EMT Transition to the new
National Education Standards

Transition to the New National EMS Education Standards: EMT-B to EMT

Module One

Objectives:

Upon completion, each participant will do the following to a degree of accuracy that meets the Ntl EMS Education Standards:

- State the importance of using standard precautions
- Discuss the diseases of concern for EMTs
- Plan techniques for scene safety
- Sequence the components of a trauma scene size-up/situational awareness
- Explain the importance of using critical reasoning skills to determine a life threats

Objectives cont.

- Differentiate between an EMT as a technician vs. a clinician
- Summarize actions to prevent errors in patient care
- Defend the role of evidence based-medicine in EMS
- Discuss the EMT's role in public health
- Modify the process of assessment to move away from a scripted assessment to a dynamic assessment

Objectives cont.

- Describe the importance of a patient's physiologic status when determining their potential instability
- Employ a systems approach for assessments
- State the importance of recent events and the past medical history when conducting a body system assessment on a medical patient
- Support the need for a clear understanding of cellular pathophysiology to predict the progression of illness or injury

Objectives cont.

- Recognize the importance of trending vital signs to help predict the seriousness of traumatic conditions
- Compare and contrast the approach taken to assess a medical patient versus a trauma patient
- Formulate a differential diagnosis based on sound patient assessment
- Understand the role of EMS in public health

- EMS has always been a dynamic profession
- The new National Education Standards allow for greater flexibility, adaptability, and creativity on the part of the EMT within the scope of practice approved by their medical director

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Roles and responsibilities

- Personal safety
- Safety of crew
- Safety of bystanders
- Pt. assessment
- Emergency care based on assessment
- Safe lifting and moving
- Patient transport
- Patient transfer
- Record keeping and data collection
- Patient advocacy
- Diligence in maintaining licensure

High risk activities

- Transfer of care
- Poor communication leading to medical error
- Carrying patients in a risky manner
- Ambulance involvement in an MVC
- Lack of, or improper spine motion restriction

Steps an EMT can take to avoid making errors

- ✓ Develop and follow clear protocols
- ✓ Light all scenes effectively
- ✓ Minimize interruptions between assessment and delivery of care
- ✓ Mark all drugs to minimize confusion
- ✓ Question all assumptions
- ✓ Ask for assistance when needed

Evidence-based medicine in EMS

- EMS should now use research/evidence to decide if new procedures should be adopted
- This process begins by first asking a question towards improving practice, such as, “Would outcomes improve if EMS induced hypothermia in patients following successful resuscitation from cardiac arrest?”

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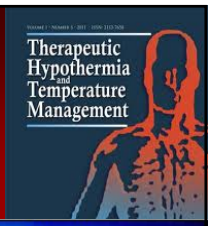
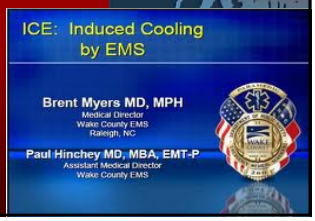
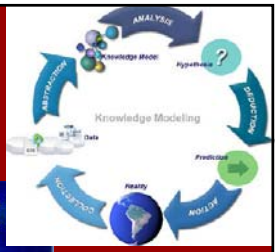
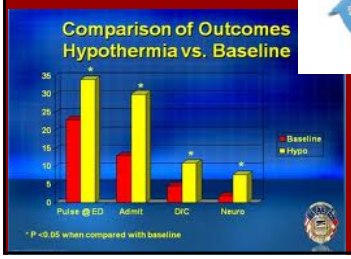
Next, medical literature is studied in an effort to find research data that is related to and applicable to the original question





Then, the evidence is appraised for statistical and clinical validity and reliability





Finally, if the evidence supports a change in practice, protocols are changed and prehospital emergency providers implement the change

Workforce Safety and Wellness of the EMT

When considering EMT health and wellness, the simple act of hand washing remains the best defense from infectious disease

BSI should be readily accessible

Training must occur initially and annually

Equipment must be provided for the decontamination of non disposable equipment and supplies

Diseases of concern for the EMT

Airborne or droplet

- Chickenpox
- German Measles (rubella)
- H1N1
- Pneumonia-bacterial and viral
- Tuberculosis
- Whooping cough (pertussis)
- Meningitis

