Critical Care Nutrition Algorithms

ASPEN Nutrition Care Algorithm

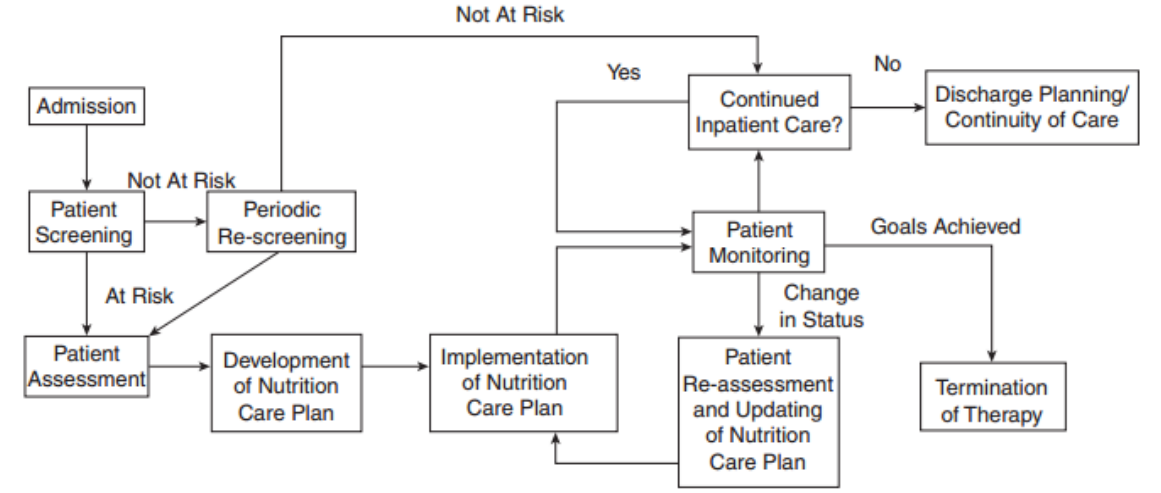
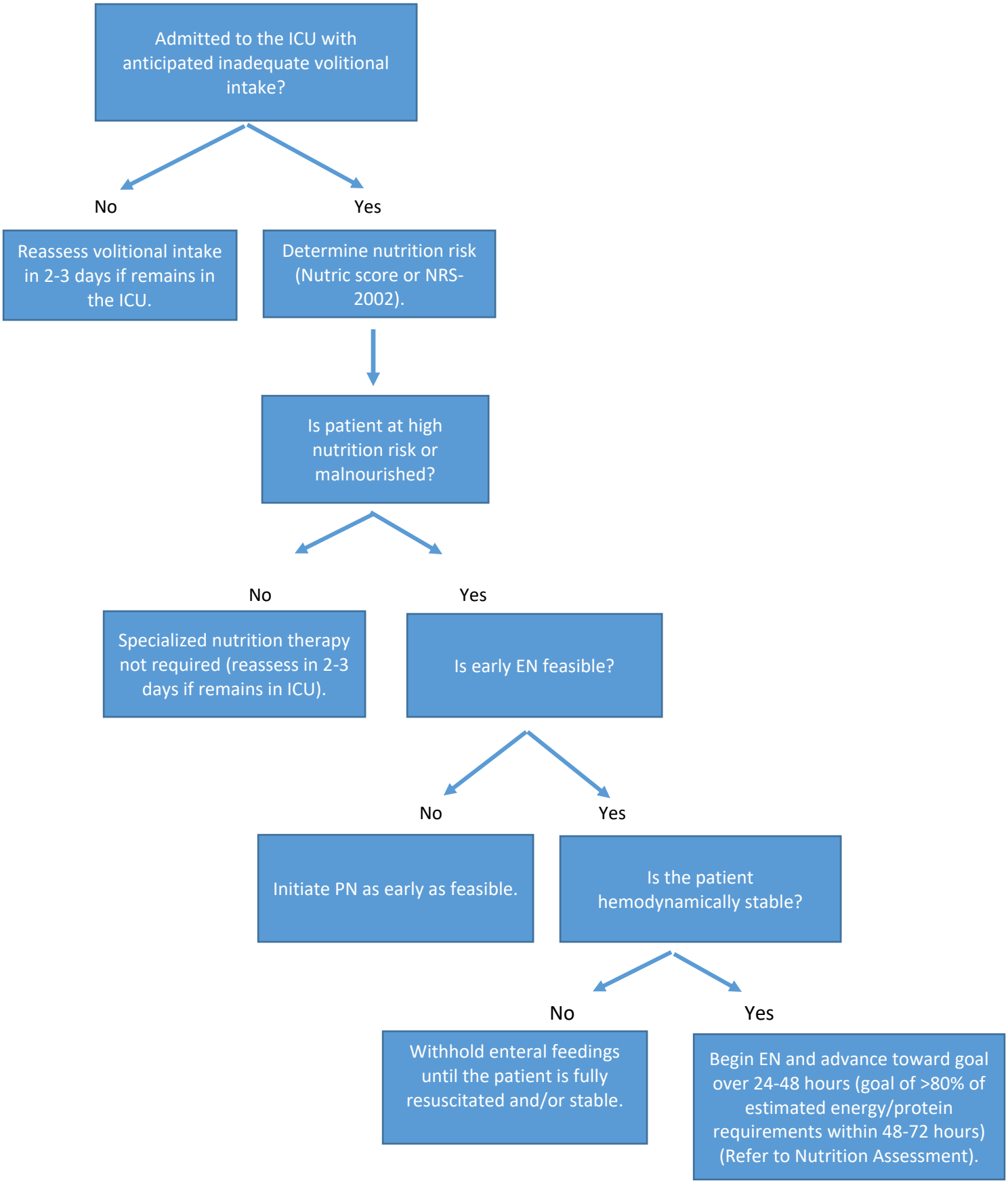


