

Nutrition

Early enteral nutrition is very important in the ICU. We are fortunate to have nutritionists who can help you come up with a plan. We also have the ability to do a metabolic cart study on intubated/tracheotomized patients (on PEEP < 10 and FiO₂ < 60%). The metabolic cart study will give you the respiratory quotient (RQ) and the resting energy expenditure (REE). A six-hour urine collection for urine urea nitrogen (UUN) can help estimate protein needs.

For patients who are unable to eat, feeding via a nasogastric tube is the preferred method. Nasoduodenal and nasojejunal tubes (aka Dobhoff tubes, small-bore feeding tubes, post-pyloric tubes, or “the yellow tube”) are not routinely needed and should only be placed if there is gastric dysmotility or an expectation of prolonged (3-6 weeks) artificial feeding. Contrary to popular belief, the rate of aspiration pneumonia is no higher with NG tubes when compared with post-pyloric feeding. Patients who have had gastric bypass or other proximal GI tract surgery should have the post-pyloric tube placed under fluoroscopy.

Tips for ICU nutrition:

- Start enteral feeding within 24 hours of respiratory failure, even if the patient is on vasopressors. No disease is effectively treated with starvation.
- Trickle feeding (10 mL/hr) is as good as full support, at least within the first week of critical illness. Just get something going!
- Aim for 18-25 kcal/kg of nonprotein calories per day, and 1.2-1.5 grams of protein/kg/day.
 - BMI < 18.5 kg/m²: use the actual body weight (ABW)
 - BMI 18.5-29.9 kg/m²: use the ABW
 - BMI ≥ 30 kg/m²: calculate the predicted body weight (PBW) just like for vent settings. Then, calculate the adjusted body weight for caloric intake:
 $PBW + 0.25(ABW - PBW)$
- A metabolic cart study and UUN probably aren't necessary in all intubated patients, but they are helpful in those with prolonged respiratory failure. Consider ordering them once the patient gets a tracheostomy.
- Provide about 500 kcal above the REE. Adjust the carbohydrate load to keep the RQ < 0.85.
- Try to maintain a positive nitrogen balance. Remember that patients lose about 4 grams of elemental nitrogen a day through the skin and stool, which won't be accounted for in the UUN.
- 1 gram elemental nitrogen = 6.25 grams protein
- If the gut works, use it.
- Avoid TPN whenever possible.