

Insulin-Free for the First Time in 26 Years

Wendy Peacock's Amazing Story

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Wendy Peacock, a Texas attorney and mom with severe type 1 diabetes, made medical history in August when she became the first recipient of a breakthrough islet cell transplant procedure developed by the Diabetes Research Institute (DRI) at UHealth — University of Miami Health System.



“I no longer need insulin injections and I can sleep through the night without fear that I’ll have a low blood sugar episode and become unconscious,” says Peacock, who still uses a continuous glucose monitor and will be followed carefully by her endocrinologist and by doctors at DRI. “I have peace of mind. And I’m so excited to be part of this amazing research effort that will hopefully make islet cell transplants more widely available to people with diabetes in the future.”



Left to right: Joshua Rednik, DRIF President and CEO; transplant recipient Wendy Peacock; transplant team: Dr. Camillo Ricordi and Dr. Rodolfo Alejandro

Islet cells, located in the pancreas, produce insulin and other hormones that control blood sugar. In [type 1](#), the immune system mistakenly wipes out most or all of these cells – leaving people like Peacock dependent on insulin injections for life. For decades, researchers have been testing ways to transplant healthy islet cells from a donor pancreas into the body of a person with type 1. In the U.S., where the procedure is still considered experimental by the FDA, the cells are typically transplanted into the liver. But that process ignites a firestorm of inflammation that kills off many of the transplanted cells – leading scientists at DRI and around the world to look for alternatives.

The new [DRI transplant technique](#) that Peacock received plants donor islet cells onto the recipient's omentum – the apron of fat that protects internal organs in the abdomen. The cells are 'glued' in place by a gel made from the recipient's own blood plasma and thrombin, which is used in various clinical procedures to help form clots. This gel, or "scaffold," is a step toward developing the DRI BioHub, a bioengineered mini organ that mimics the pancreas. The omentum is then folded over the cells. It all happens during a short, minimally-invasive procedure. "I think the entire process took about an hour and 45 minutes," recalls Peacock. "It was done laparoscopically, with surgical tools inserted through three tiny incisions in my abdomen. The surgeon told me later that he thinks future surgeries can be done with just two incisions."

A Long Wait, Then a Sunday-Morning Phone Call

Peacock, 43, developed diabetes as a teen-ager. "I had the classic symptoms – thirst I couldn't quench and weight loss despite a huge appetite," she says. "My mother realized something was wrong. I ended up in the hospital on my 17th birthday with blood sugar readings over 700 (a normal, fasting blood sugar level is below 100 mg/dL)."

After that, daily life involved carefully calibrating her insulin injections, matching the dose and insulin type to her blood-sugar readings, diet, activity level and time of day—but low blood sugar episodes became more frequent and dangerous by the time she was in her 30s. "I got up at 2 a.m. every night to double-check my blood sugar and boost it if needed, but sometimes it would drop after I went back to sleep," she says. "At times, my blood sugar dropped close to 20 mg/dL. If it kept dropping it could be fatal. With a young child, that was frightening. As a mother, you have to know you'll be healthy and able to take care of your family."

Peacock eventually moved in with her parents. "My mother would get up with me at night to be sure I was OK," she says. "Now she gets a good night's sleep, too."



Curious about advanced diabetes treatments, Peacock first learned about islet cell transplants more than a decade ago. “I was tested to become a transplant candidate, but my own islet cells were still producing a little bit of insulin so I wasn’t accepted,” she says. “I checked back in 2013. Testing in February 2014 showed that my own cells were not producing insulin anymore. I was a candidate! The doctors told me about this new procedure. When the FDA approved it as an experimental procedure, I was put on a waiting list for donor cells.”

A fully-charged cell phone was by her side almost all the time. “When I was at the gym, if I didn’t have my phone with me, my parents made sure they had their phones with them,” she says. “The call could come at any moment. I kept a bag packed.”

