IMPROVING PATIENT OUTCOMES WITH OPTIMAL NUTRITION

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Purpose This evidence-based practice project was conducted to determine if educating staff on the importance of optimal nutrition in mechanically ventilated (MV) CCU patients, and feeding gastrically rather than waiting to achieve post-pyloric tube placement would result in provision of optimal nutrition during mechanical ventilation.

Background Research has shown that the provision of optimal nutrition to critically ill, mechanically ventilated patients is linked to decreased infection rates, decreased mortality and shorter ICU stays. Despite the evidence, most patients receive less than half of their recommended daily nutrition. Barriers to meeting energy provision requirements include feeding tubes falling out, delay in start of enteral nutrition (EN) after intubation, and the holding of EN for tests/procedures and anticipation of extubation.

Methods An enteral feeding protocol and staff education program was developed and implemented following a review of the best practice literature. The unit medical director and physicians were enrolled in trialing a small test of change in feeding orders for this patient population. Then, a medical records review of 9 MV, CCU patients was conducted to evaluate the impact of the staff education program. Patients who were intubated and extubated in the CCU between February 16 and May 21 2010 and MV for more than 3 days were included. The total amount of EN received during the period of MV was compared with recommended daily nutrition using dietician consult. Calories received from Propofol drips were also accounted for.

Results 39 staff nurses and 5 physicians received the education regarding enteral nutrition best practices over a period of 3 weeks. Flyers were also posted to inform staff of the new changes. A total of 9 patients met inclusion criteria for the small test of change; 5 patients comprised the baseline sample, 2 were in the mid intervention sample, and 2 were in the post intervention sample. The baseline patient group received 45.9% of the recommended daily nutrition, the mid intervention group received 28.8%, and the post intervention group received only 39.8%. The average times from intubation to start of EN in the three groups were 60 hrs, 49 hours and 42 hours respectively.

Conclusions Despite the significant decrease in time to initiate EN, there was no improvement in meeting the overall nutritional requirements of this fragile patient population following this small test of change. Prior to the project, nurses needed to delay the start of enteral nutrition while attempting to achieve post-pyloric feeding tube placement and hold EN after midnight prior to tests, procedures and spontaneous breathing trials (SBT). As a result of the project the new CCU policy is to initiate EN as soon as the feeding tube is in a safe location to administer EN and hold

EN just two hours prior to tests and SBTs. This project has definitely raised clinician awareness regarding patients' nutritional needs and the process of changing behaviors has just begun.

Key Words Enteral nutrition, critical care, mechanically ventilated