

## Corporate Medical Policy

### Intradialytic Parenteral Nutrition

**File Name:** intradialytic\_parenteral\_nutrition  
**Origination:** 2/2010  
**Last CAP Review:** 4/2021  
**Next CAP Review:** 4/2022  
**Last Review:** 4/2021

#### Description of Procedure or Service

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Intradialytic parenteral nutrition (IDPN) is the infusion of an intravenous nutritional formula of hyperalimentation, such as amino acids, glucose, and lipids, during dialysis, to treat protein calorie malnutrition in an effort to decrease the associated morbidity and mortality experienced in patients with renal failure. This policy only addresses intravenous parenteral nutrition as an adjunct to hemodialysis (not peritoneal dialysis).

Protein calorie malnutrition occurs in an estimated 25%–40% of those undergoing dialysis. The cause of malnutrition in dialysis patients is often multifactorial and may include underdialysis, chronic inflammation, protein loss in the dialysate solution (particularly in peritoneal dialysis), untreated metabolic acidosis, and decreased oral intake.

The clinical evaluation of malnutrition is multifactorial but typically includes measurement of serum albumin. Serum albumin levels correlate with nutritional status but are imperfect measures of nutrition because they can be affected by multiple other disease states. Protein calorie malnutrition is associated with increased morbidity and mortality. For example, the risk of death is increased more than 10-fold in those whose serum albumin levels are less than 2.5 g/dL, and those with a serum albumin near the normal range (i.e., between 3.5 to 3.9 g/dL) have a mortality rate twice as high as those with albumin greater than 4.0 g/dL.

In patients receiving chronic dialysis, the National Kidney Foundation currently recommends a daily protein intake of 1.2 g/kg or more in patients undergoing hemodialysis and 1.3 g/kg or more in patients undergoing peritoneal dialysis. When malnutrition is present, a stepwise approach to treatment is generally used, beginning with dietary counseling and diet modifications, followed by oral nutritional supplements, and then by enteral nutrition supplements or parenteral nutritional supplements if needed.

Intradialytic parenteral nutrition (IDPN) which refers to infusion of hyperalimentation fluids at the time of either hemodialysis or peritoneal dialysis, has been investigated as a technique to treat protein calorie malnutrition in an effort to decrease the associated morbidity and mortality. IDPN solutions are similar to those used for total parenteral nutrition (TPN). A typical solution contains 10% amino acids and 40% to 50% glucose, 10% to 20% lipids, or a mixture of carbohydrate or lipids, depending on patient needs. In hemodialysis, the IDPN infusion is administered through the venous port of the dialysis tubing, typically, 30 minutes after dialysis has begun, and continued throughout the remainder of a dialysis session.

**\*\*\*Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

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## Policy

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**BCBSNC will provide coverage for Intradialytic Parenteral Nutrition when it is determined to be medically necessary because the medical criteria and guidelines shown below are met.**

## Benefits Application

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Please refer to Certificate for availability of benefits. This policy relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore certificate language should be reviewed before applying the terms of the policy.

## When Intradialytic Parenteral Nutrition is covered

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Intradialytic parenteral nutrition (IDPN) may be considered medically necessary when the following criteria are met:

- A) The patient is currently receiving dialysis for End Stage Renal Disease AND
  - 1) The patient has an albumin less than 3.2 g/dl and a prealbumin less than 30 mg/dl AND
  - 2) The patient has an adequate dialysis prescription (single pool KT/V of at least 1.25) and their acidosis has been corrected (serum tCO<sub>2</sub> of greater than or equal to 22 mmol/l) AND
  - 3) The patient cannot tolerate full nutrition with an oral supplement, but can consume at least 50% of their necessary caloric and protein intake (diabetic gastroparesis) OR
- B) The patient has failed or is unable to tolerate adequate nasogastric tube feedings or PEG tube feedings with enteral nutritional supplements. After an initial 3 month trial continued therapy will depend on the demonstration of a significant rise in the prealbumin level to greater than 30 mg/dl and continued documented compliance with criteria noted above.
- C) Approval will only be for 9 months after the initial trial. Patients should be reevaluated for continued need after 9 months of intradialytic parenteral nutrition therapy.

## When Intradialytic Parenteral Nutrition is not covered

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Intradialytic parenteral nutrition is considered not medically necessary when offered in addition to regularly scheduled infusions of TPN.

In patients who cannot tolerate any oral/ enteral feedings, TPN is the appropriate therapy and IDPN is considered investigational as a single therapy.

