

## Special Patient Populations for the EMT and EMT-I



2011 Georgia Office of EMS  
EMT-B → EMT Update  
EMT-I → EMT-I Update

## Special Thanks



- **Richard Kalasky**
  - Jones and Bartlett Publishing

## TOPICS



- Complications of pregnancy
- Pediatric Assessment Triangle
- Geriatrics
- Bariatrics
- Stroke Assessment



## COMPLICATIONS OF PREGNANCY

## Hypertensive Disorders of Pregnancy

- Pre-eclampsia and Eclampsia
  - Progressive disorder that is usually categorized as mild or severe
  - Increase in systolic blood pressure by 30 mmHg and/or a diastolic increase of 15 mmHg
    - Two or more occasions
  - Most commonly seen in the last 10 weeks of gestation, during labor, or in the first 48 hours postpartum

## Eclampsia

- Same signs and symptoms plus seizures or coma
- Tonic-clonic activity
- Often begins as oral twitching
- Often apnea during seizure
- Can initiate labor

The header for the first slide features a black background with a glowing green ECG line. The title "Eclampsia—Management" is centered in a yellow, sans-serif font.

## Eclampsia—Management

- Left lateral recumbent position
- Minimize stimulation
- Oxygen and ventilation assistance
- IV (for EMT-Is and above)
- If seizures:
  - ALS Care at the paramedic level
  - Monitor vital signs

The header for the second slide features a black background with a glowing green ECG line. The title "Fetal Membrane Disorders" is centered in a yellow, sans-serif font.

## Fetal Membrane Disorders

- Premature rupture of membranes
  - Amniotic sac rupture before labor
  - “Trickle” or sudden gush of fluid from vagina
  - Infection possible if delivery delayed
  - Transport



## PEDIATRIC ASSESSMENT TRIANGLE

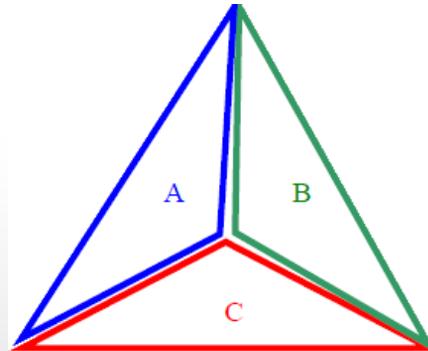
**THE FOLLOWING SLIDES COME FROM THE PEPP COURSE –  
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PUBLISHING**

### The Pediatric Assessment Triangle (PAT)

- Observational assessment
- Formalizes the “general impression”
- Establishes severity of illness or injury
- Determines urgency of intervention
- Identifies general category of physiologic abnormality

## The Pediatric Assessment Triangle (PAT)

- 3 parts
  - Appearance (A)
  - Work of Breathing (B)
  - Circulation to Skin (C)
- Completely Visible/Audible Assessment
  - As you walk up to the patient



## Appearance

- Assess for TICLS:
  - **T**one
  - **I**nteractiveness
  - **C**onsolability
  - **L**ook/Gaze
  - **S**peech/Cry
- **Abnormal:**
  - Abnormal or absent cry or speech. Decreased response to parents or environmental stimuli. Floppy or rigid muscle tone or not moving.
- **Normal:**
  - Normal cry or speech. Responds to parents or to environmental stimuli such as lights, keys, or toys. Good muscle tone. Moves extremities well.



## Work of Breathing

- Check for visible movement/respiratory effort
- **Abnormal:**
  - Increased/excessive (nasal flaring, retractions or abdominal muscle use) or decreased/absent respiratory effort or noisy breathing.
- **Normal:**
  - Breathing appears regular without excessive respiratory muscle effort or audible respiratory sounds.

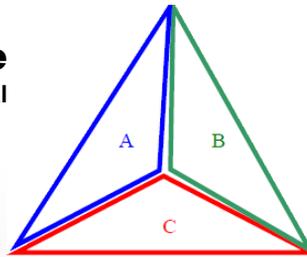


## Circulation to Skin

- Check for Color and Obvious Bleeding
- **Abnormal:**
  - Cyanosis, mottling, paleness/pallor or obvious significant bleeding.
- **Normal:**
  - Color appears normal for racial group of child. No significant bleeding.

