



*100 Reasons Why*

we are grateful for the  
discovery of insulin



SANOFI



## CHAPTER 4

### *Starting Insulin*



Visit <https://www.sanofi.us/en/about-us/our-stories/making-a-difference/american-diabetes-month> to read additional stories from others living with, caring for or committed to people with diabetes.



Visit <https://www.teamingupfordiabetes.com/> for diabetes facts, videos and resources to help you build a diabetes management game plan.



Whilst I had spent many years working in the field of diabetes in Senior Commercial roles and considered myself knowledgeable in the area, my view of diabetes changed in April 2016. That was when my daughter Emily, then 8 years old, was diagnosed with type 1 diabetes. I had noticed some of the 'classic' symptoms during Easter vacation: thirst, constant trips to the restroom, unstable emotions, but the piece that surprised me the most was how these developed rapidly over a period of only a few days. Emily was admitted to the hospital and those first few days were hugely confronting for the whole family. We were overwhelmed by the amount of new information and adjustments we would need to make to our lives. Whilst Emily was understandably upset, she was brave enough to inject herself with insulin for her second dose. Whilst writing this, the courage she showed to take this on over those first few hours, days and weeks still comes flooding back to me with a lot of emotion.

Emily is now 13, reassuringly doing well, and thanks to advances in treatments is well controlled on meal-time (analog) insulin and a pump, as well as benefiting from her Continuous Glucose Monitoring (CGM). We are very grateful that we live in a period 100 years after the discovery of insulin where we have access to great medicines, new technology, supportive companies and outstanding care from the doctors and nurses we work with. Whilst I will live the rest of my life as a worried parent, I feel hopeful that there are many advances yet to come to help people living with diabetes.

## Chris Boulton

Head of US Diabetes at Sanofi and  
Care Partner to daughter, Emily







## Larry Gottlieb, MD

Diagnosed with diabetes in 1971



In the summer when I was 40 years old, I was on a fishing trip with my family in Minnesota and experienced increased thirst and frequent urination. When I returned home, I tested my urine and it was positive for glucose. I then ran a blood glucose test and it was elevated. I should explain that I am a physician and was director of the hospital laboratory. I knew that I had diabetes and made the decision to treat myself. There is a saying in medicine that a doctor who treats himself has a fool for a patient. After a relatively short time, I realized that this was true for me and requested a friend who was an internist to treat me. This was effective. Early on, I was treated with oral medication and did relatively well, but as time progressed, my control was not good and when I started to see a young endocrinologist - just out of her fellowship - she put me on insulin and my diabetes responded well. I have been on insulin ever since (50 years now), and that young endocrinologist recently retired.





## *Garland Stephens*

Diagnosed with diabetes in 2003



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The day I was diagnosed, I was placed on an insulin drip and rushed to a naval hospital. Earlier that day, on active duty and stationed at the Defense Intelligence Agency, I had walked into the clinic on Bolling Air Force Base to see my doctor. I assumed my visit was for an over-active bladder. Boy, was I surprised! He took blood and urine samples, and my blood sugar reading was 800. I was rushed to the ICU with an insulin drip attached to my arm. I spent 36 hours in the ICU until my blood sugar fell to 400. I had no idea what diabetes was, but I was about to learn. They sent me to a diabetes ward that was filled with other people with the same diagnosis. I attended classes and was taught about the disease and how to control it. Every human body is different, and for me insulin would be the way to control my diabetes. Unfortunately, taking insulin meant that I would have to retire from the Navy. That news was crushing - having to leave the service that I loved so dearly. I did not want to see or hear from anybody, except my wife. It took 7 days to get my blood sugar under control before I was able to leave the diabetes ward. My regimen consisted of sliding scale insulin and long-lasting insulin. It still hurts leaving the Navy in the middle of a very bright future.



I was 18 years old. I'd been having the typical symptoms of diabetes for months but not recognizing a single one: thirst, losing weight, fatigue. And what 18-year-old girl wouldn't relish that middle one? One of my other symptoms was horrible leg cramps in the middle of the night. I had one at my parent's house while on break from my university. I screamed in pain and my mother came running. "We're going to the doctor in the morning!" she said, and then life changed. I was diagnosed with type 1 diabetes and put in the hospital for four days. I learned to inject first oranges, then myself, with insulin. Life felt as though it was beginning and ending all at the same time. One day ago, I was a freshman in college, the next a person with an incurable illness who'd have to take shots for the rest of her life. My doctor told me all the complications I was going to get. Remarkably, nothing he predicted came true.

