STUDY SUMMARY

Improving Enteral Delivery Through Adoption of the 'Feed Early Enteral Diet Adequately for Maximum Effect (FEED ME)' Protocol in a Surgical Trauma ICU: A Quality Improvement Review

Taylor B, Brody R, Denmark R, Southard R, Byham-Gray L. NCP 2014;29(5):639-648.

Objective

Because underfeeding of ICU patients remains prevalent, a multidisciplinary team developed a PEPuP* type protocol that addressed MD concerns about rapid advancement of EN in surgical patients. A study was then undertaken to determine if a volume-based enteral feeding protocol (FEED ME) could improve adequacy of nutrition delivered to surgical/trauma ICU (STICU) patients.

Methods

A retrospective review of mechanically ventilated STICU patients (n=111) was conducted before (n=54) and after (n=56) the implementation of the FEED ME protocol as a quality improvement (QI) project. Subjects were included if they met their target goal for enteral nutrition during the first week of admission and were fed for at least 72 hours after this. Data was collected until STICU Day 7, discharge or death, whichever came first. Education campaigns for nursing and MDs followed protocol development.

FEED ME Continuous Feeding Guide- Start after the patient reaches goal rate ordered

Goal (mL/h)	Hours EN held for test or procedure																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	≥21
95	100	105	110	115																	
90	95	100	105	110	115																
85	90	95	100	105	110	115															
80	85	90	90	95	100	105	110					Max 120 mL/h									
75	80	80	85	90	95	100	105	115													
70	75	75	80	85	80	80	100	105	115												
65	70	70	75	80	80	90	95	100	105	110											
60	65	65	70	70	75	80	85	90	95	105	110										

Adapted from Fig 1. A Bolus Feeding Guide was provided in addition to a Continuous Feeding Guide.

Results

- **After implementing the protocol:**
  - Average time to initiation of feeding in both groups was ≤ 48 hours.
  - Intermittent checks on nursing compliance during the data collection period showed near 90% compliance. A follow-up 11 months later found 82% nursing compliance.
  - The calories delivered increased (rate based, 63% +/- 20%; FEED ME 89% +/- 9%; p< 0.0001).
  - The protein (g/kg ABW) delivered increased (1.13 +/- 0.29; FEED ME 1.26 +/- 0.37; p=0.036).
  - A slight increase in diarrhea in gastric-fed patients was observed (rate based, 0; FEED ME, 6; p=0.046). No holds of EN due to diarrhea were documented.
  - Incidence of gastric residual volume >350 mL and incidence of emesis were similar across groups.

Conclusion

- Implementing the FEED ME volume-based approach as a QI project was dependent on nursing compliance and significantly improved adequacy of calories and protein delivered for STICU patients.

Summary prepared by Nestlé Healthcare Nutrition. The complete study can be accessed on line at: http://ncp.sagepub.com/content/29/5/639

*PEPuP (Enhanced Protein-Energy Provision via the Enteral Route in Critically Ill Patients)