Direct contact with blood or open wounds

- AIDS
- Hepatitis
- Staphylococcal skin infections

Bloodborne Pathogens

- Responsibility of both employer and employee
- Need an infection control plan
- Adequate training and education must be provided
- Hepatitis B vaccination must be provided by the employer
- PPE (personal protective equipment) must be available at no cost to the employee

Engineering controls

- Sharps containers
- Housekeeping practices
- Cleaning, disinfecting, sanitizing
- Labeling of potentially infectious materials
- Post exposure evaluation and follow-up are necessary if an EMT is exposed

Elements of a Scene Size-Up

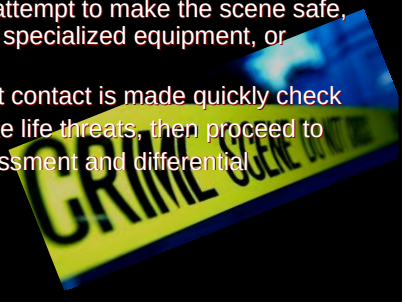
- Scene safety
- Standard precautions
- Mechanism of Injury or Nature of illness
- Number of patients
- Resources needed

Common scene hazards

- Environmental
- Hazardous substances
  - Chemical
  - Biological
- Energized electrical
- Violence
  - Patient
  - Bystanders
  - Crime scenes
- Rescue
- MVC extrication hazards
- Roadway operations hazards

Is the scene safe?

- Yes - Proceed to patient
- No – either attempt to make the scene safe, or request specialized equipment, or personnel
- Once patient contact is made quickly check for immediate life threats, then proceed to patient assessment and differential diagnosis



Assessment terminology

1994 Standard	New National Standards
Scene size up	Scene size up
Initial assessment	Primary assessment
Focused history	Secondary assessment
Detailed assessment	Reassessment
Ongoing assessment	

Initial impression

- General Appearance
- Surroundings
- Chief complaint
- NOI or MOI
- Age
- Immediate life threats

Treat any immediate life threats before going any further in the primary assessment

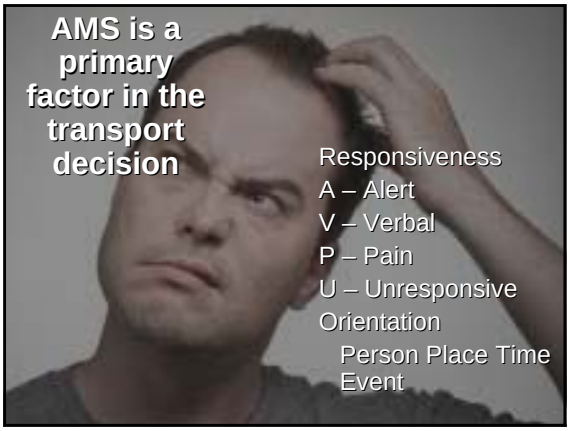
Common immediate life threats

- Compromised airway
- Open wounds to the chest
- Paradoxical movement of the chest wall
- Major bleeding – steady flow or spurting

After forming an initial general impression, and addressing any obvious immediate threats to life the primary assessment continues

- Assess LOC using AVPU
- Assess the airway
- Assess breathing
- Assess circulation
- Determine the priority of patient care and make a transport decision based on priority

AMS is a primary factor in the transport decision

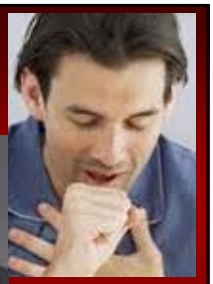


- Responsiveness
  - A – Alert
  - V – Verbal
  - P – Pain
  - U – Unresponsive
- Orientation
  - Person Place Time Event

Once level of consciousness has been determined:
- **assess airway status**

Suspicion of spinal injury based on MOI
- **initiate in-line stabilization**

Common sounds indicating partial airway obstruction include:
- **stridor**
- **snoring**
- **crowing**
- **gurgling**



After securing the airway assess breathing

- Is the patient breathing?
- Is the patient breathing adequately?
- Are the respirations too fast or too slow?
- Is the rhythm of breathing regular, or irregular?
- Is the depth of breathing deep or shallow?