## Policy Guidelines

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Evidence for individuals undergoing hemodialysis who receive IDPN includes multiple RCTs, observational studies, and systematic reviews. Relevant outcomes are overall survival, change in disease status, morbid events, health status measures, quality of life, treatment-related mortality and treatment-related morbidity. Findings from a well-conducted, adequately-powered RCT that was designed to evaluate the effects of 1-year of IDPN plus oral supplements failed to show any incremental benefit in mortality or hospitalization rates at 2 years compared to oral supplements alone. Other smaller RCTs assessed the impact of IDPN on nutritional or inflammatory outcomes,

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rather than the more important outcomes of morbidity, mortality, and quality of life. Limitations of these smaller RCTs include inadequate power to demonstrate benefits and heterogeneity in the trial patient population, resulting from variation in diagnostic criteria for protein-energy wasting, co-morbid conditions, dialysis practices, as well as composition and doses of IDPN solutions. Published systematic reviews, which included RCTs but did not pool data, have also concluded that the current evidence does not demonstrate benefits in the net health outcome with the use of IDPN for patients who would not otherwise qualify for IDPN. The evidence is insufficient to determine the effects of the technology on health outcomes.

Patients who are considered candidates for TPN are those who have a severe pathology of the alimentary tract that does not allow absorption of sufficient nutrients to maintain weight and strength commensurate with the patient's general condition. IDPN is considered not medically necessary when added to regularly scheduled infusions of TPN and may be harmful due to the excess administration of lipids, electrolyte problems such as hyperkalemia, and volume difficulties. When the patient cannot tolerate oral or enteral feedings, TPN should be considered, since the data on IDPN for these patients is minimal and the impact on net health outcomes in these patients is not known. Therefore IDPN is considered investigational in these patients.

## Billing/Coding/Physician Documentation Information

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This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at [www.bcbsnc.com](http://www.bcbsnc.com). They are listed in the Category Search on the Medical Policy search page.

*Applicable codes: 90935, 90937, 90940, 90945, 90947, B4164, B4168, B4172, B4176, B4178, B4180, B4185, B4189, B4193, B4197, B4199, B4216, B4220, B4222, B4224, B5000, B5100, B5200*

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

## Scientific Background and Reference Sources

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BCBSA Medical Policy Reference Manual, 8.01.44, 10/6/2009

Senior Medical Director review 1/2010

BCBSA Medical Policy Reference Manual, 8.01.44, 6/9/2011

BCBSA Medical Policy Reference Manual, 8.01.44, 6/14/2012

Specialty Matched Consultant Advisory Panel 10/2012

National Kidney Foundation (NKF/DOQI) Clinical Practice Guidelines for Nutrition in Chronic Renal Failure. 2000. Retrieved from [http://www.kidney.org/professionals/kdoqi/guidelines\\_updates/doqi\\_nut.html](http://www.kidney.org/professionals/kdoqi/guidelines_updates/doqi_nut.html)

Cano NJ, Fouque D, Roth H, Aparicio M, Azar R, Canaud B, Chauveau P, Combe C, Laville M, Lerverve XM, French Study Group for Nutrition in Dialysis. Intradialytic parenteral nutrition does not improve survival in malnourished hemodialysis patients: a 2-year multicenter, prospective, randomized study. *J Am Soc Nephrol.* 2007 Sep; 18(9):2583-91. Retrieved from <http://jasn.asnjournals.org/content/18/9/2583.long>

Specialty Matched Consultant Advisory Panel review 4/2013

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BCBSA Medical Policy Reference Manual, 8.01.44, 6/13/13

Specialty Matched Consultant Advisory Panel review 4/2014

Medical Director review 4/2014

American Society for Parenteral and Enteral Nutrition (ASPEN). Clinical Guidelines: Nutrition support in adults in acute and chronic renal failure. 2010.

