

In 1889, two German researchers, Oskar Minkowski and Joseph von Mering, found that when the pancreas gland was removed from dogs, the animals developed symptoms of diabetes and died soon afterward. This led to the idea that the pancreas was the site where "pancreatic substances" (insulin) were produced. Later experimenters narrowed this search to the islets of Langerhans (a fancy name for clusters of specialized cells in the pancreas). In 1910, Sir Edward Albert Sharpey-Shafer suggested only one chemical was missing from the pancreas in people with diabetes. He decided to call this chemical insulin, which comes from the Latin word *insula*, meaning "island." Eli Lilly went on in 1922 to sell the first commercially available biosynthetic human insulin under the brand name Humulin. Insulin now comes in many forms, from regular human insulin identical to what the body produces on its own, to ultra-rapid and ultra-long-acting insulins. From Humalog to Novolog and insulin pens to pumps, insulin has come a long way. Something truly miraculous. So, what's next for insulin?