Figure 1. Nutrition care algorithm (adapted from Standards for Specialized Nutrition Support: Adult Hospitalized Patients[60]).

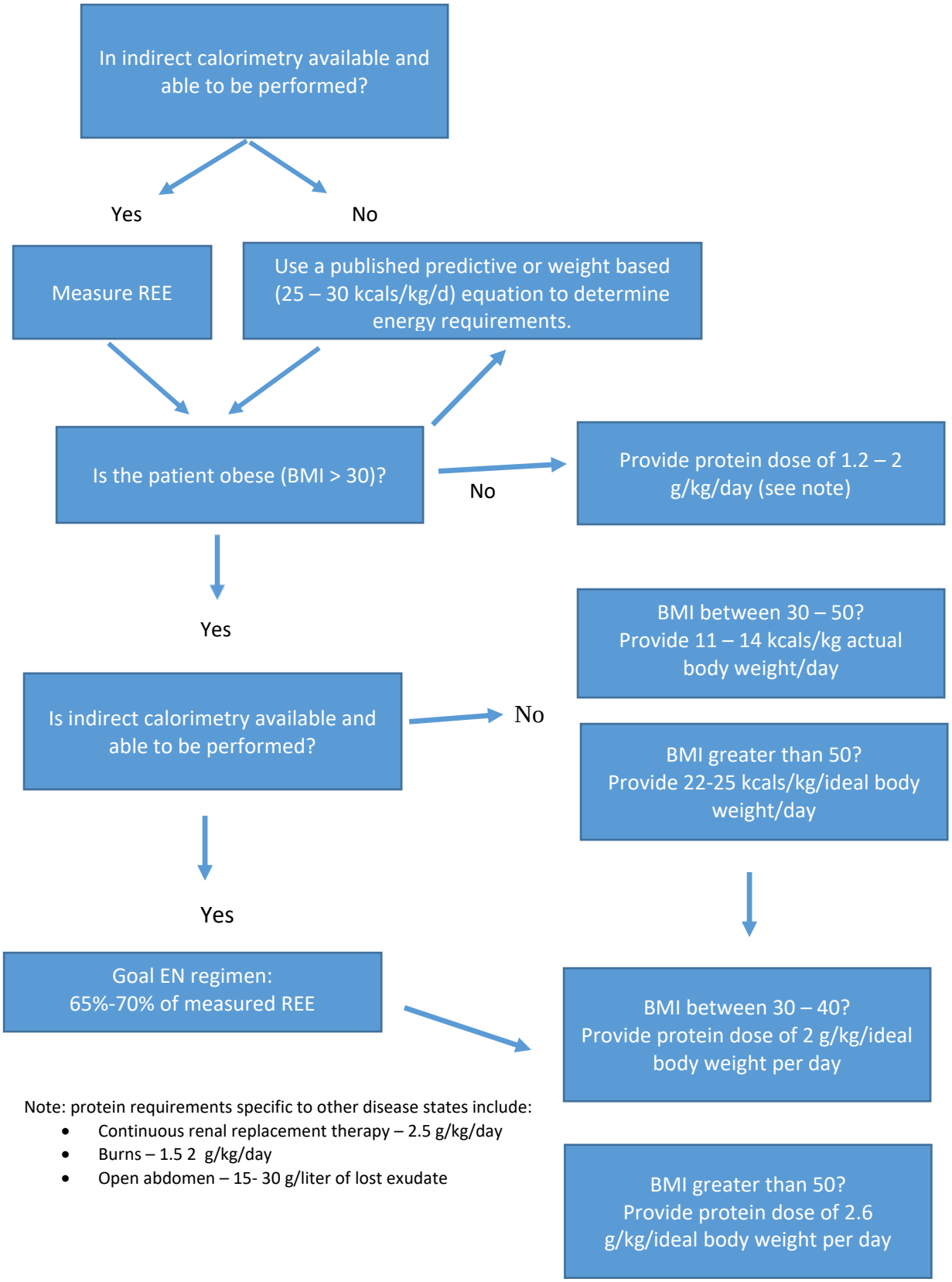
From 2010 ASPEN Standards of Care for Adult Hospitalized Patients

Target Patient Population -18 years of age or older, critically ill patient expected to be in a medical or surgical ICU for more than 2-3 days.

