

DIABETES CANADA



OUR RESEARCHERS | DR. ELIZABETH RIDEOUT

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

Through your support, Dr. Elizabeth Rideout, associate professor with the Faculty of Medicine at the University of British Columbia, is bringing us one step closer to better management of type 2 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. Type 2 diabetes is caused by several different risk factors, and accounts for 90% of diabetes cases in Canada.

We know that whether an individual is male or female affects diabetes risk: adult men are 40% more likely to develop type 2 diabetes than women. We don't know why.

Dr. Elizabeth Rideout, through the support of Diabetes Canada, is increasing our understanding of why women are protected from diabetes more so than men. Her initial studies in humans and mice show that male and female beta cells are different – beta cells in women survive stress better than beta cells in men, and are better at making insulin in stressful conditions than men's beta cells. Beta cell stress is linked with multiple forms of diabetes. Dr. Rideout will determine whether better stress management may be the reason women are better protected from type 2 diabetes. She will identify which pathways and cellular strategies women's beta cells use during times of stress to maintain the body's insulin levels.

With more clues into how female beta cells respond to stress, scientists can develop better treatments to relieve beta cell stress, improve insulin production, and better manage diabetes in both women and men.

Thank you for giving hope for a healthier future to people with type 2 diabetes.