Islet cells for transplant, which come from the pancreas of a deceased organ donor, have to be compatible, healthy, and transplanted as quickly as possible, she explains. “It’s like any other organ transplant. When they become available, you have to go.” After a false alarm in July of 2015 (“I got the call, but the scientists determined that the cells weren’t right for me,” she says), the phone rang at 8:15 on a Sunday morning in mid-August. Peacock, her parents Will and Sue and her five-year-old son John Paul were getting ready for church. “By 12:30 my father and I were on a plane to Miami,” she says.

“I’m so fortunate that my son could stay with my mother and that my father came with me. I would be staying in Miami for four weeks and it was great having his support and company.”

Preparation for the transplant began that evening. Peacock checked into Miami’s Jackson Memorial Hospital and began receiving immune-suppressing drugs so that her body wouldn’t reject the new cells. (She’ll continue taking anti-rejection drugs for life.) Her blood was drawn to create the custom-made gel “scaffold” for the transplant. At the same time, scientists at [DRI](#) prepared the donor islet cells. The transplant spreads about a half-million islet cells over an area of omentum the size of an iPhone. “The hospital shared some of the story of the donor with me and I’m immensely grateful to that family,” Peacock says. “It’s almost overwhelming to think that out of their grief, they made a generous decision that will bring great joy and health to another person and to another family – and to lots of others in the future as well.”

DRI Director Camillo Ricordi, MD, transplanted the cells in collaboration with endocrinologist Rodolfo Alejandro, MD, director of the DRI Clinical Cell Transplant Program; surgeon Gaetano Ciancio, MD, director of Urologic Transplant Surgery; and laparoscopic surgeon Jose Martinez, MD, Co-Director of the Center of Excellence for Laparoscopic and Minimally Invasive Surgery at the University of Miami Health System.

Her blood sugar was tracked constantly after the transplant, as doctors began carefully reducing her insulin dose. “The donor cells had insulin in them and began working right away,” she says. “So my doses were cut back further and future.”

The Big Day

A few days after the transplant, Peacock moved to a hotel within walking distance of the hospital. “We were in Miami and we did a little shopping and sight-seeing, but I wasn’t really in tourist mode. The doctors recommended avoiding crowds because my immune system was suppressed and I needed to avoid infections,” she explains. “My father and I mostly relaxed at the hotel. And I returned to the hospital frequently for checks.”

After about two weeks, doctors gave Peacock the big news: She no longer needed insulin injections. “I

was scared,” she says. “I had been using insulin for more than 20 years. I was afraid I would go low or go high. I said ‘Are you sure? Is it too soon?’” she says. “But my blood sugar was fine.” She also met many of the DRI researchers who’ve spent decades studying islet cell transplants. “I was invited to a staff meeting. When the door opened and I saw this huge table packed with people, it just clicked – this work takes tons of people and many years. The scientists, doctors, nurses and other staff were so compassionate and so caring. They’re still reaching out, to see how I’m doing on a personal level.”

Peacock will return to DRI several times in the next year for follow-up appointments and will continue monitoring her blood sugar and seeing her own endocrinologist. The long-term effectiveness of the new procedure is unknown; in long-term studies of islet cell transplants to the liver, some people still require no insulin injections after more than 10 years while others need some insulin, but make enough of their own to avoid severe hypoglycemia. And in others, the donor cells eventually fail.

“Even if I need insulin injections again in the future, this is worth it,” Peacock says. “My health will be better and my life is better because the donor cells are working. I’m more relaxed. If I want to go to the park with my son or out for a jog, I don’t have to carefully figure out first whether I need to eat something or inject something. I don’t have to worry about leaving a meeting or an event that’s running long so I can check my blood sugar. I’m not eating ice cream yet – I still eat carefully and in a very healthy way – but I have new freedom. If I want to take a weekend trip with my son, it will be easier to just pack up and go.”

If you are interested in participating in the trial Peacock participated in, or possibly future ones, the DRI is accepting applications for [enrollment](#) on their website.