Introduction to Trauma Curriculum

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Why study Trauma?

- Sudden
- Unexpected
- Props of civilization stripped away
- The injured patient faces his own mortality
- A common disease
- More common among the young
When the drum beats to quarters is now a time of fearful expectation, and it is now the surgeon feels how much the nature of the wounds which might be brought to him ought to have occupied his mind in previous study.

Sir Charles Bell, 1855
Proper Prior Preparation Prevents Poor Performance
Spectrum of Trauma Care

- Field Care
- Transport
- Emergency Room
- OR
- Radiology
- ICU
- Ward
- Rehabilitation
Tri-modal Distribution of Death after Injury

• Death at the Scene
  – Massive head injury
  – High spinal cord injury
  – Massive exsanguination (eg. Aortic Disruption)
• Death within the first hour of injury
• Death days to weeks following injury
  – Sepsis
  – Brain death
  – Multiple organ failure
How can we reduce morbidity and mortality

• Death at the scene
  – PREVENTION

• Death during the first hour
  – Prompt diagnosis and treatment of all life threatening injuries

• Death days to weeks after injury
  – Prompt therapy plus excellent intensive care
The Golden Hour

Time is of the Essence
Usual Medical Model

• History
• Physical Examination
• Laboratory Data
• Differential Diagnosis
• Additional Studies?
• Definitive Diagnosis
• INITIATE THERAPY
Trauma Model: Two Parallel Processes

- Immediate Initial Physiologic Therapy
- Immediate Diagnostic Investigation

We begin to treat the patient before we know what is actually wrong!!!!!!!
The Concept

- Primary Survey
- Stage of Resuscitation
- Secondary Survey
- Definitive Care
- Transfer
- Rehabilitation
Primary Survey

• Airway
• Breathing
• Circulation
• Disability (Mini-Neurological Examination)
• Exposure
Resuscitation Stage

• Re-evaluation of ABC
• Monitors
• Gastric Tube and Foley (if necessary)
• X-RAYS
Secondary Survey

• Head to toe examination
• If patient deteriorates – return to A in the primary survey
Injuries that threaten life during the “Golden Hour”

- Airway Obstruction
- Tension Pneumothorax
- Open Pneumothorax
- Massive Hemothorax
- Cardiac Tamponade
- Flail Chest/Pulmonary Contusion
- External Hemorrhage
- Massive Intra-abdominal Hemorrhage
Field → ER → OR → Angio → CT → ICU
Primary Survey

- Field
- ER
- OR
- X-RAY
Secondary Survey

- ER
- OR
- X-ray
- ICU
Tertiary Survey

- ICU
- Ward
Mass Casualty Event

- Definition
- How does treatment differ from routine trauma care?
Summary

• Golden Hour

• The Concept
  – Primary Survey, Stage of Resuscitation, Secondary Survey, Definitive Care, Transfer, Rehabilitation

• Continuous Reassessment of Primary and Secondary Survey
  – ER, OR, ICU, RADIOLOGY