

Corporate Medical Policy

Intradialytic Parenteral Nutrition

File Name: intradialytic_parenteral_nutrition
Origination: 2/2010
Last Review: 4/2024

Description of Procedure or Service

Intradialytic parenteral nutrition (IDPN) is the infusion of an intravenous hyperalimentation formula, such as amino acids, glucose, and lipids, during dialysis, to treat protein caloric 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 caloric malnutrition occurs in an estimated 25%–40% of those undergoing dialysis. The cause of malnutrition in dialysis patients is often multifactorial and may include under dialysis, 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 caloric 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 caloric 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

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

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

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

- A) The individual is currently receiving dialysis for End Stage Renal Disease AND
 - 1) The individual has an albumin less than 3.2 g/dl and a prealbumin less than 30 mg/dl AND
 - 2) The individual has an adequate dialysis prescription (single pool KT/V of at least 1.25) and their acidosis has been corrected (serum tCO₂ of greater than or equal to 22 mmol/l) AND
 - 3) The individual 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 individual 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. Individuals should be reevaluated for continued need after 9 months of intradialytic parenteral nutrition therapy.

When Intradialytic Parenteral Nutrition is not covered

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

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

Policy Guidelines

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. Published systematic reviews, which include randomized controlled trials but could not pool data, have concluded that current evidence does not demonstrate benefits in patient outcomes with the use of intradialytic parenteral nutrition for those who would not otherwise

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qualify for total parenteral nutrition. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Billing/Coding/Physician Documentation Information

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. 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

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

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

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

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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
Specialty Matched Consultant Advisory Panel review 4/2022
Medical Director review 4/2022
Specialty Matched Consultant Advisory Panel review 4/2023
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Kopple JD. The National Kidney Foundation K/DOQI clinical practice guidelines for dietary protein intake for chronic dialysis patients. Am J Kidney Dis. Oct 2001; 38(4 Suppl 1): S68-73. PMID 11576926

Specialty Matched Consultant Advisory Panel review 4/2024
Medical Director review 4/2024

Policy Implementation/Update Information

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

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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)

- 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 tC02 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)

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- 5/11/18 Specialty Matched Consultant Advisory Panel review 4/2018. Medical Director review 4/2018. (jd)
- 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)
- 5/3/22 Specialty Matched Consultant Advisory Panel review 4/2022. Medical Director review 4/2022. (jd)
- 5/16/23 Minor edits made to When Covered section for clarity, no change to policy statement. References updated. Specialty Matched Consultant Advisory Panel review 4/2023. Medical Director review 4/2023. (tm)
- 5/1/24 Minor edits made to Description and Policy Guidelines sections, no change to policy statement. References updated. Specialty Matched Consultant Advisory Panel review 4/2024. Medical Director review 4/2024. (tm)

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.