

Clinical Policy: Total Parenteral Nutrition and Intradialytic Parenteral Nutrition

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[Coding Implications](#)

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Description

Parenteral nutrition (PN) is the intravenous administration of an artificially prepared solution of nutrients that bypasses the gastrointestinal tract and that meets the nutritional requirements of a patient. PN is necessary when enteral nutrition is incapable of meeting the needs of the patient's gastrointestinal tract. This policy describes the medical necessity requirements for two types of PN, (A) total parenteral nutrition (TPN), in which all of the necessary macronutrients and micronutrients are supplied to the patient, and (B) intradialytic parenteral nutrition (IDPN), in which nutrition is supplied to end-stage renal disease (ESRD) patients undergoing dialysis as an alternative to regularly scheduled TPN.

**Please see CP.MP.34 Hyperemesis Gravidarum Treatment regarding use of TPN in pregnancy.*

Policy/Criteria

- I. It is the policy of Pennsylvania Health and Wellness that the following are **medically necessary** for members when meeting the associated indications:
 - A. *Total Parenteral Nutrition*, when all the following criteria are met:
 1. Documentation of failure of enteral (*i.e.* oral or tube feeding) nutrition, as shown by any of the following:
 - a. Weight loss > 10% of ideal body weight in 3 months, or > 20% of usual body weight;
 - b. Total protein < 6 g/dL in the past 4 weeks;
 - c. Serum albumin < 3.4 g/dL in the past 4 weeks;
 2. Evidence of structural or functional bowel disease that makes oral or tube feedings inappropriate, or a condition in which the gastrointestinal tract is non-functioning for a period of time, including, but not necessarily limited to, any of the following:
 - a. Crohn's disease;
 - b. Short bowel syndrome;
 - c. Single or multiple fistulae (enterocolic, enterovesical, or enterocutaneous);
 - d. CNS disorder resulting in swallowing difficulties and high risk of aspiration;
 - e. Obstructing stricture;
 - f. Motility disorder;
 - g. Newborn anomalies of the gastrointestinal tract which prevent or contraindicate oral feedings such as tracheoesophageal fistula, gastroschisis, omphalocele, or massive intestinal atresia;
 - h. Infants and young children who fail to thrive due to cardiac or respiratory disease, short bowel syndrome, malabsorption or chronic idiopathic diarrhea;
 - i. Prolonged paralytic ileus following a major surgical procedure or multiple injuries.

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Initial approval duration for TPN is for 3 months. Continued approval duration is 6 months, given that the member has no evidence of unacceptable complications from treatment, and documentation supports positive response to therapy.

B. *Intradialytic Parenteral Nutrition*, when all the following criteria are met:

1. Meets TPN criteria in section A;
2. Patient has ESRD;
3. Patient is undergoing hemodialysis;
4. IDPN is offered as an alternative to regularly scheduled TPN.

Initial approval duration for IDPN is for 3 months. Continued approval duration is 6 months, given that the member has no evidence of unacceptable complications from treatment and documentation supports positive response to therapy.

II. It is the policy of Pennsylvania Health and Wellness that the following indications are **experimental/investigational**:

A. *Total Parenteral Nutrition*:

1. Children who were previously well nourished or mildly malnourished, who are undergoing oncologic treatment associated with a low nutrition risk (e.g. less advanced disease, less intense cancer treatments, advanced disease in remission during maintenance treatment);
2. Patients with advanced cancer whose malignancy is documented as unresponsive to chemotherapy or radiation therapy;
3. Patients for whom liver transplantation is not feasible and whose prognosis will not change in spite of TPN therapy;

B. *Intradialytic Parenteral Nutrition*, when any of the following criteria are met:

1. IDPN treatments offered in addition to regularly scheduled infusions of TPN;
2. IDPN treatments in patients who are suffering from acute kidney injury and who do not have ESRD.