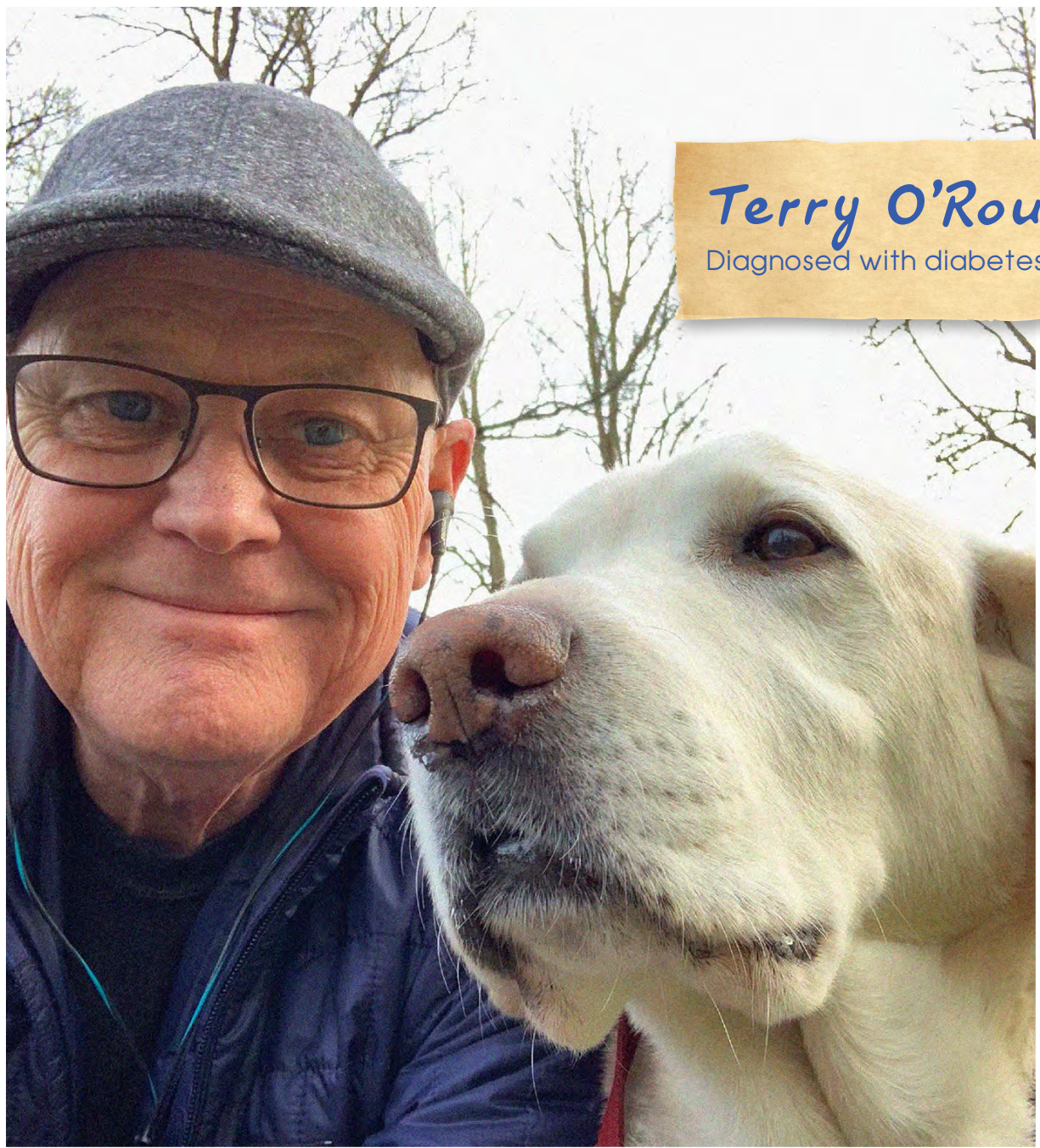
I have lived with diabetes less well in the beginning and very well now. While anyone diagnosed with type 1 diabetes today benefits from so many advances in medicines, devices and knowledge, I benefit from 'historical gratitude' - I am grateful for each of those advances. Take care of yourself and you may just be sitting on a bright horizon; that's how it looks from my 49 years with diabetes.

