Early Enteral Feeding in the Pediatric Acute Care Setting
Sarah Yanez, UW Nutritional Sciences Program, MS-Nutrition Student and Dietetic Intern
Preceptor: Jennifer Aton, MS RD, Pediatric ICU, Seattle Children’s Hospital

**PROPOSED PROTOCOL**

Does the patient have a/an:
- open abdomen?
- expectation to be NPO < 3 days?
- ongoing GI bleed?
- bowel obstruction/ileus/NEC?
- need for continued NPO status for procedures?

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
</table>

Is there a medical indication for giving a specialized formula other than a standard formula?

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
</table>

Does the patient have a known abnormality of gastric emptying/intolerance of gastric feeds?

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
</tr>
</thead>
</table>

Nasogastric Tube
Nasojejunal Tube

Rate at initiation of feeds: 1-2mL/kg/hr If tolerated, increase every 6 hours to goal rate.

**BACKGROUND**
Currently, no early enteral feeding protocol exists at Seattle Children’s Hospital.

**CURRENT LITERATURE**
- Early enteral feeding (EEN) suggested reduce the relative mortality rate in pediatric intensive care populations
- Groundbreaking research by Mikhailov et al: retrospective cohort study demonstrating a correlation between EEN and decreased mortality rates in certain populations, including
  - Mechanically ventilated
  - Altered mental status precluding oral intake
  - Anticipated NPO >5 days
  - Severe malnutrition upon admission
  - Pre-operative patients
- Populations to exclude have medical complications affecting the GI tract
  - Open abdomen
  - GI bleed, ongoing
  - Bowel obstruction
  - Ileus
  - Necrotizing enterocolitis
- General conclusion: need for further studies done, preferably randomized control trials, in pediatric populations

**IMPLEMENTATION**
- Possible in pediatric ICU only (versus cardiac ICU or neonatal ICU)
- Education of attending physicians and residents regarding formula types and feeding initiation rate
- Communication with pharmacy of formula options – standard only
- Education of nurses regarding feeding advancement rates

**OBSTACLES**
- Per ICU dietitians
  - Many pediatric patients admitted to the ICU are tube fed at home and have specialty formulas and/or home-blenderized formulas
  - RDs round with medical team every morning, so need for enteral nutrition as a proactive protocol may be unnecessary
  - Physicians have limiting knowledge about formula types
  - Is there an underlying condition that would be contraindicated for early enteral feeding?
- Ethical concerns regarding randomized control trials in pediatric populations

References:
- Farver K. Harborview Medical Center Enteral Feeding Guidelines.