Background

Total Parenteral Nutrition

TPN is the delivery of macronutrients (*i.e.* proteins, fats, and carbohydrates) and micronutrients (*i.e.* vitamins, minerals, and trace elements) intravenously. TPN is indicated in situations for which the gastrointestinal tract is incapable of digesting nutrients through enteral (oral or feeding tube) nutrition. Short-term TPN is delivered peripherally through a subclavian, internal jugular, or a femoral central venous catheter while long-term TPN requires a tunneled central venous catheter, such as a Hickman, Groshong catheter, or an implanted infusion port.¹

Some of the advantages of TPN include the ease of administration, easier correction of fluid and electrolyte disturbances, and the ability to manage nutrition in the setting of mucositis.

However, some disadvantages of TPN include, catheter-associated infections, fluid overload, hyperglycemia, catheter-associated thrombosis, hepatic thrombosis, hepatic dysfunction, blood electrolyte abnormalities, and enterocyte atrophy.²

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American Gastroenterological Association

Long-term PN is indicated for patients with prolonged gastrointestinal tract failure that prevents the absorption of adequate nutrients to sustain life.⁷

Intradialytic Parenteral Nutrition

Malnutrition presents an ongoing concern with patients receiving chronic hemodialysis or peritoneal dialysis. Malnutrition can occur in between 20-70% of patients, and there is a positive association with length of time on dialysis and increasing decline in nutritional parameters. IDPN is delivered during dialysis for patients who continue to lose weight or have very low serum albumin (< 3.4 g/dL) despite oral supplements and for those with severe gastroparesis who may be unable to tolerate oral supplements. However, IDPN only provides 70% of the nutrients to the patient because of the loss into the dialysate.³

Several societies published position guidelines that favor the use of IDPN in specific situations.

American Society for Parenteral and Enteral Nutrition

IDPN should be reserved for patients that are incapable of meeting their nutritional needs orally and who are not candidates for enteral nutrition or TPN because of gastrointestinal intolerance, venous access problems, or other reasons.⁴

European Society for Clinical Nutrition and Metabolism

IDPN is indicated in undernourished patients undergoing hemodialysis with poor compliance to oral nutritional supplements and not requiring TPN.⁵

National Kidney Foundation/Dialysis Outcomes Quality Initiative

These guidelines indicates that IDPN is appropriate if an intervention is combined with oral nutritional supplements to help meet the dietary requirements of patients.⁶

Coding Implications

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CPT® Codes	Description
N/A	

HCPCS Codes	Description
B4164 – B5200	Parenteral nutrition solutions and supplies

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HCPCS Codes	Description
B9004	Parenteral nutrition infusion pump, portable
B9006	Parenteral nutrition infusion pump, stationary
B9998	NOC for enteral supplies
B9999	NOC for parenteral supplies

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
N18.6	End stage renal disease
Z99.2	Dependence on renal dialysis

Reviews, Revisions, and Approvals	Date	Approval Date

References

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2. Arfons LM, Lazarus HM. "Total parenteral nutrition and hematopoietic stem cell transplantation: an expensive placebo?" Bone marrow transplantation 36.4 (2005): 281-288. Updated May 8, 2015. Accessed May 10, 2017.
3. Srinivasan B, Cho ME, Bansai S. Pathogenesis and treatment of malnutrition in maintenance dialysis. UpToDate, Waltham, MA. Updated January 12, 2017. Accessed on May 10, 2017.
4. American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors and the Clinical Guidelines Task Force. Guidelines for the use of parenteral and enteral nutrition in adult and pediatric patients. 2002 Guidelines. JPEN J Parenter Enteral Nutr. 2002; 26 (1, Suppl.): 1SA-138SA. Updated 2012. Accessed May 10, 2017.
5. Cano N, et al. ESPEN guidelines on enteral nutrition: adult renal failure. *Clinical Nutrition* 25.2 (2006): 295-310. Accessed May 10, 2017.
6. Hayes Medical Technology Directory. Intradialytic Parenteral Nutrition (IDPN) for End stage renal disease in Adults. October 6, 2010. Accessed on May 10, 2017.
7. American Gastroenterological Association Medical Position Statement: Parenteral Nutrition. May 18, 2001;121(4):966-969. Accessed May 11, 2017.
8. Hayes. Search & Summary. Intradialytic Parenteral Nutrition for End-Stage Renal Disease in Adults. January 26, 2017. Accessed May 11, 2017.