nPOD: Network for Pancreatic Organ Donors with Diabetes

Discoveries with Human Pancreas Tissue

For years, type 1 diabetes (T1D) researchers had to use pancreatic tissues from animals, yielding less reliable information than research using human tissue. In 2007, JDRF disrupted the field with a $7 million grant to start the Network for Pancreatic Organ Donors with Diabetes (nPOD). Today, researchers around the world have access to a growing bank of human tissues from organ donors — speeding the pace of life saving research and discoveries.

How It Works

nPOD is the world's largest tissue bank dedicated to the study of the human pancreas in people with T1D. It collects and processes pancreatic and other tissues from organ donors who had or were at increased risk for T1D and makes them available to researchers. As a result, the number of studies using human samples has increased, helping us better understand how T1D develops and progresses in humans.

> *"Over nPOD's ten years of existence, we have learned a great deal about how T1D develops in the human pancreas. We are seeing a breadth of information coming to the forefront, which will ultimately be used to understand the causes of T1D and a path toward a cure."*
>
> **— Mark Atkinson, Ph.D., Executive Director of nPOD**

Program Goals

- **Expand the bank** of pancreatic and other tissue samples from human organ donors
- **Provide tissue samples to researchers**, anywhere in the world, for the study of T1D
- **Promote collaboration among researchers** to facilitate a comprehensive understanding of human T1D

Sign up! The generosity of people who donate their organs helps scientists accelerate the pace of research and saves lives. Sign an nPOD Organ Donor Card at **jdrfnpod.org/about/organ-donor-registration** and become an organ donor at **organdonor.gov**.

nPOD by the Numbers

Conducting more than **250** studies to unlock the mysteries of the human pancreas

Over **185** original research publications to date

Supports more than **300** researchers working together to find cures for T1D

nPOD Discoveries

Using human donor tissues from nPOD, researchers have unearthed several new scientific understandings of how and why T1D develops:

In many people with T1D, some insulin-producing beta cells survive, even 50 or more years after diagnosis. This may allow scientists to discover what functions endure, how to prevent beta cell destruction and even how to generate new beta cells to reverse T1D.

Insulin-producing beta cells may have the capacity to stave off the immune system attack that leads to their destruction and subsequent T1D. If so, scientists could develop therapies that support and protect beta cells from attack.

In people with T1D, the pancreas is smaller — by about one-third to one-half — than in people without T1D. This suggests that many types of cells in the pancreas are affected by T1D, and opens up new avenues for research on which cells contribute to disease.

Children diagnosed with T1D under age seven develop a more aggressive form of diabetes, losing significantly more of their insulin-producing beta cells, than those diagnosed as teenagers. These findings could open doors to new and different treatments depending on the age of diagnosis.

2020

Every gift takes us one step closer to curing T1D. Find out how you can support JDRF and make a difference in the lives of people with T1D by visiting **jdrf.org/donate**.

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