## PAT: Respiratory Distress

**Appearance**  
Normal

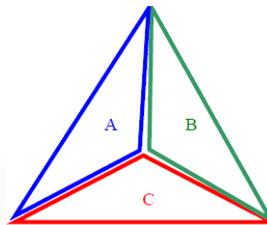


**Work of Breathing**  
Increased

**Circulation to Skin**  
Normal

## PAT: Respiratory Failure

**Appearance**  
Abnormal



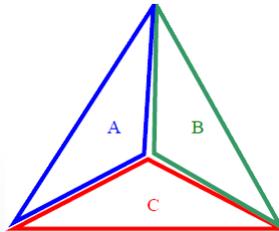
**Work of Breathing**  
Increased or decreased

**Circulation to Skin**  
Normal or abnormal

## PAT: Shock

**Appearance**

Abnormal



**Work of Breathing**

Normal

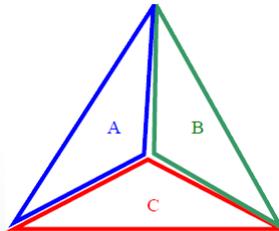
**Circulation to Skin**

Abnormal

## PAT: Primary Central Nervous System (CNS) Dysfunction or Metabolic Abnormality

**Appearance**

Abnormal



**Work of Breathing**

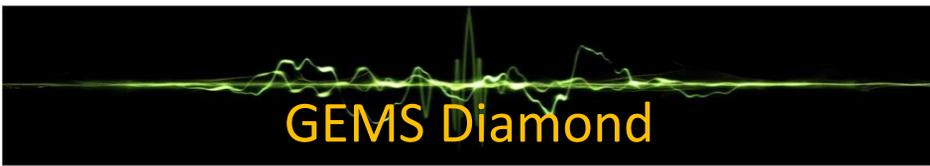
Normal

**Circulation to Skin**

Normal



## GERIATRICS



- **GEMS**
  - **G**eriatric
  - **E**nvironmental Assessment
  - **M**edical Assessment
  - **S**ocial Assessment



- The following slides are from the GEMS Course – used with permission from Jones and Bartlett publishing



## The GEMS Diamond (1 of 4)

- “G”
  - Recognize that the patient is a *Geriatric* patient.
  - Possible problems of an aging patient
  - May present atypically



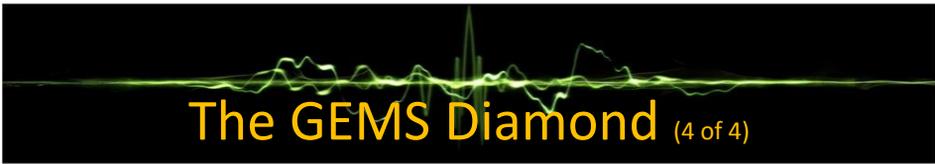
## The GEMS Diamond (2 of 4)

- “E”
  - *Environmental* assessment
  - Is the home too hot or too cold? Well kept and secure?
  - Are there hazardous conditions?



## The GEMS Diamond (3 of 4)

- “M”
  - *Medical* assessment
  - Older patients tend to have a variety of medical problems.
  - May be taking numerous medications
  - Thorough history is essential.



## The GEMS Diamond (4 of 4)

- “S”
  - *Social* assessment
  - May have less of a social network
  - Death of a spouse, family members, or friends
  - May need assistance with activities of daily living



## General Patient Assessment

- ◆ E • Scene size-up includes environmental assessment:
  - General appearance, cleanliness
  - Temperature, food
- ◆ S • Initial assessment looks for life threats:
  - Airway cannot be protected as well.
  - Breathing can be complicated by previous disease.
  - Circulatory system has slowed responses.



## Mental Status Assessment

- Confusion is not normal.
- Distinguish chronic changes from new ones.
- Enlist help from family.
- Establish a baseline mental status.
- Don't be misled.



## Assessment

- Prioritize patient status.
- Detailed physical exam
- Ongoing assessment is required.



## Assessing the Chief Complaint

- Determining the chief complaint can be hard.
- Start with what is bothering the patient most.
- Chief complaints may not be the life threat.
- Communication is a big component.

## Chief Complaint: Shortness of Breath

- Frequently life threatening
- Often respiratory or cardiac in origin
- Can occur for other reasons such as pain, bleeding, medications
- Are there associated signs and symptoms?
- Does patient have a history of respiratory complaints?



## Chief Complaint: Chest Pain

- Often cardiac in nature
- ◆ Many experience pain differently.
- ◆ Medication history is important.
  - Have the patient locate the pain.
  - Expose the chest: scars, pacemaker, medication patches



## Chief Complaint: Altered Mental Status

- Some causes manifest quickly, others over days
- 
  - Medication reactions are a frequent issue.
  - Determine LOC and orientation to person, place, and time.
- 
  - Check motor and sensory response.
  - Get an ECG and blood sugar reading.




## Chief Complaint: Abdominal Pain

- 
  - More likely to be hospitalized
- 
  - Potential causes change with age.
- 
  - Overall pain response is decreased.
  - Patient history is key.
  - Look for additional signs.



