Parenteral Feeding (TPN and PPN)

Guidelines (>Age 18)

Policy

Parenteral nutrition (TPN) support refers to the provision of calories, amino acids, electrolytes, vitamins, minerals, trace elements, lipids, and fluids via a parenteral route. TPN provides support for patients in whom enteral feeding is insufficient in meeting nutritional goals or is contraindicated. For the purposes of this policy Parenteral Feedings refers both to TPN and PPN (Peripheral Parenteral Nutrition).

In order to initiate parenteral nutrition, appropriate access must be obtained and the prescription (i.e., composition and infusion rate) must be determined. Guidelines suggest that when tolerance to enteral nutrition is evident, parenteral nutrition should be weaned and discontinued when >60 percent of the patients’ needs are met enterally, although there are no data to support this practice. Short-term TPN is commonly used in the inpatient setting for acutely ill patients for a period of up to 30 days and requires no pre-certification.

Long-term parenteral nutrition requires a tunneled central venous catheter (e.g., Hickman catheter, Groshong catheter, or implanted infusion port) or a peripherally inserted central catheter (PICC). A tunneled catheter is preferable, since infections are more common among patients receiving parenteral nutrition at home through a PICC. Single lumen central venous catheters should be dedicated solely for the infusion of parenteral nutrition, while multiple lumen central venous catheters should have one port dedicated solely for the infusion of parenteral nutrition. In addition, catheter manipulations should be minimized. These interventions may decrease the infectious complications associated with parenteral nutrition. For patients who have an existing line, a new line is not typically required unless there has been septicemia during the life of the existing line.

Short term TPN is commonly used in the inpatient setting for acutely ill patients on a short term basis and requires no precertification for up to 30 days.

---

Long term TPN is considered medically necessary in patients with any of the following:

- Gastrointestinal anastomotic failure
- Gastrointestinal fistulas and (despite appropriate medical therapy) 1 or more of the following:
  - volume depletion
  - electrolyte abnormalities
  - malnourishment
  - weight loss
- Postoperative mechanical bowel obstruction or postoperative ileus, during the interim period of conservative management
- Chyle leak resulting in chylous ascites or chylothorax not responding to dietary modification
- Nutritional needs are not being met using an enteral route, including 1 or more of the following:
  - inadequate absorptive capacity (e.g., short bowel syndrome)
  - malabsorption (e.g., inflammatory bowel disease, disuse atrophy, radiation enteritis)
  - underlying conditions associated with chronic gastrointestinal dysmotility (e.g., chronic pseudo-obstruction)
- The patient has failed prokinetic medications or they are contraindicated
- The patient requires 20-35 kcals/kg/day for maintenance
- There is evidence of a failure of adequate enteral nutrition demonstrated by either
  - Documented loss of greater than 10 % of body weight over a 3-month period not secondary to edema or dialysis or
  - Serum albumin less than 3.4 g/dl or a total protein less than 6 g/dl
  - Prealbumin less than 10 mg/dl
- A situation in which it is necessary for the gastrointestinal tract to be totally non-functioning for a period of time >3 months
  - Enterocutaneous fistula that cannot be bypassed with enteral feedings
  - Malabsorption secondary to inflammatory bowel disease
  - Nausea/Vomiting and/or Pain secondary to chronic pancreatitis
  - Steatorrhea demonstrating > 50% loss of a 50 gm fat diet
  - 50% enteral loss of a 2.5 liter oral intake on a daily basis

---

Refractory motility disorders such as pseudo-obstruction

- There is evidence of structural or functional bowel disease that makes oral and tube feedings inappropriate;
  - Short bowel syndrome < 5 ft. beyond the ligament of Treitz
  - Complete mechanical small bowel obstruction that is not amenable to surgery

- Hyperemesis gravidarium only when medical management has failed

Patients who have a reversible illness that is resolving with treatment (e.g., ileus, sepsis, pancreatitis), will reach a point where they tolerate enteral feeding.

Weaning:

- There is no universally accepted method for weaning TPN, as there is insufficient evidence from the peer-reviewed literature to support one approach over another. Expert advice and consensus opinion advise that weaning the volume or time spent on TPN is decreased in a methodical fashion. 

  - Short-term TPN can be discontinued when >60 percent of the caloric needs are met enterally. A recovering patient will continue to progressively improve and increase their caloric intake.
  - Long-term TPN requires a slower course of weaning. Typically, the patient should meet at least 80 percent of daily nutrition goals enterally to maintain body weight and hydration.

Parenteral nutrition may be either “self-mixed” by the member or family caregiver aseptically or “pre-mixed”. The doctor must justify the need for pre-mixed parenteral nutritional solutions.

Parenteral nutrition is not considered medically necessary for members with a functioning gastrointestinal tract whose need for parenteral nutrition is only due to:

- A physical disorder impairing food intake such as the dyspnea of severe pulmonary or cardiac disease;
- A psychological disorder impairing food intake such as depression;
- A side effect of a medication;
- A swallowing disorder where a PEG tube would be utilized
- A temporary defect in gastric emptying such as a metabolic or electrolyte disorder;

---


• Advanced directives against artificial feeding
• Renal failure and/or dialysis other than intra-dialytic parenteral nutrition when above criteria for TPN are met.

Intra-peritoneal amino acid (IPAAP) supplementation is considered medically necessary for peritoneal dialysis patients when
  ▪ Inability to maintain nutrition due to intolerance or inability to administer oral protein nutrition, including enteral feedings
  ▪ When oral and enteral feedings can provide some but not all nutritional goals
  ▪ There is evidence of protein malnutrition such as low prealbumin.

Parenteral nutrition is relatively contraindicated in and should be approached with caution in patients with 1 or more of the following
• Shock
• Sepsis
• Hemodynamic instability
• Systemic inflammatory response syndrome (SIRS)
• Minor vomiting
• Gastrointestinal bleeding
• Short-term mechanical ventilation
• Catheter-related infection
• Acid-base disturbance
• Severe hyperglycemia
• Severe electrolyte disturbance (e.g., hyperkalemia, hypophosphatemia, hypomagnesemia) and/or renal dysfunction.
• Refeeding syndrome in the setting of chronic malnutrition
• Volume overload
• Lack of central venous access