

# **Surgical Critical Care**

Fundamentals of  
Surgery

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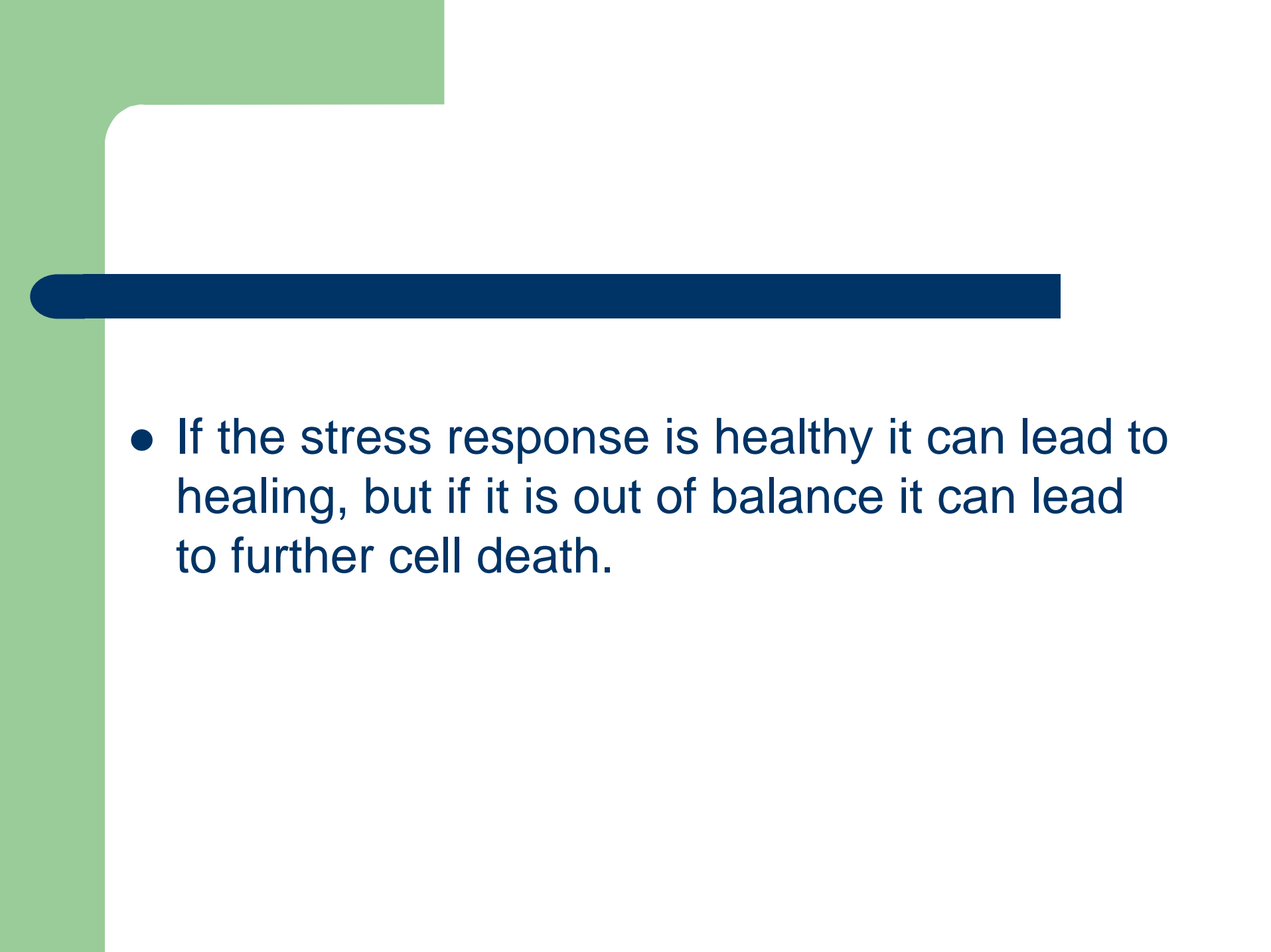
- 68 y/o F presented to the trauma bay following an MVC, & is found to have multiple abrasions, as well as several bilateral rib fractures. Her breathing is mildly labored, but she is in no acute distress. No other injuries noted.

