Our 100th Broadcast!
Time Critical Emergencies & Your Cases

Presented by
Wade Scoles & Dr. Jim Nania

Time Critical conditions
• Almost everything you need to know about time critical emergencies in our own version of the golden hour.
  – Trauma
  – Heart Attack
  – Stroke

Plus your cases….

• Excited Delirium
  – Taser removal
• Cardiac or something else?

Patient #1
• 12 year old struck by car while riding bicycle

What can you tell by looking at the scene?

Patient #1

• Obvious injuries:
  – Head abrasion (unresponsive)
  – Chest & abdominal abrasions
    • Bony crepitus right chest
  – Both legs broken
    • Left leg mid-femur is swollen and angulated
    • Right leg has open fracture and nearly amputated

"Waddell's triad" was coined by Dr. Mercer Rang to describe a common pediatric injury pattern seen in young children who are hit by a motor vehicle. This pattern includes femur fracture, severe head injury, and thoracoabdominal injury.
Patient #1

- HR 132, RR 8, BP 70/palp
  - What are normals for a child this age?
- BLS management priorities
  - Airway (OPA or King Airway)
  - Breathing (BVM assist)
  - Circulation (stop life-threatening bleeding)

Patient #1

- What about splinting the legs?
  - Right leg?
  - Left leg—(Dr. Jim?)

Pop Quiz Question

A fractured femur can cause how much blood loss?

- a) Insignificant
- b) 250 ml
- c) 500 ml
- d) 750 ml

Patient #1

- Enroute in ambulance
  - HR drops to 44
  - BP increases to 150/100
  - Respirations become agonal
  - Right pupil dilates larger than left
- What’s happening?
  - Cushings Triad (impending brain herniation)
- Is there anything you can do?
  - Hyperventilate?

Patient #1

- What were the potential fatal injuries in this patient?
  - Head injury
  - Bleeding to death
  - High risk for Tension Pneumothorax

Tension Pneumothorax
Pop Quiz Question

Why does a tension pneumothorax cause hypotension?

a) It causes massive bleeding
b) It causes fluid overload and congestive heart failure
c) It decreases venous return to the heart
d) It restricts blood from leaving the heart

Tension Pneumothorax

Increased thoracic pressure causes mediastinal shift and decreases venous return to the heart.

Tension Pneumothorax

• Signs & Symptoms
  – Chest pain
  – Dyspnea, respiratory distress
  – Absence of breath sounds
  – Decreased SaO2
  – JVD (distended neck veins)
  – Hypotension
  – Tracheal deviation?

Pop Quiz Question

If you have a hypotensive trauma patient with distended neck veins, you should suspect:

a) Tension Pneumothorax
b) Cardiac Tamponade
c) Hypovolemia
d) Either A or B

Emergency Needle Decompression

• ALS Skill
• Large bore IV catheter
  – 2nd ICS, MCL
  – Over top of 3rd rib

Dr. Jimmy’s Tips

Questions/Discussion?
Patient #2

- 59 year old man c/o chest pain
- Assessment:
  - Awake, alert & oriented
  - VS: HR 93, RR 24, BP 170/135, SaO2 96% on Rm air

Patient #2

- Focused pain assessment (OPQRST)
  - O: Onset (At construction job, drinking coffee)
  - P: Provocation (Nothing)
  - Q: Quality (Burning/tightness)
  - R: Radiation (Center of chest and in upper lumbar area of back)
  - S: Severity (5/10)
  - T: Time (Started 30 min ago, continues)

Patient #2

- Management
  - Monitor & support ABCs
  - Oxygen to keep SaO2 >94%
  - Aspirin (this pt. took 325 mg in AM and 650 more in the afternoon for a headache)
  - Nitroglycerin-per local protocol (this pt. had no cardiac history and no Rx for nitro)

Patient #2

- Management
  - 12-lead ECG if able (Can you interpret it?)

Pop Quiz Question

Which of the following is not a relative contraindication to administering a SL nitro?

- a) Systolic BP < 90
- b) Pt already takes a long-acting nitrate
- c) Pt. has recently taken erectile dysfunction medication

Pop Quiz Question

12-lead ECGs

- a) Should only be done in the field if you are a great distance from the hospital
- b) Are the best way to tell if someone is having a heart attack
- c) If normal, rule out a heart attack
- d) Are an ALS skill and should only be done if you can transmit results to the hospital
Patient #2

• Reassessment
  – Patient diaphoretic, agitated and writhing in pain on the stretcher (chest and back)
  – HR 95, RR 24, BP 165/124, SaO2 100%
• What are you thinking? Is this cardiac or something else?

Pop Quiz Question

What finding may suggest an aortic dissection as cause of chest pain?
  a) Narrow pulse pressure
  b) A heart murmur
  c) Tachycardia
  d) A difference greater than 10mmHg in the right vs left arm systolic BP

What is an Aortic Dissection?

