

# Aaron I. Vinik, MD, PhD

In the early 1980s, Vinik was among the researchers who induced islet growth.



**1. What is the current focus of your research?** Here at the Strelitz Diabetes Institute in Norfolk the research division has two areas of focus: One is the ability to induce islet neogenesis or beta-cell regeneration from proto-differentiated stem cells as a means of curing at least some people with diabetes. The second is neurovascular dysfunction: This encompasses abnormalities involved in nerve perfusion and the ability to induce nerves to recover – if not regenerate – in the treatment of diabetic neuropathies.

**2. Throughout your research in diabetes, what would you consider the biggest surprise of your career?** I call this our discovery of serendipity. In the early 1980s we were trying to induce inflammation of the pancreas to try to understand why the process becomes inexorable. Once initiated, it proceeds at its own rate and nothing reverses it. We wanted to create a model similar to the Goldblatt kidney, in which we partially obstructed the pancreatic ducts hoping to create pancreatitis. Instead of creating pancreatitis, we induced new islet growth. We stopped all of our pancreatitis work and we began working on islet regeneration. Our first papers in 1982 and 1983 showed that you could regenerate islets, and at that time we were called heretics. Now, 20 years later, we say isn't it incredible, islets regenerate.

**3. Do you have any heroes or role models?** One of my mentors, WPU Jackson, was an incredible fellow. I coauthored my first textbook on diabetes with him. From him I got a great sense of inquiry. During the war years his career in medicine was interrupted by being drafted into the army. Instead of wallowing in despair, he focused his attention on the flu epidemic. He based his PhD thesis on the flu and how it affected the soldiers during the war. He treated every situation as an opportunity to expand his knowledge and understanding.

Another important role model was Bill Hoffenberg. He was extradited from South Africa, taken under house arrest right in front of my eyes. His crime was that he was moving people to rebel against apartheid. He became incredibly successful in British medicine and the British even saw fit to knight him for his contributions to endocrinology. He was an incredible powerful force, and he mentored me for my PhD thesis. He and I wrote the very first paper on the use of beta-blockers and hyperthyroidism.

**4. What do you find the most challenging about the field?** On January 11, 1922 Leonard Thompson received the first shot of insulin, and everyone said diabetes is cured. That was only the first form of symptomatic therapy for diabetes. For the next 80 plus years people have been addressing the symptoms of the disorder. So the challenge is to change the biology of the disease. We have to understand it better and then address correcting the disorder at its roots. Therefore our approach to curing diabetes is to regenerate new islets that have succumbed to the assault of the disease process. For neuropathy we would like to grow back nerves, not simply just treat pain.

**5. In what ways do you believe the specialty will evolve in the future?** Until now, we have been too wrapped up in our small little cocoons and we have not had this ease of information dissemination and the utilization of global resources. The exciting thing now is that things can happen in Taiwan and I can know about them within minutes. The uniqueness of any presentation you see does not have to go unanswered. The ability to deal with it does not have to go unanswered.

Now information transfer and its application to this incredible discipline of ours, endocrinology, metabolism and diabetes, is allowing us to be so much better than we have ever been. I love the ability to see something in clinic and just to sit on the computer for 5 minutes and get the information needed to deal with it in a much more complete and intellectually satisfying manner and delivering care with a universally rational and acceptable knowledge database and rationale. The same of course applies to question in research. The ability to immediately translate new findings into research quality care is going to be most fulfilling, to me personally.

**Bonus question: What is something that most people are surprised to learn about you?**

I am a highly competitive windsurfer! ■