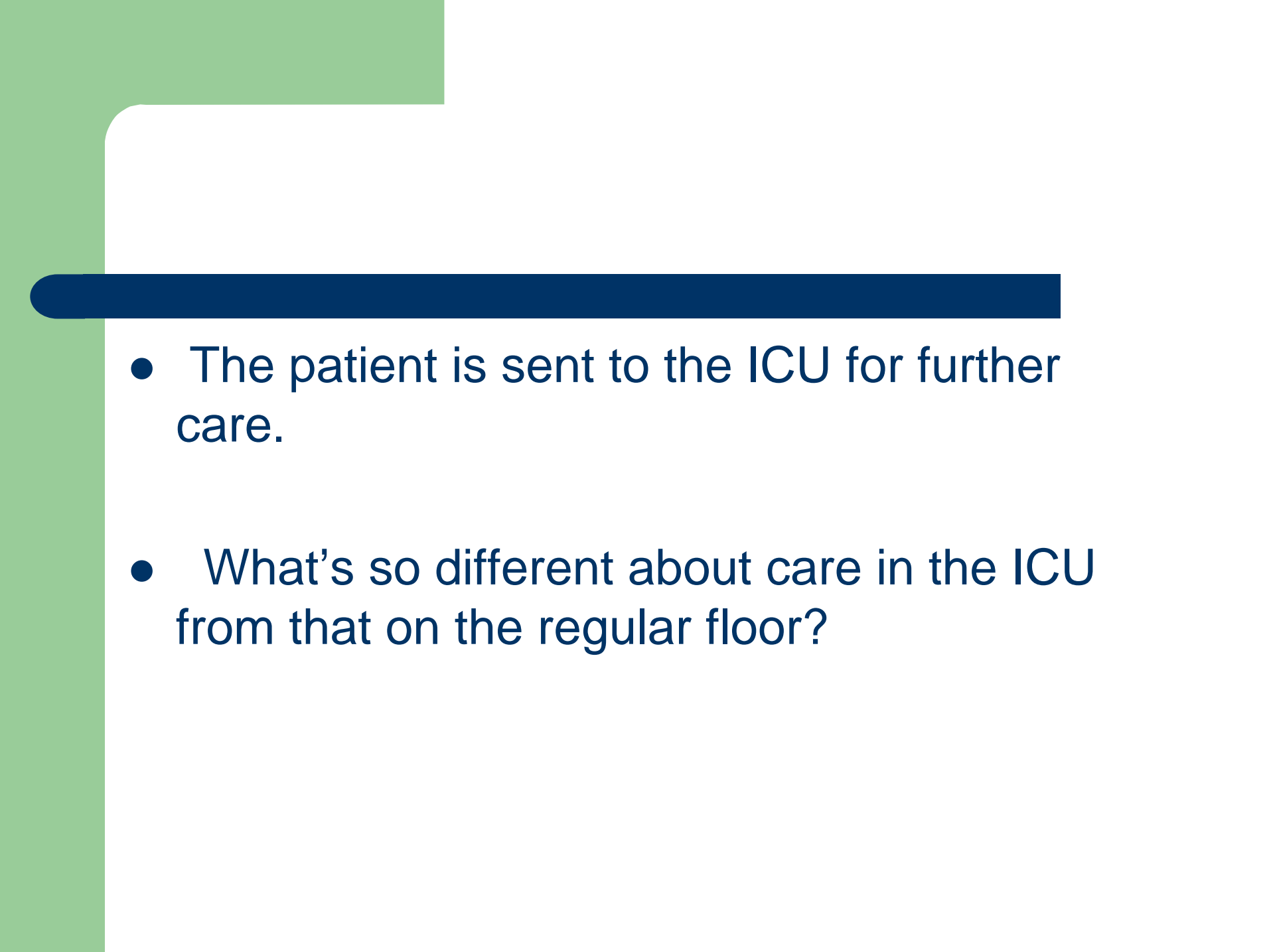
# Stress Response

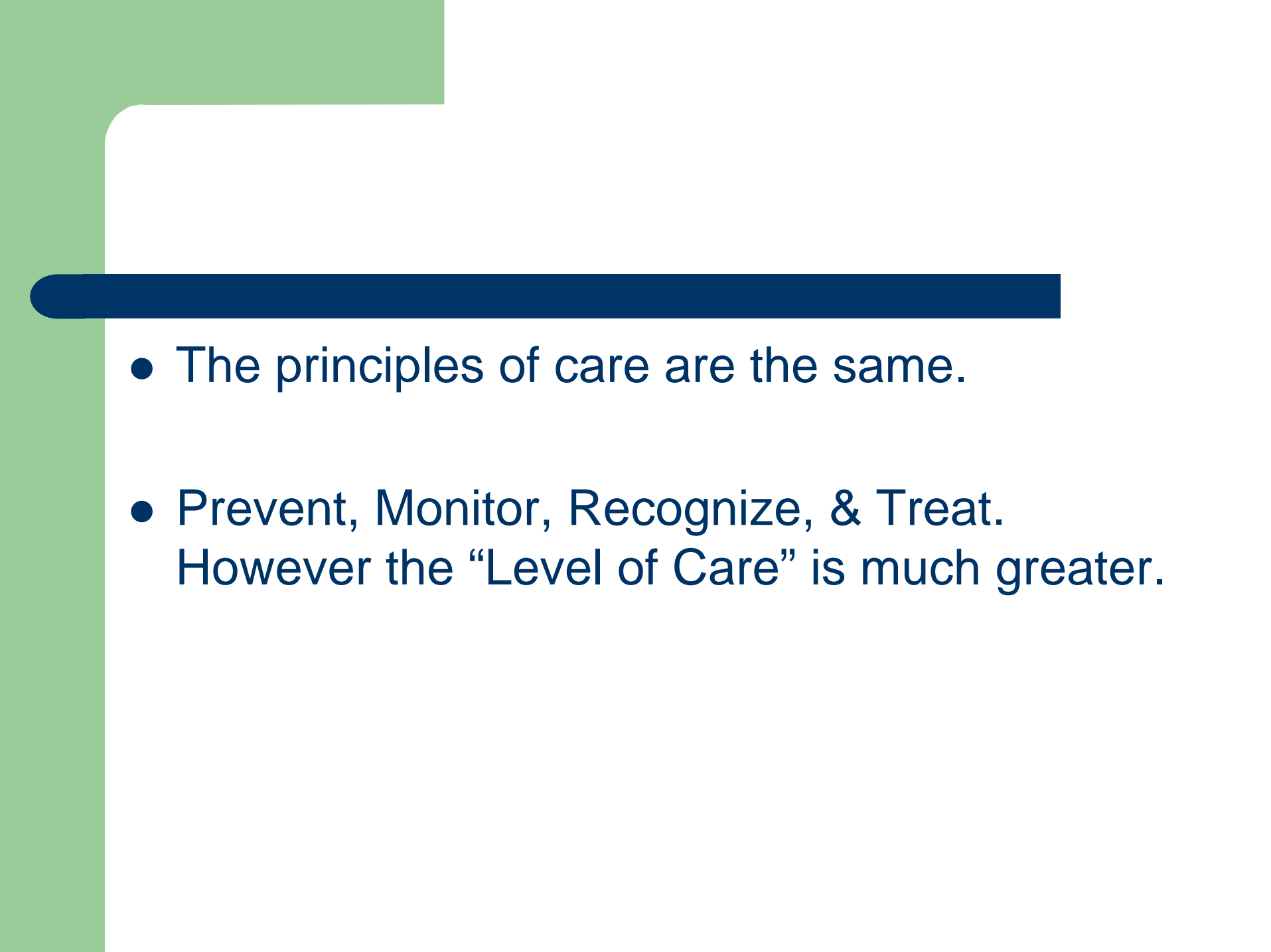
- How does the body respond to stress, ie “cell injury”?

# Stress Response (inflammation)

- Release of “inflammatory mediators”
- Interleukins, Cytokines, TNF, etc...
- Mobilization of the immune system.
- Increase Cortisol, Catach, ACTH, etc....

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- 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.



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- 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?

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- The principles of care are the same.
  - Prevent, Monitor, Recognize, & Treat.  
However the “Level of Care” is much greater.

# Monitors





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- 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, FiO<sub>2</sub>, PEEP, PS)

