

MEDICAL POLICY



SUBJECT: TOTAL PARENTERAL NUTRITION (TPN) OR HYPERALIMENTATION	EFFECTIVE DATE: 09/16/99 REVISED DATE: 05/17/01, 07/18/02, 07/17/03, 07/15/04, 07/21/05, 06/22/06, 06/28/07, 06/26/08, 08/27/09, 08/26/10, 08/25/11, 08/23/12, 08/22/13, 08/28/14, 08/27/15, 08/25/16, 08/25/17, 02/22/18, 08/23/18
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- *If a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply.*
- *If a commercial product (including an Essential Plan product) or a Medicaid product covers a specific service, medical policy criteria apply to the benefit.*
- *If a Medicare product covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.*

POLICY STATEMENT:

- I. Based on our criteria and assessment of peer-reviewed literature, *total parenteral nutrition (TPN)* has been medically proven to be effective and is therefore, **medically appropriate** for malnourished patients*, including but not limited to the following indications:
- A. Gastrointestinal (gut) failure:
 - 1. Short bowel syndrome (e.g., secondary to mesenteric infarction, surgical treatment of Crohn’s disease, midgut volvulus, traumatic gastrochisis, small bowel atresia in neonates);
 - 2. Radiation enteritis;
 - 3. Intestinal pseudo-obstruction-motility disorder;
 - 4. Idiopathic diarrhea; or
 - 5. Secondary gastrointestinal failures (e.g., scleroderma);
 - B. Crohn’s disease:
 - 1. Growth retardation;
 - 2. Diffuse small bowel disease refractory to medical management; or
 - 3. Enterocutaneous fistulae;
 - C. Severe mucosal injury with intractable malabsorption (e.g., selected cases of celiac disease, immunodeficiency syndromes with enterocolitis, idiopathic mucosal failure with congenital failure to develop villi);
 - D. Cystic fibrosis with malnutrition unresponsive to enteral nutrition;
 - E. Intestinal lymphangiectasia with failure of dietary management;
 - F. Short-term treatment of a condition requiring “bowel rest” for whom prolonged hospitalization would otherwise be required (e.g., pancreatic pseudocysts, proximal enterocutaneous fistulae in which surgical management is not indicated);
 - G. Short term treatment for children with severe reflux and aspiration who fail to thrive, until a surgical procedure can be performed;
 - H. Adjunctive therapy for those malnourished patients with specific cancers receiving intense and frequent chemotherapy that causes severe gastrointestinal toxicity;
 - I. Children with liver failure, approved for liver transplants, who fail to grow while receiving enteral nutritional support;
 - J. Adults with liver failure who have hepatic encephalopathy and can not 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); or
 - K. Adults with acute necrotizing pancreatitis with an adequate oral intake for longer than a week, where enteral feedings exacerbate abdominal pain, ascites, or fistulous output.

*Malnourished patients are those in a stage of wasting as indicated by the following:

- A. Weight is significantly less than normal body weight for height and age in comparison with pre-illness weight; and
- B. Serum albumin is less than 2.5 grams; and

