Multidisciplinary Approach to Physical Mobility in Intensive Care.

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Prolonged immobility related to critical illness requiring bedrest can delay ventilator weaning, and increase length of stay (LOS) in the Intensive Care Unit (ICU).

- After 1 week of bedrest, muscle strength can decrease up to 20%, with an additional 20% occurring each week after.
- EBP supports progressive mobilization in ICU patients may result in shorter LOS, shorter duration of mechanical ventilation, prevent pressure ulcers, and decrease risk of delirium, and other adverse effects.

Current Practice – MICU/SICU and 2KSouth contain 44 beds. There are PT consults on 70% of these patients which is approximately 30.8 patients. PT will then observe each of the 30.8 patients, and discuss with the RN if the patient is appropriate for PT. However, only approximately 15-18 of the 30.8 patients are appropriate and medically stable for physical mobility. Thus, this leaves a considerable amount of patients who are unseen by PT and PT time may not be spent with the patients who are ready for mobility.

Plan – Utilize a multidisciplinary team of the PT and the RN to determine patients who are ready for mobility by implementing a mobility assessment specific to patients in the ICU. Objective is to implement two mobility scales specific to patients in the ICU, teach RN’s how to use each scale and gather data regarding the RN’s response to each scale to determine which scale to use in the future.

Methods

- A search of the literature was performed to identify validated functional assessment tools
  - The search resulted in identifying six tools specific to patients in the Intensive Care setting
  - The project team chose two tools to evaluate

- 10 night shift nurses on MICU/SICU and 2KSouth (44 beds), used the FSS-ICU, and the Perme for one patient.

- Each nurse completed a seven question response survey, using a 5 point Likert scale from strongly disagree to strongly agree. The survey discussed the following topics:
  - ease of use
  - time spent completing the survey
  - is the nurse is able to use the scale in a daily routine
  - is the nurse willing to use the scale in a daily routine
  - clearness of the scales directions
  - if any data can be used from the nurses Epic flowsheets
  - RN felt the scale was helpful in identifying patients ready for mobility.

Survey Results:

Survey results for the Perme:

Directions clear and easy to understand? 2 Strongly disagree Strongly neutral Strongly agree
Scale easy to use? 1 Strongly disagree 7 Neutral 1 Strongly agree
Pull data from flowsheet? 2 Strongly disagree 8 Neutral Strongly agree
Feel scale help identify a patient who is ready for PT? 2 Strongly disagree 5 Neutral 3 Strongly agree
Be able fit into daily routine? 5 Strongly disagree 5 Neutral Strongly agree
Be willing to fit into routine? 5 Strongly disagree 5 Neutral Strongly agree

Survey results for the FSS-ICU:

Directions clear and easy to understand? 3 Strongly disagree 3 Strongly agree
Scale easy to use? 3 Strongly disagree 5 Neutral 2 Strongly agree
Pull data from flowsheet? 2 Strongly disagree 6 Neutral 2 Strongly agree
Feel scale help identify a patient who is ready for PT? 5 Strongly disagree 2 Neutral 3 Strongly agree
Be able fit into daily routine? 1 Strongly disagree 4 Neutral 2 Strongly agree
Be willing to fit into routine? 1 Strongly disagree 4 Neutral 3 Strongly agree

Note: Each response is out of 10 nurses

Evidence

- Perme Intensive Care Unity Mobility Score – Score range from 0 to 32, from 15 items in 7 categories.
  - higher score indicates fewer barriers to mobility
  - lower scale indicates more barriers to mobility
  - Preliminary data suggests validity of the tool, and reliability is high agreement between raters for all items median IQR percentage 94.29%

- Functional Status Score for the Intensive Care Unit (FSS-ICU):
  - Score range from 0 (indicates dependence) to 35 (indicates independence)
  - Cumulative score improved from a median IQR from 9 on admission, to 14 at discharge

- Nurse driven education on the risks of immobilization may increase awareness, and increase the nurses motivation to mobilize patients in the ICU setting
  - After an educational intervention for nurses using a pre- and post-test survey, on a 14 bed Medical Surgical Intensive Care Unit, regarding the importance of early mobilization, saw a significant increase in early mobilization (P=0.04), and dangle (P=0.01)

- Perme Intensive Care Unity Mobility Score versus FSS-ICU, saw a significant increase in early mobilization (P=0.04). The Perme Intensive Care Unity Mobility Score was easier to use, quicker to use, were more willing to use, and found it more helpful in identifying patients appropriate for physical therapy.

Conclusion

- Suggested next steps
  - Study reflects a small sample size, consider repeating study with a larger sample size
  - Additional study to determine if the use of the mobility scale initiated by the RN does use PT time effectively
  - Determine at what frequency the Perme score should be used by the RN (on admission or daily)
  - Implement education for all Registered Nurses on MICU/SICU and 2KS on the use of the Perme Intensive Care Unit Mobility Score

REFERENCES


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