Clinical Policy: Total Parenteral Nutrition and Intradialytic Parenteral Nutrition

Reference Number: PA.CP.MP.163
Effective Date: 09/18
Date of Last Revision: 04/23

Coding Implications
Revision Log

Description

Parenteral nutrition (PN) is the intravenous administration of an artificially prepared solution of nutrients that bypasses the gastrointestinal tract and 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 PA.CP.MP.34 Hyperemesis Gravidarum Treatment regarding use of TPN in pregnancy.*

Policy/Criteria

I. It is the policy of PA Health & Wellness® (PHW) that the following are **medically necessary** for members/enrollees when meeting the associated indications:

A. *Total Parenteral Nutrition (TPN),* when all the following criteria are met:

1. Documentation of nutritional insufficiency, in the absence of TPN, as shown by any of the following:
   a. Weight loss > 10% of ideal body weight over three months or less, or > 20% of usual body weight;
   b. Total protein < 6 g/dL in the past four weeks;
   c. Serum albumin < 3.4 g/dL in the past four 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. Central nervous system (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;
j. Radiation enteritis;
k. Liver failure in children approved for liver transplants, who fail to grow while receiving enteral nutritional support;
l. Liver failure in adults who have hepatic encephalopathy and cannot tolerate a protein source consisting of standard amino acids or enteral nutritional support (TPN used for the administration of a liver-specific amino acid mixture);
m. Acute necrotizing pancreatitis in adults with an inadequate oral intake for longer than a week, where enteral feedings exacerbate abdominal pain, ascites, or fistulous output.

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

B. *Intradialytic Parenteral Nutrition (IDPN),* when all the following criteria are met:
1. Meets TPN criteria in section A;
2. Patient has stage 5 chronic kidney disease;
3. Patient is undergoing hemodialysis;
4. IDPN is offered as an alternative to regularly scheduled TPN.

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

II. It is the policy of PHW that the following indications are **not proven safe and effective:**
A. *TPN*:
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. *IDPN*, 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)

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 or Groshong catheter, or an implanted infusion port.[1]

Some advantages of TPN include the ease of administration, the ability to correct fluid and electrolyte imbalances, 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]

American Gastroenterological Association
Long-term parenteral nutrition is indicated for patients with prolonged gastrointestinal tract failure that prevents the absorption of adequate nutrients to sustain life.[6]

Intradialytic Parenteral Nutrition (IDPN)
Malnutrition presents an ongoing concern with patients receiving chronic hemodialysis or peritoneal dialysis affecting between 20 to 70% of patients. There is a positive association between length of time on dialysis and increasing decline in nutritional parameters. The administration of IDPN through the patient's dialysis access is advantageous since this approach eliminates the need for additional venous catheter placement.[10] IDPN is delivered during dialysis for patients who continue to lose weight or have very low serum albumin levels (< 3.4 g/dL) despite oral supplements and for those with severe gastroparesis who may be unable to tolerate oral supplements.[6] However, IDPN only provides 70% of the nutrients to the patient because of loss into the dialysate.[3]

A Hayes evaluation of peer-reviewed literature demonstrated findings of low-quality evidence that IDPN is relatively safe and is associated with improvements in baseline laboratory measures (serum albumin, serum prealbumin, creatinine), body mass index/body weight, and mortality rates compared with conventional therapies. Findings also reflect individual study limitations, heterogeneity among the studies in IDPN formulation, and remaining questions regarding patient selection criteria for IDPN and long-term benefits.[6]

Several societies have published position guidelines supporting 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's Kidney Disease Outcomes Quality Initiative (KDOQI) and the Academy of Nutrition and Dietetics

KDOQI recommended in a 2020 clinical guideline update that a trial of IDPN should be administered to adults on maintenance hemodialysis with stage 5 chronic kidney disease (CKD).[6]

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2022, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

CPT® Codes	Description
N/A	

HCPCS Codes	Description
B4164 through B5200	Parenteral nutrition solutions and supplies
B9004	Parenteral nutrition infusion pump, portable
B9006	Parenteral nutrition infusion pump, stationary
S9364	Home infusion therapy, total parenteral nutrition (TPN); administrative services, professional pharmacy services, care coordination, and all necessary supplies and equipment including standard TPN formula (lipids, specialty amino acid formulas, drugs other than in standard formula and nursing visits coded separately), per diem (do not use with home infusion codes S9365 through S9368 using daily volume scales)
S9365	Home infusion therapy, total parenteral nutrition (TPN); one liter per day, administrative services, professional pharmacy services, care coordination, and all necessary supplies and equipment including standard TPN formula (lipids, specialty amino acid formulas, drugs other than in standard formula and nursing visits coded separately), per diem
S9366	Home infusion therapy, total parenteral nutrition (TPN); more than one liter but no more than two liters per day, administrative services, professional pharmacy services, care coordination, and all necessary supplies and equipment including standard TPN formula (lipids, specialty amino acid formulas, drugs other than in standard formula and nursing visits coded separately), per diem
S9367	Home infusion therapy, total parenteral nutrition (TPN); more than two liters but no more than three liters per day, administrative services, professional pharmacy services, care coordination, and all necessary supplies and equipment including standard TPN formula (lipids, specialty amino acid formulas, drugs other than in standard formula and nursing visits coded separately), per diem
S9368	Home infusion therapy, total parenteral nutrition (TPN); more than three liters per day, administrative services, professional pharmacy services, care coordination, and all

HCPCS Codes	Description
	necessary supplies and equipment including standard TPN formula (lipids, specialty amino acid formulas, drugs other than in standard formula and nursing visits coded separately), per diem

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Reference number changed from PA.CP.PHAR.205 to PA.CP.MP.163	04/18	
References reviewed and updated. Deleted NOC codes B9998 and B9999	12/19	1/10/2021
References reviewed and updated. Revised I.A.1. from "documentation of failure of enteral (i.e. oral or tube feeding) nutrition" to "Documentation of nutritional insufficiency, in the absence of TPN," Annual review completed, Specialist reviewed and approved, References updated.	2/18/2021	
Annual review. Added indications for radiation enteritis, liver failure in children, liver failure in adults, and acute necrotizing pancreatitis in adults, in I.A.2.j – I.A.2.m., along with relevant ICD-10 codes (i.e., K52.0, K72.00-K72.91, K85.01, K85.02, K85.11, K85.12, K85.31, K85.32, K85.81, K85.82, K85.91, K85.92 and Z76.82. In I.B.2, changed "end-stage renal disease" to "stage 5 chronic kidney disease." References reviewed and updated and coding reviewed. Replaced member with member/enrollee in all instances. Replaced "experimental/investigational" with "not proven safe and effective" in section II. Spelling correction in criteria I.A.2.c. Changed "review date" in the header to "date of last revision" and "date" in the revision log header to "revision date." Background updated with no impact to criteria. References reviewed and updated to AMA format. Specialist reviewed.	5/27/2022	
Annual review. Minor rewording in Criteria section with no impact on criteria. Clarifying language added to Criteria I.A.1.a. Background updated with no impact on criteria. Minor rewording to HCPCS codes with no clinical significance. ICD-10 codes removed. References reviewed and updated.	04/23	

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