Critically Ill Patients

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Objectives

• Define population and additional risk factors

• Identify factors leading to lack of turning and reposition of critically ill patients

• Identify strategies for prevention
Critical Care

• Highly vulnerable patient population

• Highest incidence of pressure ulcers in hospitalized patients (Shanin 2009; Vangilder 2009)
  – Prevalence and Incidence studies rare
  – Incidence 5-56% (Defloor, Kritiek 1997; Jiricka, Am J of Crit Care 1995)
  – Prevalence 49-82% (Westgrate, Connect the World of Critical Care Nursing 2001; Shannon and Skorga, Decubitus 1989)
NPUAP guidelines

- **Recommendations**
  - Strength of Evidence: C

- **Issues addressed**
  - Support surfaces
  - Repositioning
    - Prone positioning
    - Lateral rotation
    - Lateral rotation in patients with pressure ulcers

- **Nutrition management**

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Clinical issues

- **Underlying medical conditions**
  - Pulmonary
  - Cardiac
  - Renal
  - GI

- **Hemodynamic instability**
  - Pressors
  - Volume status

- **Immobility**
Complications of Immobility

- Ventilator Acquired Pneumonia
- Delayed weaning due to muscle atrophy
- Pressure ulcers
- Independent predictor of readmission or death
- Deconditioning
  - Impact on long term quality of life

(Vollman KM, Crit Care Nurs Q, 2013)

Staff concerns

- There are situations that justify supine positioning

- Patient safety
  - Dislodgement of vital equipment
  - Staffing
  - Overuse of benzodiazepines and sedatives
  - Previous description of instability
  - Culture of the unit
What makes a patient too unstable to turn?

• Life threatening changes in:
  – Cardiac Arrhythmias
  – Oxygenation
  – Blood Pressure

• Clinical situation is unstable
  – Hemmorhage
  – Hemodynamic status does not stabilize after 5-10 minutes of repositioning
  – Unstable fractures

Repositioning

• Patients need to be assessed on an individual basis
  – Techniques can be used to turn and reposition safely once assessed by clinical team

• Absolute contraindication
  – Unstable/Temporary airway
Strategies for Mobility

- Early mobility
- Secure lines
- Small incremental changes
- Close monitoring of hemodynamic status and cardiac rhythm
Early Mobility

• Supine positioning
  – Gravitational equilibrium (Vollman, Crit Care Nurse 2010)
  – Autonomic insufficiency

• Disuse atrophy
  – After 7 days of mechanical ventilation, patients exhibit significant muscle weakness

• Utilize Physical Therapy

Small Incremental Changes

• Have sufficient staff on hand
• 15 second pauses between 15 degree turns
• Continue slow sequential shifts until patient is in desired position
• Use same technique for shifting patient back
Hemodynamic Status

- Monitor blood pressure and heart rate closely
  - Art lines
  - Continuous monitoring
- Allow for stabilization
- Reattempt every shift if not successful due to instability

Prevention Strategies

- Specialty support surfaces
  - Lateral rotation beds
- Moisture control
- Early nutritional support as appropriate
- Heel protection
- Preventive dressings
Benefits to ICU mobility

- Decreased ICU length of stay
- Fewer ventilator days
- Fewer episodes of ventilator acquired pneumonia
- Shorter hospital stay

(Brindle TC, et al. JWOCN 2013)

Conclusion

- Pressure ulcer risk is known in this population
- Preventive measures should be put in place on arrival
- Pressure ulcers not inevitable
Thank You!
Questions??