



JDRF Launches and A New Era of Progress Begins

JDRF's ability to expedite and sustain meaningful scientific progress is made possible by donors like you

1970s

- > Vitrectomy, an early surgical technique to treat the effects of **diabetic eye disease**, is pioneered by physicians at a JDRF-funded ophthalmology research center.
- > JDRF-funded research helps develop the first test to measure long-term blood sugar levels: the **hemoglobin A1C test**.
- > Shift away from urine sugar testing to routine **blood sugar testing**.

1980s

- > **Genetically engineered insulin**—the first human protein to be cloned and made by genetic engineering—is developed.
- > An experimental **insulin pump** is developed, delivering a pre-programmed flow of insulin, with larger amounts before meals.
- > Scientists find that blood sugar control is paramount to healthy **fetal development**.
- > Researchers advance the understanding of the cells in blood vessels that are involved in **hardening of the arteries** (arteriosclerosis) that occurs as a result of diabetes.

1990s

- > Scientists develop a prototype drug that **blocks glucose from plugging blood vessels**, the main cause of vascular narrowing resulting from diabetes.
- > The relationship between diabetic retinopathy and **glycosylated hemoglobin** levels is established.
- > The success rate of **pancreas transplants** increases, as scientists advance the procedures for transplanting whole or partial pancreases.

2000s

- > Research shows that insulin itself is a **key target in the autoimmune attack** on beta cells.
- > Researchers discover that adult insulin-producing beta cells have the **ability to successfully replicate**.
- > JDRF-funded study shows use of **continuous blood sugar monitors** improves T1D control in adults.

2010s

- > First **artificial pancreas systems** are marketed and being used around the world.
- > JDRF-funded company **implants first people** with experimental encapsulation product.
- > **First new therapy in 15 years** for diabetic macular edema approved—based on JDRF-funded research.
- > First experimental **smart insulin product** advances to clinical testing.