



TORONTO, Ont. - At 1 a.m. Feb. 13, 2011 Peter Kallaste, 49 of Lakefield Ont. received the most important call of his life. Kallaste contemplates not only arriving at the University of Alberta Hospital, Edmonton within the 12-hour surgical window, but with the hope of becoming diabetes free.

# Searching For Normal

Peter Kallaste, 50, of Lakefield, a recent double islet cell transplant recipient, was diagnosed in 1994 with diabetes type 1.

After 17 years with the disease, Kallaste returned home on April 19, 2011, diabetes free.

The Edmonton Protocol is a relatively new treatment for selected people with type 1 diabetes (brittle diabetics), who are at high risk of hypoglycemia unawareness. Islet cells that produce the hormone insulin are extracted from a deceased donor pancreas and infused into the recipient's liver through the portal vein.

Within hours of the surgery, the islets start producing natural insulin and over a relatively short period of time, the patient's insulin dependency is reduced.

The Edmonton Protocol, developed by Dr. James Shapiro, clinical islet cell transplant program professor, performed the first islet cell transplant in 1999.

Kallaste, patient number 133, and one of 13 from Ontario, received 520,000 islet cells during his first transplant. On March 29, Kallaste received a second infusion of an additional 470,000 viable islet cells.

A normal functioning pancreas will range from a million to million and a half islet cells. Final post surgical results showed that the donor cells were fully grafted and functioning at 100 per cent.

Islet cell recipients are required to stay in Edmonton from a month to two months following the surgery. For the rest of their lives, transplant recipients must follow an intense anti-rejection and immuno-suppressant drug regimen.

Before the transplants, Kallaste was infused with 50 units of insulin daily by an insulin pump. Two weeks following his first procedure on Feb. 14, he was reduced to 14 units a day. Within one week of his second procedure on March 29, he was able to come off the insulin pump and was reduced to four units by injection at breakfast and dinner. By the time he arrived home, he was insulin independent.

"I am really active in sports, at work and around my place at home. I was constantly battling low blood sugars. I feel a great sense of relief knowing that I won't have to face hypoglycemic episodes anymore," Kallaste says.

The transplant procedure is very expensive. Anti-rejection drugs, tacrolimus and cellcept, cost upwards of \$24,000 a year. OHIP does not cover this procedure because they consider it experimental. Kallaste's medical benefit program is covering the full post-medication costs.

"I spent three months liaising with both the Trillium Foundation

and my employment medical benefit provider, to attain coverage before I could confirm my participation in the program.

"I had no idea how my other expenses were going to be covered at the time. All I could think about was the opportunity to become diabetes free," Kallaste says.

Kallaste was placed at the top of the organ transplant recipient list on Nov. 1, 2010. Although he only had a three-month wait, before a donor match was confirmed, he said it seemed otherwise.

"It felt like years and certainly took a heavy toll on me. "I tried not to think too much about being on the list and go about my day-to-day routines. But with this disease, there is not a day that goes by where you don't know you have it," Kallaste says.

"The surgeries went great, but the recovery had been much longer than I anticipated. I was really looking forward to getting back to work and start my new 'normal' life.

"Your hands are kind of tied. I am treated no differently than a heart or lung transplant patient although this procedure is not near as invasive. You have to wait on your medical and rehabilitation team all to concur that it was safe for me to return. I'm back now and I feel great and getting stronger each month," Kallaste says.



Kallaste before the transplants tested his blood 6-8 times daily. Although now insulin independent, he is still required to test 2-4 times a day.



**Link to Multimedia:  
Searching for  
Normal  
One Man's Journey**

Kallaste receives 520,000 viable donor islets cells during his first of two surgeries, infused through the portal vein into the host substitute organ, the liver. He must remain on his right side for a period of four hours. The surgery was performed at the University of Alberta Feb. 14, 2011.



Kallaste takes a moment to reflect on the I.V. bags that contain an intricate anti-rejection and immune suppressant drug concoction that will give his new islet cells a fighting chance for optimum production of insulin hormone.



Six months after two islet cell transplant surgeries, Kallaste was cleared to return to normal activities just in time for the hockey season. "I had to stop playing hockey for the first time in 40 years, but for a really good reason! It was such a great feeling to play the whole game without the fear of having a hypoglycemic episode," Kallaste says after his second game back on the ice Tuesday, Oct. 4, 2011.