Adequacy of breathing

- Tidal volume – poor movement of the chest wall indicates inadequate volume
- Respiratory rate
  - Tachypnea
  - Bradypnea
  - Apnea
- Retractions
- Nasal flaring
- Accessory muscle use
- Cyanosis

Circulatory status

- Pulse-rate, regularity, strength
- During the primary survey a precise pulse rate is not as important as determining if the pulse is too slow or too fast
- Consider mental status and skin parameters along with pulse rate

Obtain a patient history

Initial Steps Include
- Introduce yourself
- Gain patient consent
- Position yourself
- Communication skills
- Courtesy
- Maintain control

Past medical history
- S-signs and symptoms
- A-allergies
- M-medications
- P-pertinent past hx
- L-last oral intake
- E-events

The first step is obtaining a chief complaint by simply asking

"Why did you call EMS today?"

History of the present illness

O - onset
P – provocation / palliation
Q - quality
R - radiation
S - severity
T - time

Chief complaint–chest pain

The chief complaint only points the EMT in the proper direction to begin the differential diagnosis process

The EMT as a technician would only consider the treatment of chest pain with aspirin and nitroglycerin

Chief complaint–chest pain

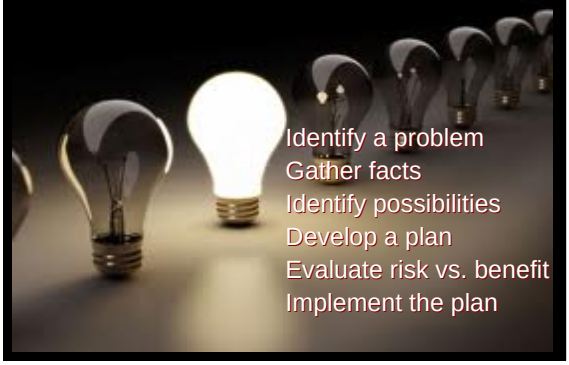
The EMT as a clinician considers causes of chest pain to arrive at a differential diagnosis

Cardiac event
Pulmonary embolus
Pneumothorax
Pneumonia
Aortic dissection

The EMT becomes a clinician through the following processes

Experience
Mentoring
Understanding
the pathophysiology of body systems
Learning how to form a differential diagnosis
Developing critical reasoning skills

Components of critical reasoning



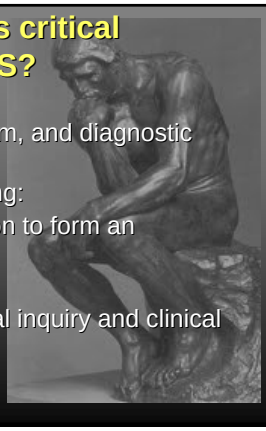
Identify a problem
Gather facts
Identify possibilities
Develop a plan
Evaluate risk vs. benefit
Implement the plan

SO….just what is critical reasoning in EMS?

Medical inquiry:
- history, physical exam, and diagnostic testing

Clinical decision making:
- evaluating information to form an impression

Clinical reasoning:
- involves both medical inquiry and clinical decision making



When obtaining a history use either open-ended or closed-ended questions

Open-ended – “Can you describe the discomfort?”

Closed-ended – “Are you having chest pain?”

After asking the question actively listen using the following techniques

Facilitation – posture, actions and words indicate the EMT is listening

Reflection – repeating of a patients words to encourage further information

Clarification – used to obtain more descriptive responses

Summary – rephrasing the response and asking the pt if the summarized statement is what they meant to say

Empathetic response – shows the EMT is trying to understand the pts condition

Confrontation – used to determine accurate information

Silence – giving the pt time to form an appropriate response

Facilitated communication – helping pts express themselves by using communication devices

Haptics – using appropriate touch to convey empathy

At times sensitive topics must be investigated

These include:

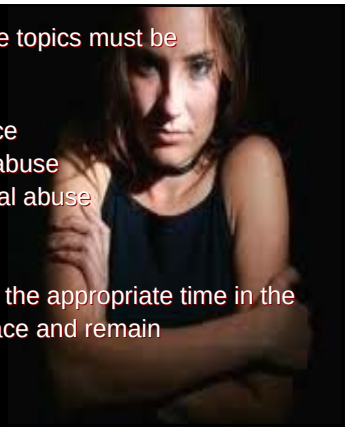
Domestic violence

Drug or alcohol abuse

Physical or sexual abuse

Sexual history

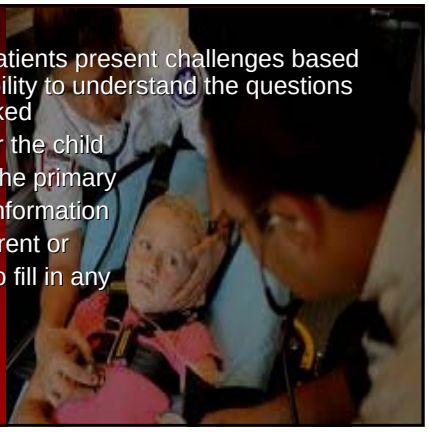
Ask questions at the appropriate time in the appropriate place and remain nonjudgmental