## Riva Greenberg

Diagnosed with diabetes in 1972







*Terry O'Rourke*

Diagnosed with diabetes in 1984

My first injection of insulin lit up my body with energy that I hadn't felt in months. Until that moment, I hadn't fully appreciated just how much energy my uncontrolled diabetes drained from me. I soon learned, however, that insulin therapy also brought with it a significant hazard. That hazard materialized as I sat on my hospital bed and struggled to voice my thoughts. I felt irritable, threatened and sweaty. Juice quickly appeared and drinking it extinguished the hypo. This hypoglycemia quickly and dramatically outlined the metabolic challenge I now faced while running my metabolism in manual mode. Timing insulin is a fine art worth learning. Thirty-seven years later, I am adept at living life between the boundaries of high and low blood sugar levels. I first saw insulin as a lifeboat, but now I see it as a sleek tool that can be fashioned to not only produce excellent metabolic outcomes but also an excellent quality of life. Like many tools, it also requires vigilance, persistence, and discipline to use well.

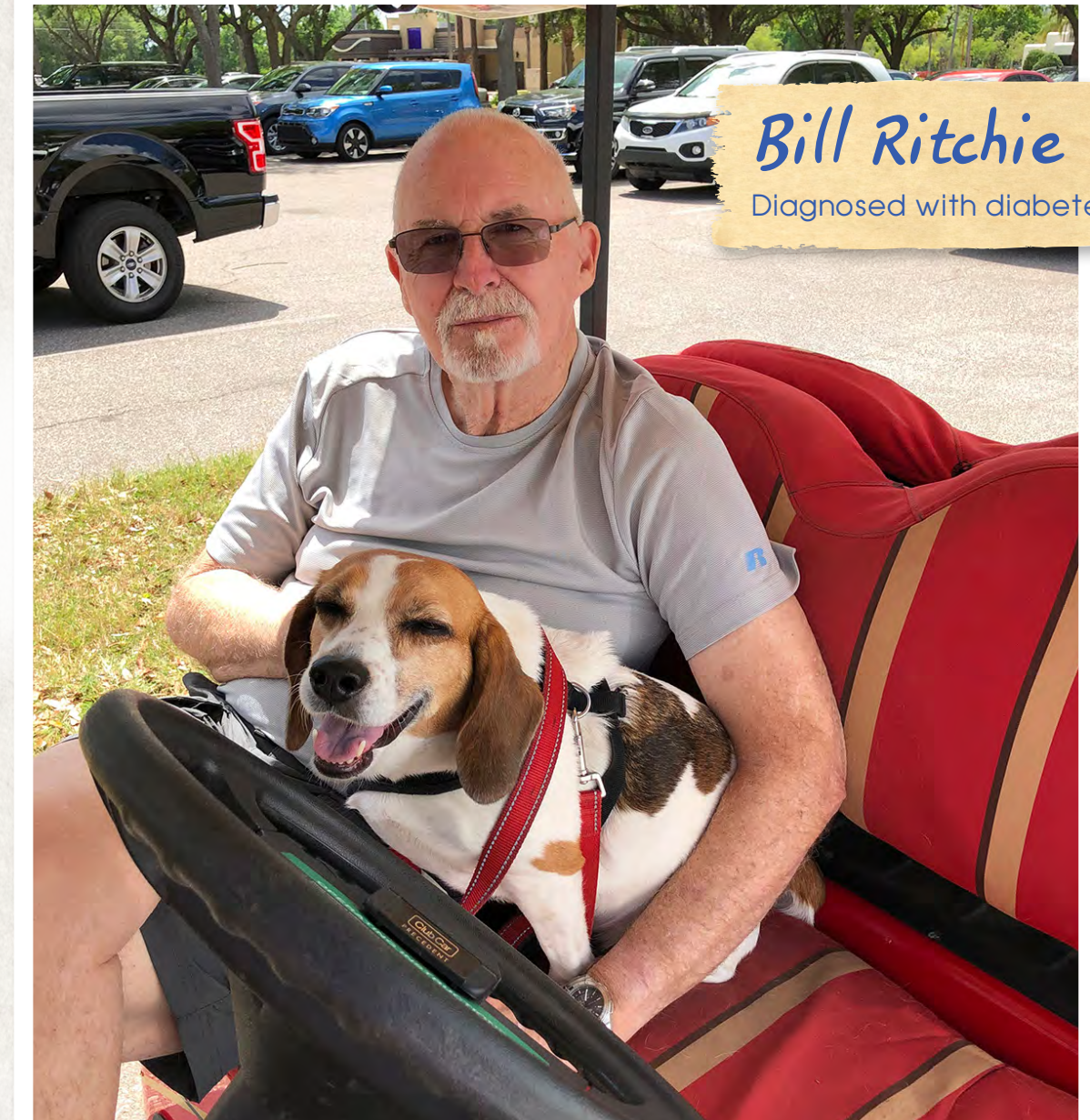






