Continuous Lateral Rotation—Time to Turn

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BACKGROUND

- MICU/SICU has transitioned to the use of a new bed which offers ability to provide continuous lateral rotation therapy-CLRT
- Critical illness can lead to an acute lung injury or ARDS-adult respiratory distress syndrome
- CLRT has been suggested as a therapy to address ARDS pulmonary complications
- It is not currently used in MICU/SICU

P I C O

- **P-In Adult ICU Patients**
- **I-Continuous Lateral Rotation Therapy-CLRT**
- **C-Manual Turning**
- **O-Pulmonary Complications of ARDS including pneumonia, total ventilator days, ICU LOS and mortality.**

EVIDENCE

- ***Continuous Lateral Rotation Therapy-a review***
  - Wanless and Aldridge (2011) Nursing in Critical Care
- **A review of 46 publications related to CLRT**
- Focused on the following:
  - Respiratory Care
  - Angle of rotation
  - Cost benefit ratio
  - Pressure injury
- Conclusions:
  - There appears to be some benefit from CLRT most specifically related to decreasing VAP
  - There is conflicting evidence to its efficacy

EVIDENCE

- ***Continuous lateral rotational therapy in trauma- A systematic review and meta-analysis***. Schrieren 2017 *Journal of Acute Care and Surgery.*

The following studies were reviewed:

- Eight prospective controlled trials comparing CLRT with conventional manual positioning
- Four studies using CLRT for prophylaxis of pulmonary complications
- Four trials using CLRT as therapy in ALI/ARDS

Results:

  - Showed a reduced incidence of nosocomial pneumonia
  - Showed no impact in the duration of mechanical ventilation
  - Showed no impact on ICU length of stay
  - No impact on mortality

- ***Frequency of Manual Turning on Pneumonia. American Journal of Critical Care***. Schallom, L et al. (2005)

- Routine turning of critically ill patients often defaults to a 2 hour cycle
- It is unclear if this actually alters pulmonary function
- In an observational study of 284 critically ill, tube fed patients over a three day period (16 hours per day were observed) which offered 23 turning opportunities per patient….patients were only turned 9 times
- At the end of day 3….49% of patients had pneumonia

FINDINGS

- CLRT would have to compete with two other therapies with better evidence
  - VDR-Volume Diffusive Respiration
  - Manual Proning

  Both therapies have been used successfully and are in active use in the MICU/SICU
- CLRT would most likely not be an acceptable option for acute lung injury

NEXT STEPS

- Work with unit-based practice committee to identify what the bed has to offer to reduce skin injury risk in this population
- Also consider use of the percussion and vibration feature as an option for chest PT

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