BCBSA Medical Policy Reference Manual, 8.01.44, 5/22/14

Specialty Matched Consultant Advisory Panel review 4/2015

Medical Director review 4/2015

BCBSA Medical Policy Reference Manual, 8.01.44, 5/21/15

Specialty Matched Consultant Advisory Panel review 4/2016

Medical Director review 4/2016

Specialty Matched Consultant Advisory Panel review 4/2017

Medical Director review 4/2017

BCBSA Medical Policy Reference Manual, 8.01.44, 5/2017

Medical Director review 5/2017

Specialty Matched Consultant Advisory Panel review 4/2018

Medical Director review 4/2018

BCBSA Medical Policy Reference Manual, 8.01.44, 5/2018

Specialty Matched Consultant Advisory Panel review 4/2019

Medical Director review 4/2019

Specialty Matched Consultant Advisory Panel review 4/2020

Medical Director review 4/2020

BCBSA Medical Policy Reference Manual, 8.01.44, 6/2020

Specialty Matched Consultant Advisory Panel review 4/2021

Medical Director review 4/2021

## Policy Implementation/Update Information

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2/2/10 New policy implemented. Reviewed with Senior Medical Director 1/8/2010. "Intradialytic parenteral nutrition may be considered medically necessary when it is offered as an alternative to a regularly scheduled regimen of total parenteral nutrition only in those patients who would be considered candidates for total parenteral nutrition (TPN), i.e., a severe pathology of the alimentary tract that does not allow absorption of sufficient nutrients to maintain weight and strength commensurate with the patient's general condition." "Intradialytic parenteral nutrition is considered **not** medically necessary in those patients who would be considered a candidate for TPN, but for whom the intradialytic parenteral nutrition is not offered as an alternative to TPN, but in addition to regularly scheduled infusions to TPN." "Intradialytic parenteral nutrition is considered investigational in those patients who would not otherwise be considered candidates for TPN." Notice given 2/2/2010. Policy effective 5/11/2010. (btw)

# Intradialytic Parenteral Nutrition

- 6/22/10 Policy Number(s) removed (amw)
- 11/23/10 Medical criteria reformatted, but intent of policy is unchanged. Specialty Matched Consultant Advisory Panel review 10/28/10. Policy accepted as written. (adn)
- 11/8/11 Description section revised. Policy Guidelines section updated. No change in policy statement or medical coverage criteria. Specialty Matched Consultant Advisory Panel review 10/26/11. (adn)
- 10/30/12 Specialty Matched Consultant Advisory Panel review 10/17/12. No change to policy statement. (sk)
- 5/14/13 Specialty Matched Consultant Advisory panel review 4/2013. Medical Director review 3/2013. References updated. "When Covered" section revised as follows: "Intradialytic parenteral nutrition may be considered medically necessary when the following criteria are met: A) The patient is currently receiving dialysis for End Stage Renal Disease AND 1) The patient has an albumin less than 3.2 g/dl and a Prealbumin less than 30 mg/dl AND 2) The patient has an adequate dialysis prescription (single pool KT/V of at least 1.25) and their acidosis has been corrected (serum tCO<sub>2</sub> of greater than or equal to 22 mmol/l). AND 3) The patient cannot tolerate full nutrition with an oral supplement, but can consume at least 50% of their necessary caloric and protein intake (diabetic gastroparesis) OR 4) The patient has failed or is unable to tolerate adequate nasogastric tube feedings or PEG tube feedings with enteral nutritional supplements. B) After an initial 3 month trial, continued therapy will depend on the demonstration of a significant rise in the Pre Albumin level to greater than 30mg/dl and continued documented compliance with criteria 2-4 above. C) Approval will only be for 9 months after the initial trial." "When not Covered" section revised to state: "Intradialytic parenteral nutrition is considered not medically necessary when offered in addition to regularly scheduled infusions of TPN. Intradialytic parenteral nutrition is considered not medically necessary in patients who are suffering from an Acute Kidney Injury and are not felt to have End Stage Renal Disease. In patients who cannot tolerate any oral/ enteral feedings, TPN is the appropriate therapy and IDPN is considered investigational as a single therapy." Policy Guidelines updated. (mco)
- 7/30/13 References updated. No changes to Policy Statements. (mco)
- 5/13/14 Specialty Matched Consultant Advisory Panel review 4/2014. Medical Director review 4/2014. No changes to Policy Statements. (mco)
- 7/15/14 References updated. No changes to Policy Statements. (mco)
- 5/26/15 Specialty Matched Consultant Advisory Panel review 4/2015. Medical Director review 4/2015. When Covered section updated to add this statement, "Patients should be reevaluated for continued need after 9 months of intradialytic parenteral nutrition therapy." References updated. Policy Statements remained unchanged. (td)
- 9/1/15 Description section extensively revised. Policy Guideline section updated. References updated. Policy Statements remain unchanged. (td)
- 5/31/16 Specialty Matched Consultant Advisory Panel review 4/27/2016. Medical Director review 4/2016. (jd)
- 5/26/17 Specialty Matched Consultant Advisory Panel review 4/2017. Medical Director review 4/2017. (jd)
- 6/30/17 Description section, policy guidelines and references update. Medical Director review 5/2017. (jd)
- 5/11/18 Specialty Matched Consultant Advisory Panel review 4/2018. Medical Director review 4/2018. (jd)

# Intradialytic Parenteral Nutrition

- 5/14/19 Item #2 removed from the When Not Covered section as follows: “Intradialytic parenteral nutrition is considered not medically necessary in patients who are suffering from an Acute Kidney Injury and are not felt to have End Stage Renal Disease.”  
References updated. Specialty Matched Consultant Advisory Panel review 4/2019.  
Medical Director review 4/2019. (jd)
- 4/28/20 Specialty Matched Consultant Advisory Panel review 4/2020. Medical Director review 4/2020. (jd)
- 5/4/21 References updated. Specialty Matched Consultant Advisory Panel review 4/2021/  
Medical Director review 4/2021. (jd)

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Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.