

## 2<sup>ND</sup> WORLD CONGRESS OF GASTROENTEROLOGY & DIGESTIVE DISEASES



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### Total Pancreatectomy and Autoislet Transplantation for Chronic Pancreatitis

#### Abstract:

The underlying principle for total pancreatectomy islet with cell auto-transplant (TPIAT) is to remove the chronically inflamed pancreas while preserving the intact islet cells to minimize the risk of brittle diabetes mellitus. Although a complex and irreversible procedure, with continue surgical innovation, it is a viable option in select children and adults with impaired quality of life from chronic or recurrent acute pancreatitis of varying etiologies. Benefits of TPIAT include modification of pancreatic cancer risk and improvements in quality of life and pain which have been repeatedly demonstrated in multiple studies.

The decision for TPIAT is an individualized one, based on the patient's etiology, anatomy, comorbidities including diabetes, symptom burden, rate of disease progression, and thorough evaluation by a multidisciplinary committee, including primary treating physicians, surgeons, endocrinologists, gastroenterologists, psychologists, and pain specialists. A key factor in selecting patients for TPIAT is assessing the extent of islet cell dysfunction to predict future islet yields. The components of a TPIAT are total pancreatectomy (TP), islet cell isolation and perfusion, and islet infusion into the portal system. During the TP, warm ischemia time must be limited, with ligation of the vascular flow of the pancreas only after complete mobilization and preparation for removal, which can be performed open, laparoscopically, or robot-assisted. The islets are prepared onsite or remotely using enzymatic and mechanical digestion of pancreatic tissue and successive purification cycles. After surgery, lifelong pancreatic enzymatic supplementation and screening for diabetes is required, although 20%-40% of patients after surgery will not require insulin. Continued advances in this technique is expanding acceptance and improving outcomes of this procedure since first reported in 1977.