General Nutrition Support Therapy Algorithm



Nutrition Assessment Algorithm



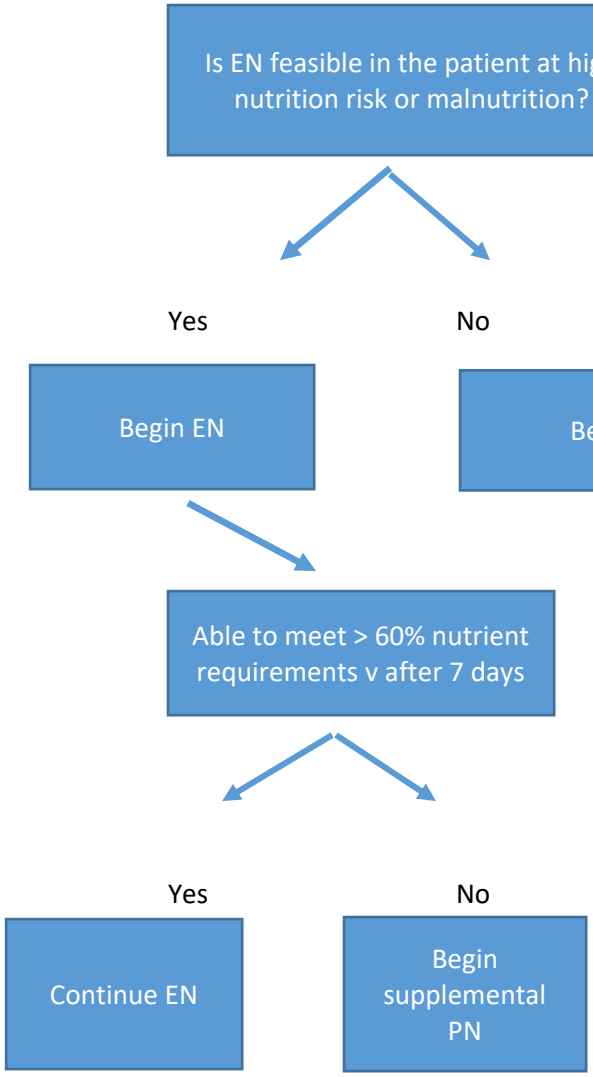
Note: protein requirements specific to other disease states include:

- Continuous renal replacement therapy – 2.5 g/kg/day
- Burns – 1.5 2 g/kg/day
- Open abdomen – 15- 30 g/liter of lost exudate

Managing Enteral Feedings – Summary of Select Guideline Recommendations

Monitoring Tolerance and Adequacy of EN	• Patients should be monitored daily for tolerance of EN. Inappropriate cessation of EN should be avoided • Ordering NPO feeding status surrounding the time of diagnostic tests or procedures should be avoided
Gastric Residual Volumes (GRV's)	• Suggest that GRV's not be used as part of routine care to manage ICU patients on EN • Suggest that, for those ICU's where GRV's are still utilized, holding EN for GRV's > 500 mL in the absence of other signs of intolerance should be avoided
Risk of Aspiration	• Patients should be assessed for risk of aspiration with steps to reduce risk of aspiration and aspiration pneumonia should be proactively deployed: • Elevate the head of bed to 30-45 degrees • Consider use of chlorhexidine mouthwash twice a day • Divert the level of feeding by post-pyloric enteral access device • High risk patients should receive continuous EN infusion • High risk patients should receive prokinetic agents where clinically feasible • Blue food coloring or glucose oxidase strips should not be used as markers for aspiration
Diarrhea	• EN should not be automatically interrupted for diarrhea; rather feedings should be continued while evaluating the etiology to determine appropriate treatment • Consider use of a commercial mixed fiber-containing formulation if evidence of diarrhea • Suggest 10-20 g fermentable soluble fiber supplement be given in divided doses over 24 hours if there is evidence of diarrhea • Consider uses of small peptide formulations with persistent diarrhea, suspected malabsorption, ischemia or lack of response to fiber

Parenteral Nutrition Therapy Algorithm



Maximize Efficiency of PN

• Use protocols and nutrition support teams to help incorporate strategies to maximize efficiency and reduced associated risk off PN
• Suggest hypocaloric dosing with adequate protein initially over the first week of hospitalization
  ○ ≤ 20 kcals/kg/day or 80% estimated energy needs
  ○ ≥ 1.2 g protein/kg/day
• Withhold or limit soybean oil based intravenous fat emulsion during the first week to a maximum of 100 g/week
• Target blood glucose range to 140 – 180 mg/dL
• Suggest parenteral glutamine supplementation not be routinely used
• Standardized commercially available PN formulations have no advantage compared to compounded PN admixtures
• Reduce PN energy as EN tolerance improves; discontinue PN when patient is receiving > 60% of target energy requirements from EN