Anticipate problems and act before they occur
- Who poses the greatest challenge to critical-thinking abilities?
- Use of protocols and algorithms
  - See algorithm for newborn resuscitation: Fig. 4-1 (PC vol 2 p239)
- Avoid a linear thinking that protocols
- Consulting your partner and medical direction physician
- Maintaining composure



## Classes Of Patient Acuity

"CUPS"

- Critically life-threatening
- Unstable
- Potentially unstable
- Stable or non-life-threatening

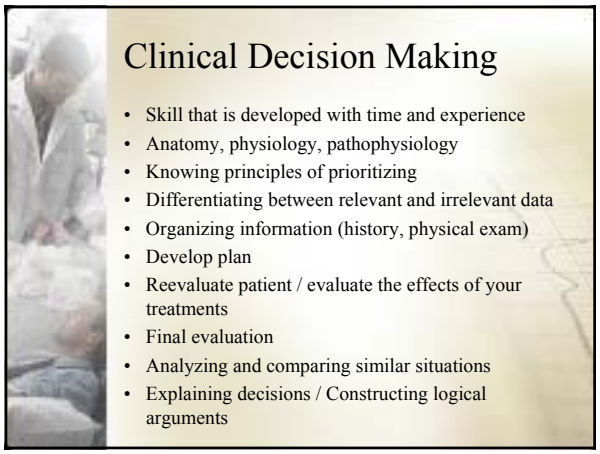


## Protocols and Algorithms

- Protocols
- Standing orders
- Algorithms

## Steps in Decision Making

- Form a concept
- Collect and interpret data
- Apply principles
- Evaluate
- Act
- Reflect



## Clinical Decision Making

- Skill that is developed with time and experience
- Anatomy, physiology, pathophysiology
- Knowing principles of prioritizing
- Differentiating between relevant and irrelevant data
- Organizing information (history, physical exam)
- Develop plan
- Reevaluate patient / evaluate the effects of your treatments
- Final evaluation
- Analyzing and comparing similar situations
- Explaining decisions / Constructing logical arguments

## Skills of Clinical Decision Making

- Ability to think under pressure and make decisions must be developed
- Fundamental knowledge and abilities
  - Knowing anatomy, physiology, and pathophysiology
  - Focusing on large amounts of data
  - Organizing information
  - Differentiating between relevant and irrelevant data
  - Analyzing and comparing similar situations
  - Explaining decisions and constructing logical arguments

## Behaviors for Decision Making

- Behaviors that facilitate judgment
  - Stay calm
  - Plan for the worst
  - Work systematically
  - Remain adaptable
  - Stay oriented

## Thinking Styles

- Reflective vs. Impulsive
  - Reflective: acting thoughtfully, deliberately, and analytically
  - Impulsive: acting instinctively, without stopping to think
- Divergent vs. Convergent
  - Divergent: Taking into account all aspects of a complex situation
  - Convergent: Focusing on only most important aspect of a critical situation
- Anticipatory vs. Reactive
  - Anticipatory: Looking ahead proactively to potential ramifications of actions
  - Reactive: Responding to events after they occur

## Thinking Under Pressure

Physical influences may help or hinder ability to think clearly

- Autonomic nervous system: "fight or flight" hormones (Epinephrine, Norepinephrine)
- Pseudo-instinctive: learned actions-practiced until they can be done without thinking
- Paramedic mental checklist
  - Scan the situation.
  - Stop and think.
  - Decide and act.
  - Maintain control.
  - Reevaluate / reassess

## Optimizing Patient Care

- Effectively analyzing data and devising a practical management plan
- Form a concept
  - Scene size-up and initial assessment
  - Focused history and physical exam
- Interpret the data
  - Consider the most serious condition that fits your patient's situation.
  - When diagnosis is elusive, base treatment on presenting signs and symptoms.

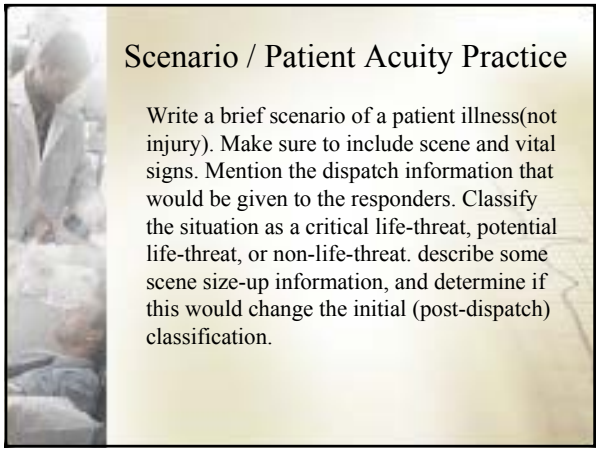
## Optimizing Patient Care

- Apply the principles; devise management plan that covers all contingencies
- Reevaluate: continuing ongoing assessment
- Reflect
  - Consult emergency physician.
  - Consult crew

## The Six R's

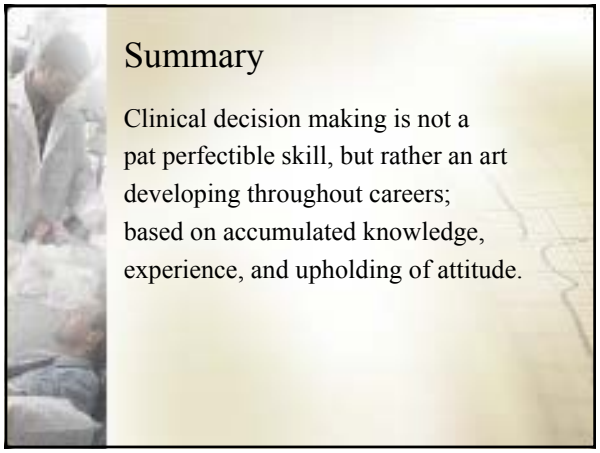
Brady's six R's

1. Read the scene.
2. Read the patient.
3. React to life-threats
4. Reassess / reevaluate
5. Revise plan
6. Review your performance



## Scenario / Patient Acuity Practice

Write a brief scenario of a patient illness(not injury). Make sure to include scene and vital signs. Mention the dispatch information that would be given to the responders. Classify the situation as a critical life-threat, potential life-threat, or non-life-threat. describe some scene size-up information, and determine if this would change the initial (post-dispatch) classification.



## Summary

Clinical decision making is not a pat perfectible skill, but rather an art developing throughout careers; based on accumulated knowledge, experience, and upholding of attitude.