I was in the hospital recuperating from liver transplant surgery when I first injected insulin. At that time, my body was not making any insulin, so I needed four injections a day. I was told that I could not go home until I could take care of my insulin needs. My diabetes educator showed me how to inject the insulin into my stomach with a 32-gauge needle that was  $\frac{3}{8}$  inches long. She used my arm and it was virtually painless; I hardly noticed when the shot was given. When it was my turn to do the injection, I raised my hand holding the syringe with the tiny needle a

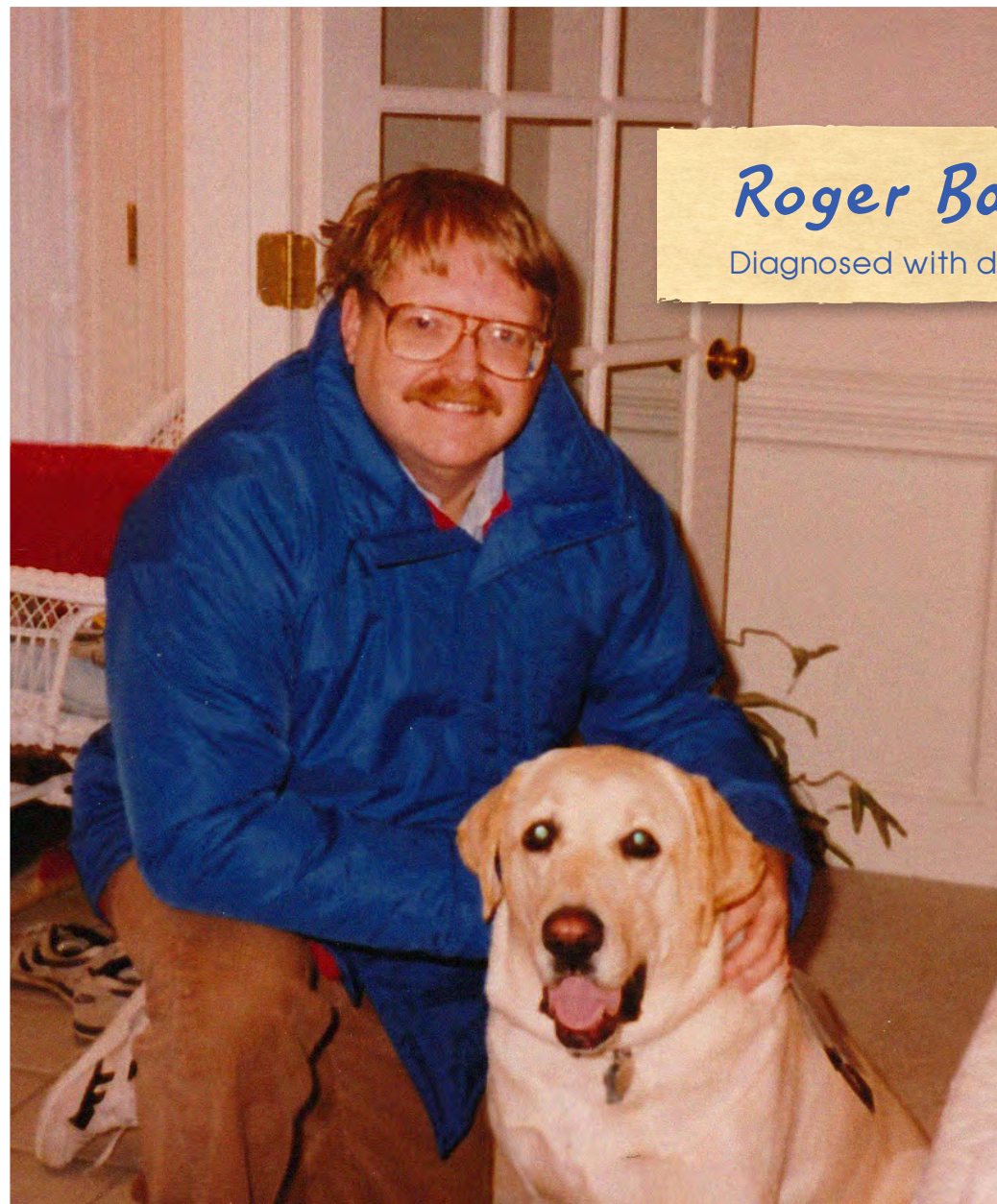
foot above my stomach and planned to insert the needle. But something amazing happened! As if a force from above, my hand stopped an inch or so above my stomach without inserting the needle. I laughed and tried again. Same result. My stomach was completely numb due to the surgery, so there could not be any pain. After the fourth embarrassing failure and being furious at my stupidity, I enthusiastically jabbed the needle into my amply padded stomach. My educator politely and quietly said, "It isn't necessary to inject the syringe, Mr. Ritchie, only the needle." Now after 13 years, insulin injections are so routine that it is like putting on my shoes.



