



MASSACHUSETTS

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## Medical Policy

### Isolated Small Bowel Transplant

#### Table of Contents

- [Policy: Commercial](#)
- [Policy: Medicare](#)
- [Authorization Information](#)
- [Coding Information](#)
- [Description](#)
- [Policy History](#)
- [Information Pertaining to All Policies](#)
- [References](#)

#### Policy Number: 631

BCBSA Reference Number: 7.03.04 (For Plan internal use only)

#### Related Policies

Small Bowel-Liver and Multivisceral Transplant, #[632](#)

#### Policy

##### Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity

A small bowel transplant using a cadaveric intestine may be **MEDICALLY NECESSARY** in adult and pediatric patients to treat the following conditions:

- Intestinal failure (characterized by loss of absorption and the inability to maintain protein-energy, fluid, electrolyte, or micronutrient balance), **AND**
- Established long-term dependency on total parenteral nutrition (TPN), **AND**
- Developing or have developed severe complications due to (TPN).

A small bowel transplant using a living donor may be **MEDICALLY NECESSARY** only when a cadaveric intestine is **NOT** available for transplantation in a patient who meets the criteria noted above for cadaveric intestinal transplant.

A small bowel retransplant may be **MEDICALLY NECESSARY** after a failed primary small bowel transplant.

A small bowel transplant using living donors is **INVESTIGATIONAL** in all other situations.

A small bowel transplant in adult patients with intestinal failure who are able to tolerate TPN is **INVESTIGATIONAL**.

In addition to the above information, we do not cover small bowel transplant transplantation when any of the following conditions are present:

- Known current malignancy, including metastatic cancer
- Recent malignancy with high risk of recurrence

- Note: the assessment of risk of recurrence for a previously treated malignancy is made by the transplant team; providers must submit a statement with an explanation of why the patient with a recently treated malignancy is an appropriate candidate for a transplant.
- Untreated systemic infection making immunosuppression unsafe, including chronic infection
- Other irreversible end-stage disease not attributed to intestinal failure
- History of cancer with a moderate risk of recurrence
- Systemic disease that could be exacerbated by immunosuppression
- Psychosocial conditions or chemical dependency affecting ability to adhere to therapy.

## Prior Authorization Information

### Inpatient

- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

### Outpatient

- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

	Outpatient
Commercial Managed Care (HMO and POS)	This procedure is performed in the inpatient setting.
Commercial PPO and Indemnity	This procedure is performed in the inpatient setting.

## CPT Codes / HCPCS Codes / ICD Codes

*Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.*

*Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.*

### CPT Codes

CPT diagnosis codes:	Code Description
44135	Intestinal allotransplantation; from <i>cadaver</i> donor
44136	Intestinal allotransplantation; from <i>living</i> donor

### ICD-10 Procedure Coding

ICD-10-PCS Procedure codes:	Code Description
0DY80Z0	Transplantation of Small Intestine, Allogeneic, Open Approach
0DY80Z1	Transplantation of Small Intestine, Syngeneic, Open Approach

## Description

### Solid Organ Transplantation

Solid organ transplantation offers a treatment option for patients with different types of end-stage organ failure that can be lifesaving or provide significant improvements to a patient's quality of life.<sup>1</sup> Many advances have been made in the last several decades to reduce perioperative complications. Available data support improvement in long-term survival as well as improved quality of life, particularly for liver, kidney, pancreas, heart, and lung transplants. Allograft rejection remains a key early and late complication risk for any organ transplantation. Transplant recipients require life-long immunosuppression to prevent rejection. Patients are prioritized for transplant by mortality risk and severity of illness criteria developed by the Organ Procurement and Transplantation Network (OPTN) and United Network of Organ Sharing (UNOS).

## Short Bowel Syndrome

Short bowel syndrome is a condition in which the absorbing surface of the small intestine is inadequate due to extensive disease or surgical removal of a large portion of the small intestine. The spectrum of clinical disease is widely variable from only single micronutrient malabsorption to complete intestinal failure, defined as the reduction of gut function below the minimum necessary for the absorption of macronutrients and/or water and electrolytes.<sup>2</sup> In adults, etiologies of short bowel syndrome include ischemia, trauma, volvulus, and tumors. In children, gastroschisis, volvulus, necrotizing enterocolitis, and congenital atresia are predominant causes. Although the actual prevalence of short bowel syndrome is not clear primarily due to under-reporting and a lack of reliable patient databases, its prevalence is estimated to be 30 cases per million in the U.S.<sup>2</sup>

## Treatment

The small intestine, particularly the ileum, can adapt to some functions of the diseased or removed portion over a period of 1 to 2 years. Prognosis for recovery depends on the degree and location of small intestine damage. Therapy focuses on achieving adequate macro- and micronutrient uptake in the remaining small bowel. Pharmacologic agents have been studied to increase villous proliferation and slow transit times, and surgical techniques have been advocated to optimize remaining small bowel.

