Surgical Critical Care

Fundamentals of Surgery
68 y/o F presented to the trauma bay following an MVC, & is found to have multiple abrasions, as well as several bilateral rib fractures. Her breathing is mildly labored, but she is in no acute distress. No other injuries noted.
Stress Response

• How does the body respond to stress, ie “cell injury”? 
Stress Response (inflammation)

- Release of “inflammatory mediators”
- Interleukins, Cytokines, TNF, etc…
- Mobilization of the immune system.
- Increase Cortisol, Catach, ACTH, etc….
If the stress response is healthy it can lead to healing, but if it is out of balance it can lead to further cell death.
The patient is sent to the ICU for further care.

What’s so different about care in the ICU from that on the regular floor?
● The principles of care are the same.

● Prevent, Monitor, Recognize, & Treat. However the “Level of Care” is much greater.
Monitors
A few hours after arriving to the ICU, she becomes somewhat anxious, & agitated, but is in no respiratory distress.
Stop the Madness

- Sedation & Pain Control

- Always look for cause, don’t just write it off as ICU delirium.

- Be familiar with the common drugs to address pain, anxiety, psychosis, & withdrawal.
After pain meds and an anxiolytic the patient appears more comfortable, but over the next several hours begins to show some signs of respiratory distress.

Intubate?
Ventilator BASICS

- Three Factors Determine Vent Function
- **MODE** (CMV, AC, SIMV, PSV, CPAP)
- **CYCLE** (volume / pressure)
- **ADJUNCTS** (Rate, FiO2, PEEP, PS)
Protect the Lungs

- Keep tidal Volumes Low (6-8cc / kg)
- Keep Oxygen to a Minimal Level
After 4 days on the ventilator the patient has been unable to be extubated, and starts to develop a fever. She has decreasing UOP, increasing Cr. She is also hypotensive with tachycardia, & elevated white count.

What do you think?
- Is she in “Shock”? 
- How do you know? 
- What would be your treatment approach
● TREAT UNDERLYING CAUSE

● DELIVER OXYGEN TO THE CELLS... WHILE THEY ARE STILL HEALTHY ENOUGH TO USE IT.

● * SURVIVING SEPSIS
SIRS....Sepsis

- Find the Source
- Surviving Sepsis Campaign
After being treated with antibiotics the patient improves greatly.

Extubate?
Thank You
Brain Death

- Mechanism
- Responsiveness / Reflexes (Table 7-6)
- Confounding Factors (table 7-7)