**MANAGING INTOLERANCE** based on Critical Care Nutrition Guidelines

### Summary of Select 2016 CRITICAL CARE NUTRITION GUIDELINES

#### USE OF PROTOCOLS
- Recommend enteral feeding protocols be designed and implemented to increase the overall percentage of goal calories provided. D3a
- Use of volume-based feeding protocol or top-down multi-strategy protocol is suggested. D3b

#### GASTRIC RESIDUALS
- Patients should be monitored for tolerance of EN and inappropriate cessation of EN be avoided. D1
- Suggest avoiding holds on EN for gastric residual volumes ≥ 500mL in the absence of other signs of intolerance. D2b

#### RISK OF ASPIRATION
- Diarrhea:
  - EN should not be automatically interrupted for diarrhea; evaluating etiology of diarrhea to determine appropriate therapy is also suggested. D6
- If there is evidence of diarrhea and fiber is not contraindicated, 10-20 gm of fermentable soluble fiber is suggested, given in divided doses over 24 hours as adjunctive therapy. F1
- Peptides:
  - Use of small peptide formulations in the patient with persistent diarrhea, suspected malabsorption, or lack of response to fiber is suggested. E4b
- Fiber:
  - Avoiding both soluble and insoluble fiber in patients at high risk for bowel ischemia or severe dysmotility is suggested. E4b
  - A fermentable soluble fiber should be considered for routine use in all hemodynamically stable medical and surgical patients placed on standard enteral formulations. F1

#### GUT DYSFUNCTION
- Consider use of small peptide formulations in patients with persistent diarrhea, suspected malabsorption, or lack of response to fiber. E4b
  - Address the following:
    - Hyperosmolar medications
    - Infectious etiology, i.e., *C. difficile*
    - Sensitivity to specific components of the formula
    - Aseptic formula technique
    - Utilize Malabsorption Index™

In patients who are high nutrition risk or severely malnourished, EN should be advanced towards goal as quickly as tolerated over 24–48 hours. Efforts to provide >80% of goal protein and energy within 48-72 hours, should be made to achieve clinical benefit of EN over first week of hospitalization. C3

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**Are TF Gastric Residuals Volumes (GRVs) ≥ 500 mL?**

**Is patient complaining of pain and/or distension, or do physical exam or x-rays indicate intolerance?**

**Is Patient Having Diarrhea? >200gm Stool/Day or ≥ 3 liquid stools/day?**

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See RISK OF ASPIRATION in SUMMARY OF SELECT GUIDELINES

If feasible, return residuals < 250 mL.

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**WITHHELDING EN until patient is fully resuscitated and/or stable is suggested. B5**

For stable patients on EN and receiving vasoressor therapy, any signs of intolerance should be closely scrutinized as possible signs of gut ischemia (abdominal distension, increasing NG output or GRVs, decreased passage of stool and flatus, hypoactive bowel sounds, increasing metabolic acidosis and/or base deficit), B5

- Use EN protocols to direct therapy. D3a
  - Volume-based feeding D3b
  - Top-down multi-strategy D3b

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**Obesity: PROTEIN, CALORIES, HOLD PN, INITIATE EN, ROUTE, USE OF PROTOCOLS**

**Obesity**

**Protein**

- Suggest initiating very high protein formula to meet protein requirements of 1.2–2.0 gm/kg/day ABW*.
- Avoiding routine use of all specialty formulas in the medical ICU and disease-specific formulas in the surgical ICU is suggested.
- Consider use of small peptide formulation in patients with persistent diarrhea, suspected malabsorption, or lack of response to fiber.
- Peptide-based diets are part of a “safe-start” top-down strategy.
- Protocols should be implemented to increase goal calories provided.

**Calories**

- Suggest indirect calorimetry (IC) to be used to determine energy requirements when available and in the absence of IC, use a published predictive equation or a simplistic weight-based equation (25–30 kcal/kg) to determine caloric requirements for BMI > 30.
- See Obesity for recommendations for patients with BMI > 30.

**HOLD PN**

- In the low nutrition risk patient, suggest PN be withheld for 7 days following ICU admission for the patient who cannot maintain volitional intake or receive EN.

**INITIATE PN**

- Suggest initiating early PN on admission in high nutrition risk or severely malnourished patients when EN is not feasible.
- Recommend supplementing with PN after 7–10 days of EN if unable to meet > 60% of energy and protein needs by the enteral route alone.

**ROUTE**

- Suggest EN over PN in critically ill patients who require advanced to goal feeding as quickly as tolerated over 24–48 hours.
- Goal is to provide > 80% of estimated protein and energy needs over the first 48–72 hours.

**EN**

- EN is the preferred route of feeding over PN.
- Initiate feeding in 24–48 hrs, advancing to goal quickly.
- Use top-down protocols such as PEPuP.

**Initiate EN**

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- Initiate feeding in 24–48 hrs, advancing to goal quickly.
- Use top-down protocols such as PEPuP.

**Select Formulas**

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- Avoiding routine use of all specialty formulas in the medical ICU and disease-specific formulas in the surgical ICU is suggested.
- Consider use of small peptide formulation in patients with persistent diarrhea, suspected malabsorption, or lack of response to fiber.
- Peptide-based diets are part of a “safe-start” top-down strategy.
- Protocols should be implemented to increase goal calories provided.

**Assess Calorie & Protein Requirements**

- Is Patient Hemodynamically Stable?
  - NO
  - YES
- Is Patient able to Eat?
  - NO
  - YES

**Do Not Feed**

- Oral Diet & Consider Supplements

**Monitor Tolerance & Adequacy**

- Perform ongoing evaluation of adequacy of protein.
- See www.ENactNutrition.com
- Efforts to provide >80% of estimated nutrient needs within 48–72 hours should be made.
- Consider use of supplemental PN after 7–10 days if unable to meet >60% of energy and protein needs by EN alone.

**Evaluate Need for Adjunctive Therapy**

- Is EN Contraindicated?
  - Contraindications to EN: GI obstruction, bowel ischemia, intractable vomiting and/or diarrhea, < 100cm small bowel, paralytic ileus, severe GI bleed, inability to gain access to GI tract, hemodynamic instability.

**ADJUNCTIVE NUTRITIONAL INTERVENTIONS TO CONSIDER**:

- BENEPROTEIN®
- NUTRISOURCE® FIBER
- ARGAIN®

**ASSUMPTIONS**

- ABW is Actual Body Weight; IBW is Ideal Body Weight
- The mention of product brands does not constitute an endorsement of any Nords HealthCare Nutrition product by ASPEN or A.S.PEN.