However, some patients with short bowel syndrome are unable to obtain adequate nutrition from enteral feeding and become chronically dependent on total parenteral nutrition (TPN). For patients with short bowel syndrome, the rate of parenteral nutrition dependency at 1, 2, and 5 years has been reported to be 74%, 64%, and 48%, respectively.<sup>2</sup> Patients with complications from TPN may be considered candidates for a small bowel transplant. Complications include catheter-related mechanical problems, infections, hepatobiliary disease, and metabolic bone disease. While cadaveric intestinal transplant is the most commonly performed transplant, there has been a recent interest in using living donors.

Intestinal transplants (including multivisceral and bowel/liver) represent a small minority of all solid organ transplants. In 2022, 82 intestinal transplants were performed in the U.S.<sup>3</sup> Overall, both the number of new patients added to the intestinal transplant waiting list (n=145) and the number of intestinal transplants performed increased slightly from their lowest levels in 2019.

## Summary

### Description

A small bowel transplant may be performed as an isolated procedure or in conjunction with other visceral organs, including the liver, duodenum, jejunum, ileum, pancreas, or colon. Isolated small bowel transplant is commonly performed in patients with short bowel syndrome. Small bowel/liver transplants and multivisceral transplants are considered in medical policy #632.

### Summary of Evidence

For individuals who have intestinal failure who receive a small bowel transplant, the evidence includes case series. Relevant outcomes are overall survival (OS) morbid events, and treatment-related mortality and morbidity. Small bowel transplant is infrequently performed, and only relatively small case series, generally single-center, are available. Risks after small bowel transplant are high, particularly related to infection, but may be balanced against the need to avoid the long-term complications of total parenteral nutrition (TPN) dependence. In addition, early small bowel transplant may obviate the need for a later combined liver/small bowel transplant. Transplantation is contraindicated in patients in whom the procedure is expected to be futile due to comorbid disease or in whom posttransplantation care is expected to worsen comorbid conditions significantly. Guidelines and U.S. federal policy no longer view HIV infection as an absolute contraindication for solid organ transplantation. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have failed small bowel transplant without contraindication(s) for retransplant who receive a small bowel retransplant, the evidence includes case series. Relevant outcomes are OS, morbid events, and treatment-related mortality and morbidity. Data from a small number of patients undergoing retransplantation are available. Although limited in quantity, the available data have suggested a reasonably

high survival rate after small bowel retransplantation in patients who continue to meet the criteria for transplantation. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

## Policy History

Date	Action
10/2023	Annual policy review. References added. Minor editorial refinements to policy statements; intent unchanged.
9/2022	Annual policy review. Policy statements unchanged.
1/2021	Medicare information removed. See MP #132 Medicare Advantage Management for local coverage determination and national coverage determination reference.
10/2020	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
10/2019	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
10/2018	Annual policy review. Description, summary, and references updated. Policy statements unchanged.
9/2017	Annual policy review. New references added.
7/2015	Annual policy review. New references added.
10/2014	Medical policy remediation: New indications for non-coverage. Clarified coding information. Effective 10/1/2014.
6/2014	Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015.
5/2014	Annual policy review. New medically necessary indications described. Effective 5/1/2014.
1/2014	Annual policy review. New references added.
12/2013	Removed ICD-9 diagnosis code as the policy requires prior authorization.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements
5/2012	Annual policy review. Changes to policy statements.
11/2010	Reviewed - Medical Policy Group - Gastroenterology, Nutrition, Organ Transplantation. No changes to policy statements.
10/2010	Annual policy review. No changes to policy statements.
6/2010	Annual policy review. Changes to policy statements.
11/2009	Annual policy review. Changes to policy statements.
11/2009	Reviewed - Medical Policy Group - Gastroenterology, Nutrition, Organ Transplantation. No changes to policy statements.
5/2009	Annual policy review. No changes to policy statements.
11/2008	Reviewed - Medical Policy Group - Gastroenterology, Nutrition, Organ Transplantation. No changes to policy statements.

## Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

## References

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