

## Nutrition Guidelines for COVID-19 Critical Care Patients

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### Timing of Nutrition Support

- **Start EN therapy within 24-36 hours of ICU admission** (if hemodynamically stable & fully resuscitated) and within 12 hours of intubation.
  - Consider EN with caution in patients requiring low dose vasopressor support or stable vasopressor dose with sustained MAP of 65 or greater.

### Nutrition Support Method

- Either trophic or full EN is appropriate for patients with ARDS (similar outcomes shown w/ both methods of feeding over the first week of hospitalization).
- **Appropriate to initiate feeding via available tube (i.e. large bore Salem Sump).**
- Attempt gastric feeds first, add prokinetics if needed and if that fails try post-pyloric feeding
  - Bedside placement preferred over fluoro or Endo
  - Post pyloric placement often requires extra time to place which increases RN exposure to virus
- EN should be a continuous infusion rather than bolus or volume based feeding.
- **Provide enteral feeds as tolerated to those on paralytics (i.e. Nimbex, Vecuronium,)**
- **For those on ECMO, provide early low dose EN** with close monitoring for intolerance and slow advancement to goal over the first week of critical illness.
- **Initiate early PN as soon as possible in the high-risk patient for whom early gastric EN is not feasible.**
  - High-risk patients include those with sepsis or shock requiring escalating or multiple vasopressors, or when high-pressure respiratory support is required.
  - Concern for ischemic bowel may be greater and when prolonged ICU stay is expected, threshold for switching to PN may need to be lower.
  - GI intolerance as manifested by unexplained abdominal pain, nausea, diarrhea, significant abdominal distention, dilated loops of bowel with air/fluid levels, pneumatosis intestinalis, or increasing NG outputs prior to initiation of EN.
    - GI symptoms may be associated with greater severity of illness
- If PN is necessary, be conservative with dextrose and volume. SMOFlipid is preferred IV lipid.

### Formula Selection

- Pivot 1.5 not recommended for those with sepsis due to the supplemental arginine.
- **Use standard high protein, polymeric, isosmotic enteral formula (Promote-fiber free) in the early acute phase of critical illness**
- Consider Vital HP to meet protein needs and/or if GI symptoms present

### Advancement of EN

- Provide trophic feeding (defined as up to 500 kcals/day) for the initial phase of sepsis, advancing as tolerated after 24-48 hours to >80% of target energy goal over the first week.

- Recommended protein of 1.2-2 gm protein/kg/day as renal function allows

### **Prone Positioning and Nutrition**

- Patients are typically in prone position 16-18 hours/day
- **Early, continuous EN via stomach is appropriate**
- Elevate HOB in the reverse Trendelenburg position to at least 10 to 25 degrees while feeding in prone position to decrease risk of aspiration of gastric contents, facial edema and intra-abdominal hypertension.
- EN should be held for 1 hour prior to and 1 hour after proning. Base EN rate on 20-hour infusion.
- Confirm enteral access placement after patient turns from supine to prone position to ensure that the enteral access has not dislodged.
  - Resume feeds once enteral access placement confirmed and patient stabilized
- Abdominal status should be assessed every 4 hours, or more frequently if clinical condition changes
- If continuous EN not tolerated despite prokinetic medication administration, initiate PN.

### **Contraindications to EN while in prone position**

- GI intolerance as defined above under Nutrition Support Method
- Inability to maintain head of bed elevation
- Inability to maintain correct placement of feeding tube

### **Considerations**

- If refeeding risk, start at ~25% of estimated calories combined with frequent monitoring of electrolytes.
- Recommend Prosource protein modular with other med administration to cluster care.
- Caution w/ provision of volume
- Some tube feeding supplies are on national shortage so guidelines subject to change

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