

N043 Implementation and evaluation of a nutrition support protocol in the adult intensive care unit. S. L. Mackenzie, BSc¹; K. P. Plett, BSc¹; S. M. Hameed, MD, MPH²; D. A. Zygun, MD²; ¹Calgary Health Region, Calgary, AB, Canada; ²Calgary Health Region and University of Calgary, Calgary, AB, Canada.

Background: Enteral nutrition (EN) is the mainstay of nutrition support in the adult ICU. Studies have shown that an enteral feeding protocol improves attainment of feeding goals. The preferred method of implementation and protocol format to enhance outcomes has not been identified. The purpose of this work was to develop and implement a nutrition support protocol that is evidence-based, comprehensive, practical and user-friendly.

Hypothesis: implementation of this protocol will improve EN delivery in our adult ICU.

Methods: A multidisciplinary working group, lead by the RD and an Intensivist/Trauma Surgeon, was created to develop an evidence-based nutrition support protocol. In developing our

guidelines, we considered data from an extensive review of the literature, a retrospective review of 30 patients in our unit, feedback from our local Continuous Quality Improvement (CQI) committee, multi-disciplinary Rounds, and from other regional stakeholders including RDs, RNs, Pharmacists and Surgeons. Our algorithms were placed on the internal critical care website for easy access by nursing and medical staff at each patient bedside computer. Implementation methods for our protocol included Grand Rounds, RN orientations, group and one-on-one medical Resident education, and daily reminders on bedside Rounds. We asked for feedback from each group inserviced to solicit buy-in. Physician champions became evident and assisted with overall acceptance. Two copies were placed in different locations on the unit as alternatives to web access. Proportion of goal enteral feeding requirements was measured in 123 consecutive patients before and after the implementation of the protocol. Six months later compliance was re-evaluated. Results: Prior to protocol implementation 56% of estimated nutrition goals were being met; post-protocol implementation 83% of goal was met (N= 123, $p < 0.001$). Six months post evaluation, quality improvement (QI) data suggested that we were not adhering to the protocol as strictly, as this rate dropped to 70%. Reasons for not meeting goals were identified through review of the data, focus groups, one-on-one surveys, and observations. These reasons included: not progressing EN according to protocol, holding feeds for inappropriate duration following residual checks, team members not familiar with details of algorithm to promote best practice or did not know a protocol existed, and differences in perception of roles and responsibilities among disciplines (ie.who could initiate an order). Individual Attending Physician bias about use of the protocol was occasionally a barrier, yet the Critical Care Fellows closely adhered to the guidelines. Plans arising from our 6-month evaluation included 1) ongoing education with nursing, 2) considering alternative presentation and order entry format for the protocol, and 3) addressing roles and responsibilities in the initiation of EN.

Conclusions: Traditionally used methods for orientation and education in implementing a protocol lead to improvement in achieving feeding targets in the adult ICU, however long term adherence remains a challenge. As a result of this QI evaluation, the RD role in the ICU is changing to include conducting and reporting on monthly QI audits, additional RN and medical Resident education, and development of alternative methods to present and access protocol guidelines.