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- C. Blood urea nitrogen (BUN) is below 10 mg (not a good marker in patients receiving dialysis due to protein catabolism); and
 - D. Phosphorus level is less than 2.5 mg (normal is 3 - 4.5 mg); and
 - E. The patient can receive no more than 30% of their caloric needs enterally (oral or tube feeding).
- II. Based upon our criteria, review of the peer-reviewed literature, and available information, *TPN* is **not medically necessary** for the following indications:
- A. 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);
 - B. Patients (either adult or pediatric) with advanced cancer whose malignancy is documented as unresponsive to chemotherapy or radiation therapy; or
 - C. Patients for whom liver transplantation is not feasible and whose prognosis will not change in spite of TPN therapy.
- III. *Parenteral therapy with home TPN* for the management of intractable hyperemesis gravidarum (must meet all):
- A. Attempted and failed the step therapy approach;
 - B. Other potential causes of nausea and vomiting have been ruled out;
 - C. Information about symptoms, food intake, urinary ketones, urine specific gravity, and daily weights is supplied;
 - D. Clinical signs of hyperemesis gravidarum, including nausea and vomiting, have been persistent for ≥ 3 weeks;
 - E. Within this time, there has been documented weight loss and dehydration or electrolyte abnormalities;
 - F. There has been over 5% weight loss since the beginning of pregnancy and the member is over 14 weeks pregnant;
 - G. The patient has failed IV or SQ Zofran or Reglan therapy;
 - H. The patient has failed, or is not a candidate for, enteral therapy (nausea is unrelated to olfactory or gustatory cues);
 - I. The member has been fully consented as to the risks of line infection, bacteremia, sepsis, thrombosis, and fetal loss; and
 - J. A PICC line is started in the hospital.
- IV. Based upon our criteria and review of the peer-reviewed literature, *Intradialytic nutrition*, including *Intradialytic parenteral nutrition (IDPN)* or *Intraperitoneal nutrition (IPN)*, for patients with end-stage renal disease (ESRD) undergoing hemo- or peritoneal dialysis is considered:
- A. **Medically appropriate** when:
 1. utilized as an alternative to regularly scheduled TPN in patients who meet the criteria for TPN therapy, and
 2. when intradialytic nutrition provides an incremental boost in calories and is not used as the sole source of nutrition.
 - B. **Not medically necessary**:
 1. when used as an adjunct to regularly scheduled TPN infusions; or
 2. in patients for which TPN is considered not medically necessary.

Refer to Corporate Medical Policy #8.01.08 regarding Nutritional Therapy.

Refer to Corporate Medical Policy #10.01.03 regarding Enteral Nutrition.

POLICY GUIDELINES:

- I. Home TPN should be employed as therapy only in patients in whom enteral feeding (employing the patient's own gastrointestinal tract) is considered contraindicated or in whom such feeding has been unsuccessful.
- II. Because of the potential risks of home TPN, this therapy should generally not be employed when simpler, more routine therapies may be the first choice of treatment (e.g., pharmacological therapy for an acute exacerbation of short segment illness due to Crohn's disease).
- III. The patient must be medically stable in order for TPN to be safely administered in the home setting.

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- IV. The patient and/or caregiver must be adequately trained in the techniques of home TPN in order to be administered according to policy and for recognition and appropriate treatment of complications.
- V. Since, in many disease processes causing gut failure intestinal adaptation may take place, the need for continuing TPN therapy must be periodically reassessed.

DESCRIPTION:

Total parenteral nutrition (TPN), also known as *hyperalimentation*, is administered to patients with medical conditions that impair gastrointestinal absorption to a degree that is incompatible with life. TPN is also used for variable periods of time to bolster the nutritional status of severely malnourished patients with medical or surgical conditions.

TPN involves the percutaneous transvenous implantation of a central venous catheter into the vena cava or right atrium. A nutritionally adequate hypertonic solution consisting of glucose, amino acids, electrolytes, vitamins, minerals, and sometimes fats is administered daily. An infusion pump is generally used to assure a steady flow of the solution, either on a continuous or intermittent schedule.

For patients with severe dysfunction of the gastrointestinal tract, in whom survival was previously precluded, the patient can often be restored to a near normal nutritional state. The goals of TPN are:

- I. Nutritional repletion;
- II. Avoidance of repeated and prolonged hospitalization;
- III. Return to gainful employment; and
- IV. Improvement of the quality of life.

Hyperemesis gravidarum is a term reserved to describe the most severe cases of nausea and vomiting in pregnancy (NVP). It results from severe nausea and vomiting, and the resultant inability to rehydrate and replenish nutritional reserves. A diagnosis of hyperemesis gravidarum is made based on objective findings such as moderate to large ketonuria and weight loss. Weight loss of 5% or greater is often described as diagnostic of hyperemesis gravidarum. Hyperemesis gravidarum tends to begin earlier in pregnancy and last longer than those patients with less severe NVP.

Intradialytic nutrition is a specific form of TPN utilized in malnourished patients with end-stage renal disease (ESRD) undergoing dialysis and includes:

- I. *Intradialytic parenteral nutrition (IDPN)*: a form of parenteral nutritional therapy administered to malnourished patients undergoing hemodialysis.
- II. *Intraperitoneal nutrition (IPN)*: a form of parenteral nutritional therapy administered to malnourished patients undergoing peritoneal dialysis.