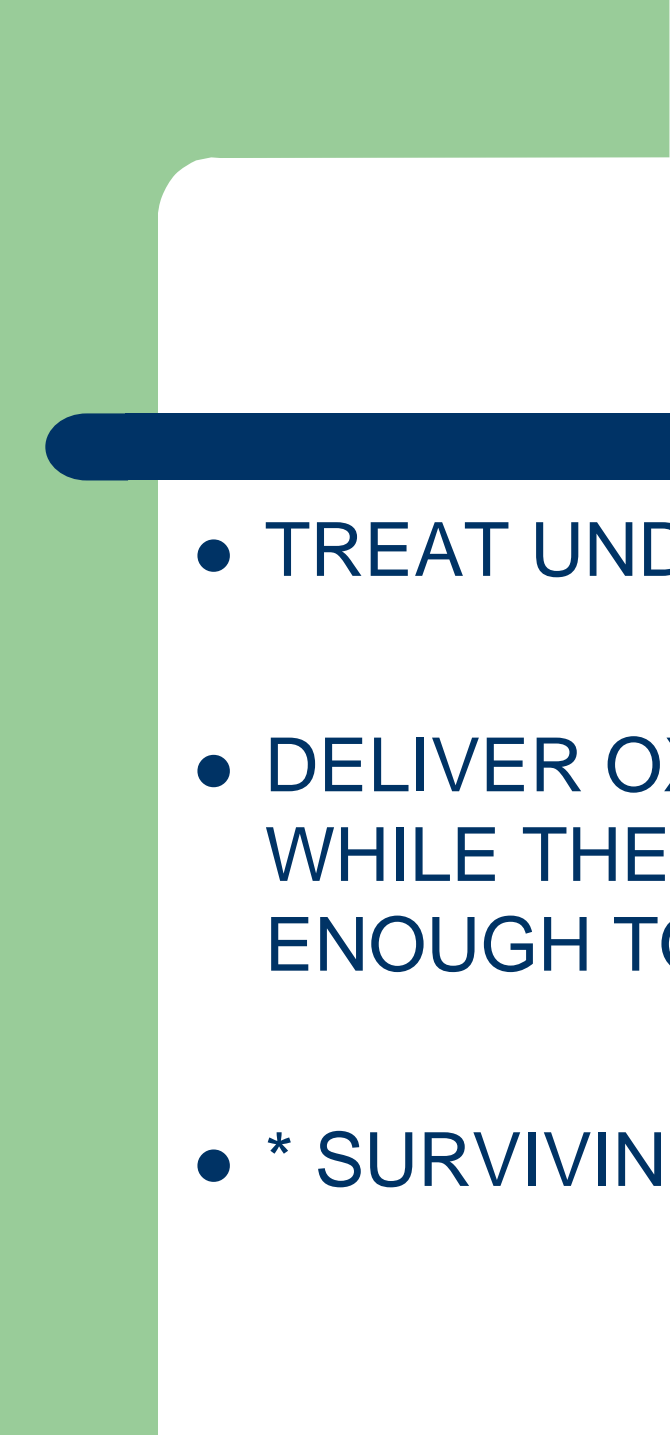
# Protect the Lungs

- 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?

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- Is she in “Shock”?
  - How do you know?
  - What would be your treatment approach

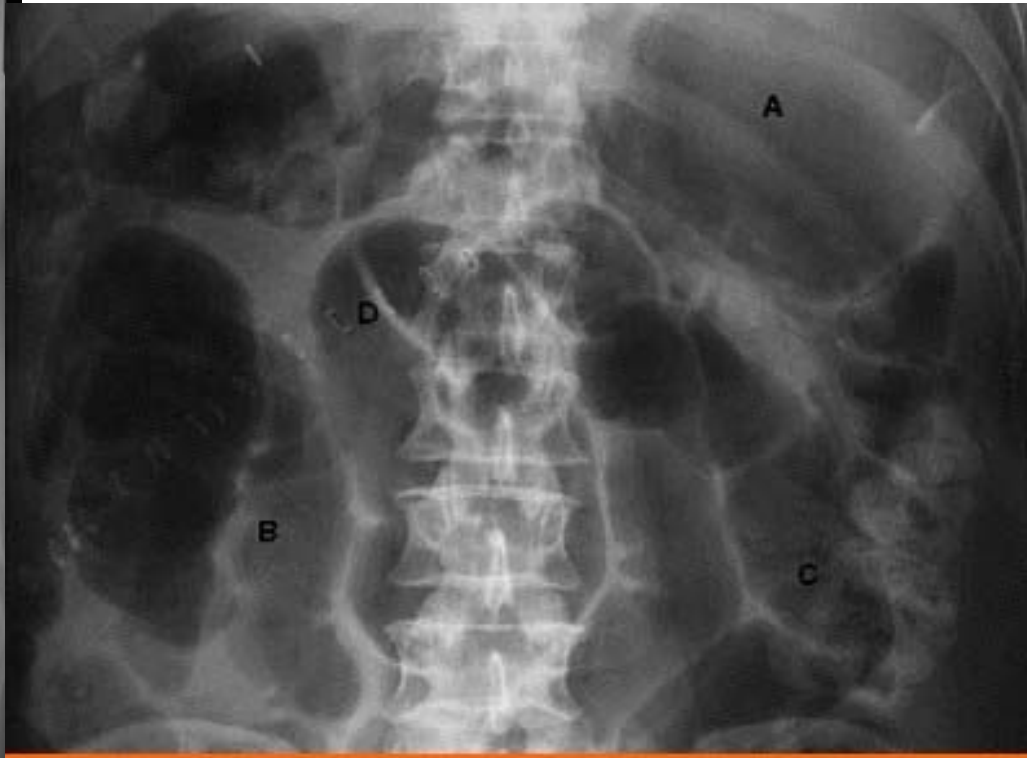




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- A decorative graphic on the left side of the slide, consisting of a light green vertical bar and a dark blue horizontal bar that curves at its left end.
- TREAT UNDERLYING CAUSE
  - DELIVER OXYGEN TO THE CELLS...  
WHILE THEY ARE STILL HEALTHY  
ENOUGH TO USE IT.
  - \* SURVIVING SEPSIS

# SIRS....Sepsis

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- Find the Source
- Surviving Sepsis Campaign



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- 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)

