



## OUR RESEARCHERS | DR. JENNIFER BRUIN

**Thank you for your generosity. Diabetes Canada is grateful to our donors for supporting critical research that will end diabetes.**

**Through your support, Dr. Jennifer Bruin, associate professor at Carleton University, is bringing us one step closer to better health outcomes for cancer survivors with diabetes.**

In healthy individuals, blood sugars are controlled by a hormone called insulin, which lowers blood sugar levels. Insulin is produced in the pancreas by cells called beta cells. For people with type 2 diabetes, they can no longer produce or use enough insulin to control their blood sugars, which can lead to health complications such as nerve damage, blindness, heart disease, kidney failure, anxiety, amputations, and even death. Nearly 1 in 3 Canadians are living with either prediabetes or type 2 diabetes. Cancer survivors have an even higher risk of developing type 2 diabetes. This is concerning because cancer patients who develop diabetes have higher rates of mortality.

Dr. Jennifer Bruin is investigating whether cisplatin, a medication commonly used to treat different cancers, has unintended side effects on pancreatic beta cells, leading to increased diabetes risk in cancer survivors.

Dr. Bruin has three goals:

1. Investigate how cisplatin disrupts insulin secretion in beta cells.
2. Treat lean and obese mice with either a placebo solution or cisplatin for 2 weeks and assess their long-term metabolic and beta cell health outcomes.
3. Test whether a dietary intervention or treatment with a metformin, a type 2 diabetes medication, at the same time as chemotherapy, protects mice from cisplatin-induced diabetes.

Dr. Bruin's work will provide insight into how anti-cancer drugs negatively impact beta cell health. By better understanding how these drugs disrupt beta cells, she hopes to design targeted treatments to protect beta cell health and function and reduce the risk of diabetes in cancer survivors.

**Thank you for giving hope for a healthier future to cancer survivors with type 2 diabetes.**