Pediatric patients present challenges based on the ability to understand the questions being asked

By age four the child should be the primary source of information

Use the parent or caregiver to fill in any gaps



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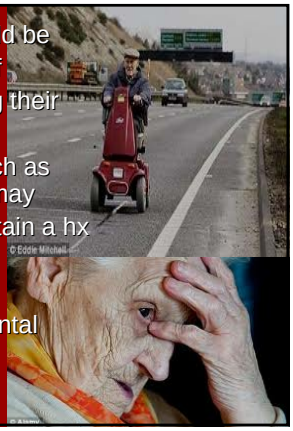
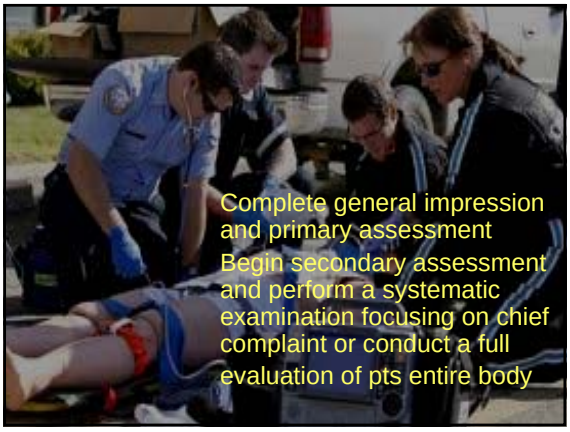
Geriatric patients should be the primary source of information regarding their own medical hx.

Physical limitations such as hearing impairment may make it difficult to obtain a hx

If the elderly pt seems confused, be sure to obtain a baseline mental status





Complete general impression and primary assessment

Begin secondary assessment and perform a systematic examination focusing on chief complaint or conduct a full evaluation of pts entire body

Differences do exist in the approach to the secondary survey in regards to medical vs. trauma pts as well as responsive vs. unresponsive patients

Stable pt. secondary survey

Examine in detail

Head
Face
Neck
Shoulders / clavicles
Chest
Abdomen
Pelvis
Lower extremities
Upper extremities
Posterior

Unstable pt secondary survey

Rapidly examine

Head
Neck
Chest
Abdomen
Pelvis
Extremities
Posterior

What about Mechanism of Injury?

No longer used as a primary predictor of injury and no longer the singular factor for the EMT's determination of rapid examination and Level I transport criteria

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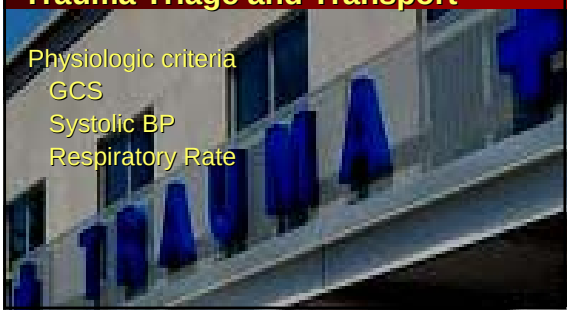
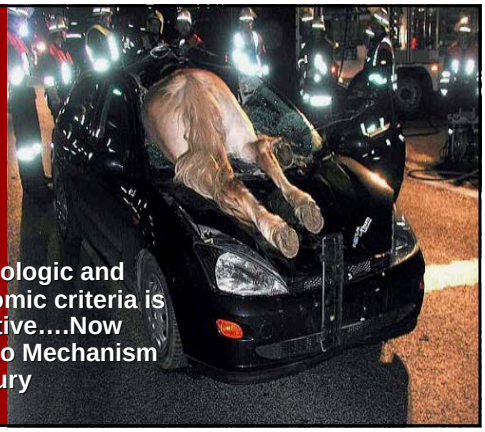
The New National EMS Education Standards for Trauma Triage and Transport



