MEDICAL POLICY

POLICY TITLE	**ISLET TRANSPLANTATION**
POLICY NUMBER	**MP 9.012**

CLINICAL BENEFIT	☐ MINIMIZE SAFETY RISK OR CONCERN. ☒ MINIMIZE HARMFUL OR INEFFECTIVE INTERVENTIONS. ☐ ASSURE APPROPRIATE LEVEL OF CARE. ☐ ASSURE APPROPRIATE DURATION OF SERVICE FOR INTERVENTIONS. ☐ ASSURE THAT RECOMMENDED MEDICAL PREREQUISITES HAVE BEEN MET. ☐ ASSURE APPROPRIATE SITE OF TREATMENT OR SERVICE.
Effective Date:	**12/1/2024**

I. POLICY

Autologous pancreas islet transplantation may be considered **medically necessary** as an adjunct to a total or near total pancreatectomy in patients with chronic pancreatitis.

Allogeneic islet transplantation is considered **investigational** for the treatment of type 1 diabetes, as there is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with this procedure.

Islet transplantation is considered **investigational** in all other situations, as there is insufficient evidence to support a general conclusion concerning the health outcomes or benefits associated with this procedure.

Policy Guideline

This policy is not applicable to donislecel-jujn (Lantidra™), which is approved by the U.S. Food and Drug Administration.

Cross-References:

MP 2.010 Clinical Trials and Expanded Access Services
MP 9.005 Kidney Transplants, Pancreas Transplants, and Simultaneous Kidney/Pancreas Transplants
Specialty Injectable Policy Donislecel-jujn (Lantidra™)

II. PRODUCT VARIATIONS

Top

This policy is only applicable to certain programs and products administered by Capital BlueCross please see additional information below, and subject to benefit variations as discussed in Section VI below.

FEP PPO - Refer to FEP Medical Policy Manual. The FEP Medical Policy manual can be found at:

POLICY TITLE	ISLET TRANSPLANTATION
POLICY NUMBER	MP 9.012

https://www.fepblue.org/benefit-plans/medical-policies-and-utilization-management-guidelines/medical-policies .

III. DESCRIPTION/BACKGROUND

Top

Islet Transplantation

In autologous islet transplantation during the pancreatectomy procedure, islet cells are isolated from the resected pancreas using enzymes, and a suspension of the cells is injected into the portal vein of the patient's liver. Once implanted, the beta cells in these islets begin to make and release insulin.

Allogeneic islet transplantation potentially offers an alternative to whole-organ pancreas transplantation. In the case of allogeneic islet cell transplantation, cells are harvested from a deceased donor's pancreas, processed, and injected into the recipient's portal vein. Up to three donor pancreas transplants may be required to achieve insulin independence. However, a limitation of islet transplantation is that two or more donor organs are usually required for successful transplantation, although experimentation with single-donor transplantation is occurring. A pancreas that is rejected for whole-organ transplant is typically used for islet transplantation. Therefore, islet transplantation has generally been reserved for patients with frequent and severe metabolic complications who have consistently failed to achieve control with insulin-based management. Allogeneic transplantation may be performed in the radiology department.

In 2000, a modified immunosuppression regimen increased the success of allogeneic islet transplantation. This regimen is known as the "Edmonton protocol."

Regulatory Status

The U.S. Food and Drug Administration regulates human cells and tissues intended for implantation, transplantation, or infusion through the Center for Biologics Evaluation and Research, under Code of Federal Regulation Title 21, parts 1270 and 1271. Allogeneic islet cells are included in these regulations. Donislecel-jujn (Lantidra™), a first-in-class deceased donor-derived allogeneic pancreatic islet cellular therapy product, was approved by the FDA in June 2023 for the treatment of type 1 diabetes in adults who are unable to approach target hemoglobin A1c due to repeated episodes of severe hypoglycemia despite intensive diabetes management and education.