RATIONALE:

Clinical trials have been conducted to determine the efficacy and safety of TPN for numerous conditions, including cancer patients, HIV patients, patients with renal failure, liver failure, and Crohn's disease. Studies have proven nutrition support and effective oncologic treatment lessen morbidity and improve tumor response for those patients undergoing intense chemotherapy and suggest TPN is effective in repleting lean tissues of malnourished HIV patients and minimizes nutrient loss during catabolic illness. Studies show the survival rate of patients suffering from renal failure is directly related to the patient's ability to attain positive energy balance with parenteral nutrition and that TPN not only assists in counteracting the nutrition loss associated with active Crohn's disease, but also indicate nutrition support influences the activity of Crohn's disease (increases remission rates).

Most patients with end-stage renal disease (ESRD) undergoing hemodialysis or peritoneal dialysis have intact and fully functional gastrointestinal systems. Many of these patients become malnourished due to inadequate intake of nutrients as the result of anorexia, frequent acute intercurrent illness, dietary restrictions, and/or nutrient losses into the dialysate. Evidence suggests poor nutrition may contribute to increasing the morbidity and mortality of dialysis patients. In view of these indications, nutritional supplements referred to as intradialytic nutrition, which include intradialytic parenteral

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nutrition (IDPN) and intraperitoneal nutrition (IPN) have been administered during dialysis treatment in an attempt to improve the nutritional status of these patients. The amount and composition of solutions administered during dialysis are adjusted according to the patient's estimated needs.

The American Society for Parenteral and Enteral Nutrition (ASPEN) practice guidelines addressing parenteral nutrition indicate IDPN should be reserved for patients who cannot meet their nutritional needs orally and who are not candidates for enteral or parenteral nutrition because of gastrointestinal intolerance or venous access problems and should only be used in situations of gut failure or other unusual circumstances where enteral or parenteral nutrition are not feasible.

CODES: Number Description

Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.

CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.

Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.

CPT: 36568-36571 Placement of Implantable Venous Access Device (code ranges)

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HCPCS: B4164 - B4216 Parenteral nutrition solutions and additives (code ranges)
 B5000 - B5200

B4220 - B4224 Parenteral nutrition supply/administration kit (code range)

B5000 Parenteral nutrition solution: compounded amino acid and carbohydrates with electrolytes, trace elements, and vitamins, including preparation, any strength, renal - Amirosyn RF, NephroAmine, RenAmine - premix

B5100 Parenteral nutrition solution compounded amino acid and carbohydrates with electrolytes, trace elements, and vitamins, including preparation, any strength, hepatic-HepatoAmine-premix

B5200 Parenteral nutrition solution compounded amino acid and carbohydrates with electrolytes, trace elements, and vitamins, including preparation, any strength, stress-branch chain amino acids-FreAmine-HBC-premix

B9004 Parenteral nutrition infusion pump, portable

B9006 Parenteral nutrition infusion pump, stationary

B9999 NOC for parenteral supplies

S9364 - S9368 Home infusion therapy, total parenteral nutrition (TPN), per diem (code range)

ICD10: Numerous

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*key article

KEY WORDS:

Hyperalimentation, Intradialytic parenteral nutrition (IDPN), Intraperitoneal nutrition (IPN), Total parenteral nutrition (TPN)

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a National Coverage Determination for Enteral and Parenteral Nutritional Therapy. Please refer to the following website for Medicare Members: <http://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=242&ncdver=1&CoverageSelection=Both&ArticleType=All&PolicyType=Final&s=New+York++Entire+State&KeyWord=enteral&KeyWordLookUp=Title&KeyWordSearchType=And&bc=gAAAABAAAAAAAAAA%3d%3d&>

There is currently a Local Coverage Determination (LCD): Parenteral Nutrition (L33798) Please refer to the following website for Medicare Members: <https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=33798&ver=12&DocType=All&bc=AgIAAAAAAAAAAA%3d%3d�>

There is currently a Local Coverage Article: Parenteral Nutrition - Policy Article (A52515) . Please refer to the following website for Medicare Members: <https://www.cms.gov/medicare-coverage-database/details/article-details.aspx?articleId=52515&ver=9&DocID=A52515&bc=gAAAABAAAAAAAAAA%3d%3d�>