ASTS
American Society of Transplant Surgeons

ASTS Position Statement on Islet Cell Transplantation Regulations

Revised and Approved by the ASTS Council, October 2026

Definition of the Problem:

Islet allotransplantation in the United States (US) is facing an imminent demise, leaving patients with type 1 diabetes mellitus (T1DM) and severe hypoglycemia without access to a lifesaving therapeutic procedure.

The safety and effectiveness of allo-islet transplantation has been established in NIH-sponsored U.S. clinical trials as well as through the Collaborative Islet Transplantation Registry, a U.S. taxpayer-funded research project, which has collectively analyzed data from more than 2,000 allo-ITx procedures over the past 20 years.

However, despite decades of progress in the field driven by U.S. academic centers, an archaic regulatory framework has stymied U.S. clinical practice. Current Food and Drug Administration (FDA) requirements for allogeneic islets for transplantation do not reflect the clinical or technical state-of-the-art.

- Autologous islets (auto-islets) and allogenic islets (allo-islets) are sourced and processed identically, but are subject to vastly different FDA regulatory requirements:
    - Auto-islets, like many tissue- and cellular-based products, are subject to limited requirements aimed at ensuring appropriate collection, storage, processing, and distribution (Section 361 Public Health Service (PHS) Act).
- Allo-islets, in contrast, are subject to much more extensive requirements because they are categorized as biological products (section 351 PHS Act and Federal Food, Drug and Cosmetics Act).
- The distinction between auto- and allo-islets based on criteria established nearly 30 years ago (21 CFR Part 1271) do **not** reflect current standards and clinical practice. Therefore, there has been significant impact on allo-islet transplantation effectively preventing its therapeutic use in the U.S.
    - Fewer than 20 patients have undergone allogenic islet transplantation (allo-ITx) in the U.S., all under an investigational protocol. In contrast, in Europe, Canada, Australia, and Japan, islets are NOT regulated as a drug and allo-ITx is a standard-of-care procedure annually benefiting hundreds of patients with type 1 diabetes.
- Allo-islets in the U.S. require premarket approval of a biologics license application (BLA) and extensive post-market compliance obligations. The FDA's requirements are geared to commercial manufacturers of drug products, and not to clinical transplant centers. Only a commercial (pharma/biotech) company realistically could comply with these requirements. Regulating transplant centers as drug manufacturers and requiring premarket approval for allo-islets effectively precludes clinical transplant centers from offering allo-ITx to patients, and preventing optimal patient care.

- The price for FDA-approved allo-islets produced by a commercial manufacturer foreseeably will be significantly inflated to recover enormous costs associated with preparing a BLA and complying with the manufacturing regulations for commercial drugs. The absence of competition, at least initially, will also escalate the price and discourage innovations in islet processing, to the detriment of patients who could benefit from this life-saving therapy.
- Allowing the commodification of islets runs counter to the ethical norms underlying the organ and tissue transplantation framework, under which the sale of organs and tissues is prohibited and organ donation is viewed as an altruistic act.

The Solution:

We propose to harmonize the U.S. approach to allo-ITx with that of many other countries, which would allow for implementation of safe, effective, affordable, and widely accessible islets for transplantation as a standard of care procedure.

- Allo-islet regulation should be consistent with the regulation of auto-islets and other minimally-manipulated human tissue for transplantation.

We recommend that the FDA:

1. Confirm islet allografts are "minimally manipulated" HCT/Ps as that term is defined in FDA regulations, because they are subject to only short-term incubation prior to allograft infusion that does not alter their relevant biological characteristics.
2. Allow allogeneic islets from unrelated donors to be eligible for regulation as HCT/Ps exclusively under Section 361/Part 1271, provided that donors and recipients are immunologically compatible as determined by current clinical standards for immunological matching in organ and tissue transplantation.

We recommend that HRSA and the Organ Procurement and Transplantation Network (OPTN) continue to oversee pancreas allocation and procurement and extend its oversight of transplant programs to include those that perform islet transplantation, which would allow HRSA to monitor the outcomes of patients receiving allo-ITx.

The Conclusion:

Allo-islets is a "poster child" for archaic over-regulation. Adjusting the regulation would remove regulatory barriers, reflect our current clinical practice, and deal with our upcoming challenge. ASTS proposes the forementioned updates to current regulations as critical for the renaissance of ethical, safe, effective, and affordable allo-ITx in the United States.