Physiologic criteria
- GCS
- Systolic BP
- Respiratory Rate

The New National EMS Education Standards for Trauma Triage and Transport

Anatomic criteria
- Head and neck trauma
- Spinal cord injury
- Chest and back injury
- Abdomen, groin or pelvis injury
- Extremity or vascular injury

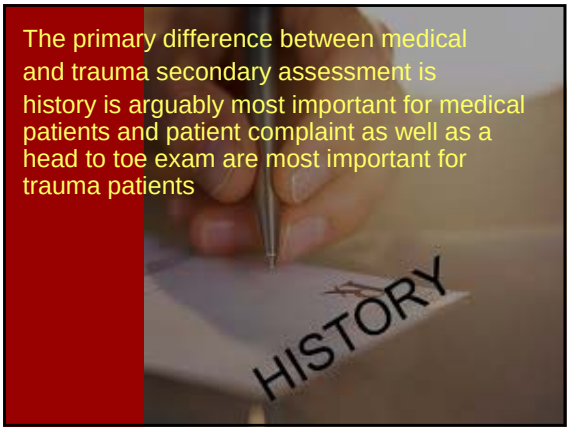


Physiologic and Anatomic criteria is Negative….Now look to Mechanism of Injury

Look for trends in vital signs to determine the severity and the progression of the trauma patients condition

Hemorrhagic Shock
- Pulse increases
- BP decreases
- Pulse pressure narrows

TBI with ICP
- Pulse decreases
- BP increases
- Pulse pressure widens



The primary difference between medical and trauma secondary assessment is history is arguably most important for medical patients and patient complaint as well as a head to toe exam are most important for trauma patients

A body system approach is used when assessing a medical pt

Chief Complaint	System to Examine
Difficulty Breathing	Respiratory / Cardiac
Chest pain	Cardiac / Respiratory
AMS	Endocrine / Neurogenic scene evaluation
Syncopal Episode	Cardiac / Respiratory Endocrine / Neurogenic
Abdominal pain	Gastrointestinal
Seizure	Neurogenic

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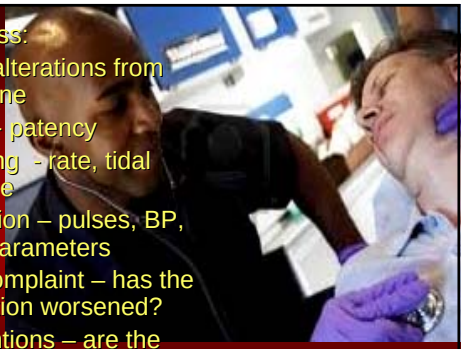
Begin the reassessment process

- The purpose of reassessment is to identify and treat any changes in the patient's condition
- Stable pt – reassess every 15 minutes
- Unstable pt -reassess every 5 minutes

- Reassess:
- LOC – alterations from baseline
- Airway - patency
- Breathing - rate, tidal volume
- Circulation – pulses, BP, skin parameters
- Chief complaint – has the condition worsened?
- Interventions – are the current interventions helping?



EMS role in public health

- EMS Agenda for the Future
- Envisions EMS as being integrated with:
  - health care providers
  - public health
  - public safety

EMS role cont

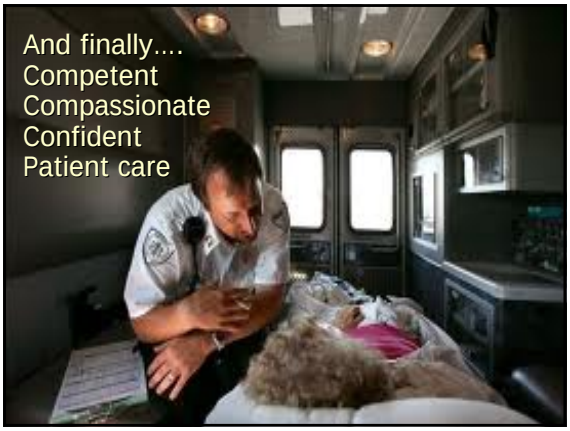
- Primary prevention
  - public health education
- Examples
  - CPR education
  - fire injury prevention
  - car seat assistance
  - DUI prevention

Roles cont

- Secondary prevention
  - prevention of disease progression
  - reporting potential public health concerns
  - ensuring public access to AED's
  - emergency management planning

And finally....

Competent
Compassionate
Confident
Patient care



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