Anatomy and Classification of Aortic Dissection

DeBakey I II III
Stanford A B

Patient #2

• Management of Aortic Dissection
  – Oxygen
  – Keep patient calm
  – Decrease HR & BP
  – Pain management
  – Surgery

What is an Aortic Dissection?

What is an Aortic Dissection?

Patient #2

• Management of Acute Coronary Syndrome
  – Oxygen
  – Keep patient calm
  – Aspirin
  – Assist w/Nitro if pt. has Rx
  – Pain management
  – Heart Cath or thrombolytics
Dr. Jimmy’s Tips

Questions/Discussion?

Patient #3

• 48 year old man collapses at mall with altered LOC
• Talking gibberish
• Airway open and breathing normally
• HR 88, RR 16, BP 130/88, SaO2 97% on rm air

Patient #3

• Impression?
  – Acute Stroke
• What disorders can mimic a stroke?
  – Hyper/hypoglycemia
  – Alcohol/drugs
  – Metabolic/electrolyte disturbances
  – Any others you can think of?

Patient #3

• FAST exam
  – Face (maybe slight facial droop)
  – Arms (drops left arm)
  – Speech (talking gibberish)
  – Time (a few minutes ago –note exact time to pass onto hospital)

Pop Quiz Question

Oxygen should be administered to stroke patients
  a) Always, regardless of SaO2
  b) If SaO2 is <94%
  c) Only if SaO2 is <90%
  d) Only if SaO2 is <85%

Patient #3

• Management
  – ABCs
  – Oxygen if hypoxemic
  – Check glucose
  – IV if able
  – 12-lead ECG if able
  – Notify hospital to activate stroke team
Pop Quiz Question

The best position to transport a stroke patient is:
   a) Supine (flat)
   b) Semi-fowlers
   c) With the affected side down
   d) Prone

Pop Quiz Question

How long after onset of stroke symptoms can a patient be given tPA?
   a) 1 hour
   b) 3 hours
   c) 4.5 hours
   d) Up to 6 hours for large strokes

Dr. Jimmy’s Tips

Questions/Discussion?

Patient #4 (Parental Discretion Advised)

Taser Removal

Pop Quiz Question

Tazer darts may be safely removed by EMS providers provided:
   a) The “juice” is off
   b) The patient is being nice
   c) The body surface affected is not the genitalia or face
   d) A & C
Patient #4

- Excited Delirium
  - A condition characterized by agitated, bizarre behavior, insensitivity to pain, increased strength, hyperthermia
  - At risk for death if restrained improperly

Patient #4

- Often associated with drug use
  - Meth
  - Cocaine
  - Bath salts

Patient #4

- Consider medical causes
  - Hyper/hypoglycemia
  - Drug/alcohol intoxication/withdrawal
  - Psychiatric illness

Patient #4

- Assessment
  - Restrained young man, not actively combative
  - Airway open
  - HR 136, RR 24, BP 158/90, SaO2 99%
  - What else might you want to check?
    - Temp 101

Patient #4

- Management of the aggressively combative patient
  - Keep yourself safe!
  - Utilize law enforcement for help
  - BSI precautions
    - May use “Spit Sock” or similar hood if necessary
  - Avoid restraints so tight that they restrict breathing
  - Don’t restrain people face down or prone with their hands behind their back
  - Don’t sandwich between 2 backboards
  - Bring law enforcement on transport
Patient #4

- Management of the aggressively combative patient
  - Oxygen
  - Cooling measures if temp > 102
  - ALS: Sedation IV, or Intranasal

Pop Quiz Question

The best position to safely secure a very combative patient is:
  a) Prone
  b) "Hog-tied"
  c) Sandwiched between two backboards
  d) Supine with torso and extremities immobilized

Pop Quiz Question

Death in cases of excited delirium usually is caused by:
  a) Vomiting & aspiration
  b) Positional asphyxia
  c) Hyperthermia
  d) Severe acidosis

Dr. Jimmy’s Tips

Questions/Discussion?

Thank You!

Questions/Comments?

Contact: Carolyn Stovall
  509-242-4264
  1-866-630-4033
  stovalc@inhs.org
  Fax: 509-232-8344
Special thanks to Sheila Crow of Stitchin' Dreams Embroidery
wcsocrow@yahoo.com
For providing our Secret Question prize
and
Our special prizes tonight

Updates Please
If the name and address of your agency contact has changed, please let us know. This is where we mail your certificates.

Email updated name, address and email to:
Jackie Williams – williajd@inhs.org

Alert Us for Possible Activation
A smartphone application for our EMS partners

MedStar
Alert Us for Possible Activation
Medical alert, where EMS application for your smartphone. Instantly alert dispatchers, friends and family as you need transport.

- Download MedStar on your smartphone
- Check status of your activation
- Send notifications to friends and family
- Allows real-time communication with MedStar
- Available for iPhone, iPad, Android smartphones

Everything in one package. You can swing into the field tonight.