IV. RATIONALE

Top

Summary of Evidence

For individuals with chronic pancreatitis undergoing total or near total pancreatectomy who receive autologous pancreas islet transplantation, the evidence includes case series and systematic reviews. Relevant outcomes are overall survival, change in disease status, medication use, resource utilization, and treatment-related morbidity. Autologous islet transplants are performed in the context of total or near total pancreatectomies to treat intractable pain from chronic pancreatitis. The procedure appears to decrease significantly the

incidence of diabetes after total or near total pancreatectomy in patients with chronic pancreatitis. Also, this islet procedure is not associated with serious complications and is performed in patients who are already undergoing a pancreatectomy procedure. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals with type 1 diabetes who receive allogeneic pancreas islet transplantation, the evidence includes a randomized controlled trial, case series, and systematic reviews. Relevant outcomes are overall survival, change in disease status, medication use, resource utilization, and treatment-related morbidity. Results of a 2018 randomized trial have suggested some reduction in the number of severe hypoglycemic incidence annually, but limited follow-up and other trial limitations reduce the certainty in conclusions drawn. A wide range of insulin independence has been reported in case series. There is conflicting evidence whether allogeneic islet transplantation reduces long-term diabetic complications. Long-term comparative studies are required to determine the effects of allogeneic islet transplantation in type 1 diabetics. The evidence is insufficient to determine the effects of the technology on health outcomes.

V. DEFINITIONS

Top

ALLOTRANSPLANTATION refers to grafting or transplantation of tissue from one individual into another of the same species.

AUTOTRANSPLANTATION refers to surgical transfer of tissue from one part of the body to another.

AUTOLOGOUS refers to originating within an individual, i.e., self-donation.

CADAVER refers to a dead body or corpse.

IMMUNOSUPPRESSIVE refers to any treatment used to block abnormal or excessive immune responses.

INSULIN is a hormone secreted by the beta cells of the pancreas that controls the metabolism and cellular uptake of sugars, proteins and fat.

PANCREATITIS refers to inflammation of the pancreas often caused by alcohol abuse or obstruction of the pancreatic ducts by gallstones.

PANCREATECTOMY is an operation to remove all or part of the pancreas.

VI. BENEFIT VARIATIONS

Top

The existence of this medical policy does not mean that this service is a covered benefit under the member's health benefit plan. Benefit determinations should be based in all cases on the applicable health benefit plan language. Medical policies do not constitute a description of benefits. A member’s health benefit plan governs which services are covered, which are excluded, which are subject to benefit limits, and which require preauthorization. There are different benefit plan designs in each product administered by Capital Blue Cross. Members and providers should consult the member’s health benefit plan for information or contact Capital Blue Cross for benefit information.

VII. DISCLAIMER

Top

Capital Blue Cross' medical policies are developed to assist in administering a member's benefits, do not constitute medical advice and are subject to change. Treating providers are solely responsible for medical advice and treatment of members. Members should discuss any medical policy related to their coverage or condition with their provider and consult their benefit information to determine if the service is covered. If there is a discrepancy between this medical policy and a member's benefit information, the benefit information will govern. If a provider or a member has a question concerning the application of this medical policy to a specific member's plan of benefits, please contact Capital Blue Cross' Provider Services or Member Services. Capital Blue Cross considers the information contained in this medical policy to be proprietary and it may only be disseminated as permitted by law.

VIII. CODING INFORMATION

Top

Note: This list of codes may not be all-inclusive, and codes are subject to change at any time. The identification of a code in this section does not denote coverage as coverage is determined by the terms of member benefit information. In addition, not all covered services are eligible for separate reimbursement.

Investigational: therefore, not covered for allogeneic islet transplantation:

Procedure Codes								
48999	0584T	0585T	0586T	G0341	G0342	G0343	S2102	

Covered when medically necessary:

Procedure Codes								
48160								

ICD-10-CM Diagnosis Codes	Description
K86.0	Alcohol-induced chronic pancreatitis
K86.1	Other chronic pancreatitis

IX. REFERENCES

Top

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X. POLICY HISTORY

Top

MP 9.012	**01/01/2020 Administrative Update** Coding update**.** New 2020 codes added to policy; 0584T, 0585T, & 0586T.
	05/14/2020 Consensus Review. Policy statement unchanged. Background and References updated. Coding reviewed.
	04/28/2021 Consensus Review. Policy statement unchanged. References updated.
	12/07/2022 Consensus Review. Policy statement unchanged. References and background reviewed and updated. FEP statement updated. Codes were moved to correctly reflect medical necessity in policy.
	09/25/2023 Consensus Review. Policy statement unchanged. References reviewed and updated. Coding reviewed.
	08/22/2024 Consensus Review. Policy statements unchanged. Added Policy Guideline and updated Regulatory Status. References reviewed and updated. Coding reviewed with no coding changes.

Top