Clinical Policy: Total Parenteral Nutrition and Intradialytic Parenteral Nutrition

Reference Number: CP.MP.163 Coding Implications
Date of Last Revision: 02/25
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See Important Reminder at the end of this policy for important regulatory and legal information.

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.

Policy/Criteria

I. It is the policy of health plans affiliated with Centene Corporation® that the following are **medically necessary** for members/enrollees when meeting all of the following 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
   a. For adults, involuntary weight loss of 10% of usual body weight within six months or 5% within one month;
   b. ii. For children, weight for length, weight for height, or sex < 10th percentile or inadequate weight gain or a significant decrease in usual growth percentile;
   c. iii. For neonates, extremely low birth weight < 1000 g;
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. Obstructing stricture;
   e. Motility disorder;
   f. Newborn anomalies of the gastrointestinal tract which prevent or contraindicate oral feedings such as tracheoesophageal fistula, gastroschisis, omphalocele, or massive intestinal atresia;
   g. Infants and young children who fail to thrive due to cardiac or respiratory disease, short bowel syndrome, malabsorption, or chronic idiopathic diarrhea;
   h. Paralytic ileus in children or prolonged paralytic ileus following a major surgical procedure or multiple injuries;
   i. Radiation enteritis;
   j. Liver failure in children approved for liver transplants, who fail to grow while receiving enteral nutritional support;
   k. 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);

l. 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;
m. Necrotizing enterocolitis;[17]
n. Small bowel ischemia.[17]

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. Member/enrollee has stage 5 chronic kidney disease;
3. Member/enrollee 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 health plans affiliated with Centene Corporation 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. Members/enrollees with advanced cancer whose malignancy is documented as unresponsive to chemotherapy or radiation therapy;
3. Members/enrollees 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 members/enrollees 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.[2,14] Long-term complications associated with longer parenteral therapy and home parenteral therapy could include hepatobiliary and bone disease.[14]

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.[5,6]

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 2024, 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 - 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

HCPCS Codes	Description
S9368	Home infusion therapy, total parenteral nutrition (TPN); 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

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Policy developed and approved	04/16	05/16
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,"	04/20	04/20
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.	03/21	4/21
Annual review. References reviewed and updated to AMA format. 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. Specialist reviewed.	04/22	04/22
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	04/23
Annual review completed. Minor rewording in Criteria section with no clinical significance. Background updated with no impact to criteria. References reviewed and updated. External specialist reviewed.	02/24	02/24
Annual review. Updated criteria I.A.1.a. regarding low body weight to include details by age group and expanded to I.A.1.a. through c. Removed previous criteria I.A.1.b. and c. regarding total protein and serum albumin. Removed previous criteria I.A.2.d. CNS disorders from list of conditions that make oral or tube feedings inappropriate. Updated criteria I.A.2.h. to include children with paralytic ileus and added I.A.2.m and n. to list conditions that make oral or tube feedings inappropriate. References reviewed and updated.	01/25	01/25
Corrected 01/25 revision log to state, "removed previous criteria I.A.2.d," not, "I.A.4.d," and, "added I.A.2.m and n.," not "I.A.4.m and n." Also corrected, "updated criteria I.A.1.2.h.," to, "updated criteria I.A.2.h."	02/25	

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Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. "Health Plan" means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by Centene Management Company, LLC, or any of such health plan's affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of member/enrollees. This clinical policy is not intended to recommend treatment for member/enrollees. Member/enrollees should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

expressed herein through the terms of their contracts. Where no such contract exists, providers, member/enrollees and their representatives agree to be bound by such terms and conditions by providing services to member/enrollees and/or submitting claims for payment for such services.

Note: For Medicaid members/enrollees, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Note: For Medicare members/enrollees, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at for additional information.