Proposed Protein Supplementation Protocol for Critically-Ill Surgical Patients Receiving Enteral Nutrition Support DRAFT

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Background

• Nutrition support is crucial for wound healing, organ function restoration, and management of hypermetabolism.1
• Protein catabolic rates are significantly elevated in the setting of hypermetabolism.2
• Protein consumption linked to positive outcomes more so than the provision of total energy.3
• ASPEN/SCCM recommends patients who cannot meet protein requirements using standard enteric nutrition (EN) formulas receive protein supplementation.3
• Suboptimal enteral feeding volumes common due to frequent interruptions and high levels of propofol.

Proposal

Provide early enteral protein supplementation to critically ill surgical patients at 2 g/kg/day regardless of protein provision in enteral nutrition formulas.

Detailed Protocol

Start on a polymeric enteric nutrition formula for full nutrition support within 72 hours of admission.

RNs to provide enteral ProSource supplementation at 2g/kg/day. Enteral Supplement Cards to support protocol adherence.

Decrease ProSource supplementation by 50% once patient receives 75% of goal enteral formula volume for 48 hours.

Reduce ProSource supplementation so total protein equals 2g/kg/day once patient receives 100% of goal enteral formula volume for 48 hours.

Assess average enteral formula provision and resume enteral protein supplementation based on clinical judgement.

24-Hour TUN measurements, indirect calorimetry, and serum transthyretin should be utilized to support enteral nutrition modifications.

Limitations

• Enteral nutrition intolerance possible
• Concern for use in patients with especially end-stage renal disease
• Those receiving total parenteral nutrition would require a different protocol
• No clinical outcomes (ICU LOS, rate of discharge, etc.) assessed in relation to high level protein supplementation

Future Directions

• Goal is to implement this protocol throughout the SICU at HMC.
• A similar protocol could be developed for additional services and those receiving total parenteral nutrition.

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