

## Pancreatic Islet Cell Transplantation

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### Background

Chronic pancreatitis is a complex disease that originates from a variety of causes. Progressive inflammation of acinar tissue may affect endocrine tissue function, thereby progressively damaging the islets of Langerhans, resulting in diabetes. The course of the disease is often punctuated by repeated pancreatic duct stenting and/or partial pancreatectomy. Some patients undergo total pancreatectomy for pain relief, which leads to immediate and total insulin deficiency diabetes.

**Autologous islet transplantation** is a technique performed as an adjunct to a total or near total pancreatectomy in order to salvage and transplant beta cells to prevent complications of chronic diabetes. During the pancreatectomy, a suspension is created by mixing plasma and the isolated islet cells collected from the individual's own resected pancreatic specimen. This suspension is then injected into the portal vein of the liver where the cells function as a free graft.

**Allogeneic pancreatic islet cell transplantation** utilizes human donor cells (other than those of the recipient); **xenotransplantation** utilizes porcine cells, both are alternative procedures that require lifelong immunosuppression to prevent graft-rejection and recurrence of the autoimmune process. (See [Limitations/Exclusions](#))

### Guideline

**Note:** This guideline is specific to pancreatic islet cell transplantation for members with chronic pancreatitis who require pancreatectomy. For whole organ (pancreas) transplant to treat Type 1 diabetes, members and providers are directed to call the EmblemHealth Transplant Program for case management services at 1-800-447-0768.

Members with chronic pancreatitis are eligible for autologous pancreatic islet cell transplantation when the following criteria are met; both:

1. Severe pain refractory to medical management.
2. Transplantation is adjunctive to total/near-total pancreatectomy.

## Limitations/Exclusions

The following types of transplantation are not considered medically necessary for the treatment of Type 1 diabetes due to insufficient evidence of therapeutic value:

1. Allogeneic islet cell transplantation.
2. Islet cell xenotransplantation.

## Applicable Procedure Codes

0584T	Islet cell transplant, includes portal vein catheterization and infusion, including all imaging, including guidance, and radiological supervision and interpretation, when performed; percutaneous
0585T	Islet cell transplant, includes portal vein catheterization and infusion, including all imaging, including guidance, and radiological supervision and interpretation, when performed; laparoscopic
0586T	Islet cell transplant, includes portal vein catheterization and infusion, including all imaging, including guidance, and radiological supervision and interpretation, when performed; open
48160	Pancreatectomy, total or subtotal, with autologous transplantation of pancreas or pancreatic islet cells
48550	Donor pancreatectomy (including cold preservation), with or without duodenal segment for transplantation

## Applicable ICD-10 Diagnosis Codes

K86.0	Alcohol-induced chronic pancreatitis
K86.1	Other chronic pancreatitis
Z90.410	Acquired total absence of pancreas
Z90.411	Acquired partial absence of pancreas

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