## Chief Complaint: Dizziness or Weakness

- Factors: balance, injury, oxygen, and energy
- History will help clarify the complaint.
- Check ECG, orthostatic changes, blood sugar
- Check for signs of stroke.
- Assess for signs of head trauma.



## Chief Complaint: Fever

- Normal response to infection
- Suspect serious infection when accompanied by changed LOC.
- Look for immediate life threats.
- Fever means illness until proven otherwise.





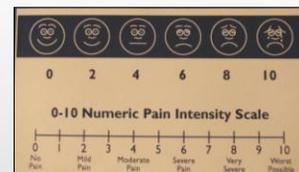
## Chief Complaint: Trauma

- Exam follows the ABCs.
- Look for potential medical causes.
- Past history may change the needs of the patient.
-  • Find the patient's baseline status.
- Fractures are serious injuries.




## Chief Complaint: Pain

- Unpleasant sensory or emotional experience
- Use open-ended questions to evaluate.
- Pain scale can be helpful.
- Interpret vital sign changes as medical issues.
-  • Older patients may hesitate to complain of pain.





## Chief Complaint: Falls

- Generally result from contributing factors
- Look for medical reason for fall.
- Assess for injury and life threats.
- ECG, blood glucose, pulse oximetry



## Chief Complaint: Nausea, Vomiting, and Diarrhea



- Can originate in or out of GI tract
- ◆ Check for changes in diet or medications.
- Look for signs of dehydration or electrolyte abnormalities.
- Assess for GI bleeding.



## BARIATRICS



### The problem...

- Obesity rate is increasing in the U.S.
  - More patients will be obese
  - More crew members required for obese patients
  - More/specialized equipment for obese patients
    - Stretchers
    - Ramps/winches
    - Ambulances
    - wheelchairs

## What do we do?

- Don't ignore the issue...plan for it!
  - Protocols should address bariatric patients
- Request lift assistance! Don't hurt your back!
- Agencies may have a special response unit



## Articles

- [http://www.emsworld.com/print/EMS-World/Beyond-the-Basics--Bariatric-Emergencies/1\\$6008](http://www.emsworld.com/print/EMS-World/Beyond-the-Basics--Bariatric-Emergencies/1$6008)
- <http://www.jems.com/article/administration-leadership/bariatric-patients-pose-weight>



## STROKE ASSESSMENT



## Stroke: Classification Scales

- Stroke screens and scales
  - Cincinnati Prehospital Stroke Scale (only recognized one in Georgia for prehospital)
  - NIH Stroke Scale (NIHSS)
  - Hunt and Hess Scale (for SAH)
- Fibrinolytic checklist

## Stroke: Classification Scales: Cincinnati Prehospital

**Facial Droop** (have patient show teeth or smile):

- Normal—both sides of face move equally
- Abnormal—one side of face does not move as well as the other side

**Arm Drift** (patient closes eyes and holds both arms straight out for 10 seconds—see Table 9):

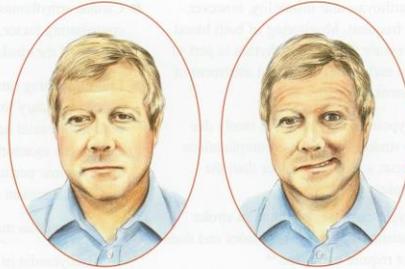
- Normal—both arms move the same or both arms do not move at all (other findings, such as pronator grip, may be helpful)
- Abnormal—one arm does not move or one arm drifts down compared with the other

**Abnormal Speech** (have the patient say “you can’t teach an old dog new tricks”):

- Normal—patient uses correct words with no slurring
- Abnormal—patient slurs words, uses the wrong words, or is unable to speak

**Interpretation:** If any 1 of these 3 signs is abnormal, the probability of a stroke is 72%.

Kothari R, et al. *Acad Emerg Med.* 1997;4:986-990.



Left: normal. Right: stroke patient with facial droop (right side of face).

## Stroke: Classification Scales: Cincinnati Prehospital

### • Cincinnati Prehospital Stroke Scale (CPSS)

- Facial droop
  - Show teeth or smile
- Arm drift
  - Close eyes, arms straight with palms up
- Abnormal speech
  - “you can’t teach an old dog new tricks”

- 1 finding = 72% probability
- 3 findings = >85%





## Fibrinolytic checklist

- Your service may have Fibrinolytic Checklists that will include multiple questions about history and assessment findings
  - Be sure to fill this out as accurately as possible
- Some History questions/Assessments:
  - Brain hemorrhage
  - Other bleeding problems
  - Recent procedures/surgeries
  - Recent MI/Stroke
  - BP in both arms



**THE END!**