Alberta Health Services | University of Calgary | JDRF Canadian Clinical Trial Network

News Release

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Moms-to-be with diabetes test monitoring device in study

CALGARY — A new research study underway in Calgary is testing whether a device that continually monitors sugar levels in the blood will help women with Type 1 diabetes who are pregnant, or planning pregnancy, to better manage their condition.

Calgary is the only Canadian site outside of Ontario taking part in the international trial, which is evaluating the effectiveness of using continuous glucose monitors (CGM) in pregnancy. A CGM system consists of a small sensor inserted in the skin of the abdomen that transmits blood sugar readings every five minutes to a monitor similar to a pager.

“By providing regular, nearly constant feedback, a continuous glucose monitor shows women which way their sugar levels are trending and whether they need to take corrective action,” says Dr. Lois Donovan, Medical Director of Diabetes in Pregnancy in the Calgary Zone of Alberta Health Services (AHS), and principal investigator of the Calgary arm of the study.

“To get the most accurate blood sugar level, women still need to manually draw and test a drop of blood, but a CGM may provide a useful cue for when to do that. For example, blood sugar levels can change rapidly during exercise or while eating,” says Dr. Donovan, also a clinical associate professor with the University of Calgary.

Women with diabetes who wish to conceive or are pregnant need to pay close attention to their blood glucose levels in order to keep their babies healthy and avoid complications in childbirth. High blood sugar levels can lead to higher birth weights and potentially difficult deliveries. Elevated blood sugars before conception and in early pregnancy increase the risk of birth defects for the baby.

Type 1 diabetes is an autoimmune disease in which the immune system destroys the cells in the pancreas that produce insulin. Individuals need to take insulin through a needle several times each day to stop sugars from building up in their blood. Over time, high sugar levels can cause complications, such as nerve damage.

Researchers aim to enrol a total of 214 pregnant women and 110 women planning pregnancy to be recruited from 18 centres – eight in Canada and 10 internationally. In Calgary, researchers with AHS and the University of Calgary aim to enrol between 50 and 60 women. About half will receive a continuous glucose monitor and the other half will form a control group that receives the current standard of care.

Individuals in both groups will regularly meet with clinicians, who will help women optimally manage their diabetes before conception and during pregnancy. Those with the monitors will also be encouraged to adjust insulin dosage based on the rate of change of their blood glucose; they will also have data from their devices downloaded for review.

“It’s important to get the message out that we’re really interested in seeing women before they conceive,” Dr. Donovan says. “If we can help women optimize diabetes management prior to pregnancy, it makes for much better outcomes for both moms and babies.”

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Canmore resident Lauren Moore, who is expecting her first child on March 21, is one of the moms-to-be who is using a blood glucose monitor.

“I think the support I get from being in the study has done wonders for my pregnancy,” Moore says. “I’m not as worried about fluctuations in blood sugars that might affect the baby.”

Researchers are also assessing how well women tolerate the use of continuous glucose monitors, which must be reinserted in the skin every six days.

“I had tried a monitor in the past and found the insertion painful, but there have been some improvements since then and it’s a lot easier to use,” Moore says. “Given everything that’s going on, the reminders I get from it are quite helpful.”

For example, Moore says that when she’s exercising in a spin cycle class, she may get a prompt that her blood sugar is dropping, meaning she needs to ease up on the exercise intensity and/or stabilize her blood sugar levels with a glass of juice.

The study is supported by the Juvenile Diabetes Research Foundation and the JDRF Canadian Clinical Trial Network. It is being led out of Mount Sinai Hospital in Toronto. In addition to the Calgary site, the study has collaborating sites across Ontario and internationally in the U.S., U.K., Spain, Italy and Israel.

Women with Type 1 diabetes who are planning a pregnancy or who are pregnant can learn more about the Calgary arm of the study by calling 403-955-8358.

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Alberta Health Services is the provincial health authority responsible for planning and delivering health supports and services for more than four million adults and children living in Alberta. Its mission is to provide a patient-focused, quality health system that is accessible and sustainable for all Albertans.

The University of Calgary is a leading Canadian university located in the nation’s most enterprising city. The university has a clear strategic direction – “Eyes High” – to become one of Canada’s top five research universities by 2016, grounded in innovative learning and teaching and fully integrated with the community of Calgary. For more information, visit ucalgary.ca.

JDRF is the leading global organization funding Type 1 diabetes (T1D) research. JDRF’s goal is to progressively remove the impact of T1D from people’s lives until we achieve a world without T1D. JDRF Canadian Clinical Trial Network (CCTN) is a consortium of Type 1 diabetes research investigators and partner universities working together to find solutions for the management, care and cure of T1D. For more information, please visit jdrf.org and jdrf.ca/cctn/.

For media inquiries, contact:
Greg Harris
AHS Communications
403-943-2911
403-619-3108 (cell)

B-roll showing Lauren Moore replacing her CGM device is available at:
URL: ftp://208.118.126.84
Folder: FMC-continuous-glucose-monitoring
Username: media
Password: share