*Bill Ritchie*

Diagnosed with diabetes in 2008





## Roger Baird

Diagnosed with diabetes in 1989

After fourteen years of successfully managing my diabetes with diet, exercise, and oral medications, I experienced six months of increasing A1c values. My oral medication dosages were maxed out, exercise levels were the same, and diet had not changed.

After I expressed my frustration, my doctor simply said, "We always have insulin." This wasn't the answer I was looking for. When I was younger, I had known people who really struggled to manage their diabetes with insulin. Highs, lows, hospitalizations - it just seemed to be the worst life possible. I begged for three more months to get my sugars under control.

My attempt to get my sugars under control was futile, but I did start researching how insulin therapy had progressed. New, synthetic insulins had sharply reduced the unpredictability of the old, animal-based insulins. Maybe it was something I could do, and probably should do.

On my next visit, I told my doctor that I had decided it was time to start insulin as he had previously recommended. His response was to hand me a bottle of a new basal (long-acting) insulin and march me down the hall to one of the diabetes nurses to learn how to do self-injections. I left the office with a prescription, a set of instructions and an appointment in three months.

Within a couple of weeks my fasting sugars were within my target range, but the rest of the day was still looking like before. On my next visit, I asked if a mealtime insulin would be right for me. My doctor was a little hesitant but decided to prescribe based on my enthusiasm toward my home care diabetes management. Within three months, my blood sugar control was excellent and I have never regretted my decision.



During an office visit in 2004, my doctor suggested I switch from my oral medication to insulin. Both my blood sugar numbers and A1c were high. I knew

that if I wanted to better manage my diabetes, I needed to take this step. I am not squeamish about needles, so I had no fear of the injection. My fear was about my ability to accurately carry out all the steps involved in giving a shot and using insulin. I knew that I would need to be more diligent in testing my blood sugars, in making healthier food choices and in keeping records (which is key to understanding the impact of actions on blood sugar

levels). The lab tech, who was teaching me to inject saline into a "test ball," was kind and funny. After several successful tests, I gave myself my first insulin injection. Relief, exhilaration, confidence were felt immediately! He then told me he injected insulin also and that he knew I could do this. He took the time to talk to me about the "dos and don'ts" of using insulin, gave me some educational brochures and said, "I am here for you. Call me any-time." He became my first accountability partner and is one of the reasons for my successful journey.



*Ann Gann*

Diagnosed with diabetes in 1994



## Patti Wong

Care Partner to daughter, Kat



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As a parent of a 3-year-old who was diagnosed with type 1 diabetes, the first injection was a powerful memory. It has been almost 22 years, but that day is one I will never forget. My daughter had been diagnosed the day before and we were overwhelmed as we knew nothing about diabetes. On day two of our hospital stay, we were met by two Certified Diabetes Educators to go over her treatment plan, learn how to carb count and yes, the inevitable first insulin injection by me. My husband and I were first trained on oranges.

Learning the hows and whys came gradually. We learned Kat no longer made insulin and this was the key to keeping her alive. That was a very scary thought.

I remember she began to feel better once she started receiving insulin injections and she just wanted to go home. I will be forever grateful for this lifesaving liquid.



I actually asked to be put on insulin! After reading about the disease and talking to other patients about diabetes, I convinced myself it was what I needed, so I made it a priority to talk with my healthcare team to see if insulin could be right for me. After a discussion with a clinical pharmacologist I was seeing, we decided I should have a C-peptide test done before insulin was prescribed. That test revealed that I wasn't making any insulin at all! I started on multiple daily injections that afternoon and haven't looked back since. I tell people with diabetes that getting on insulin should not be a last resort but should be a discussion to have with their doctor to see if insulin is right for them. I didn't feel like a failure when being put on insulin... it just made sense to replace the hormone I was missing, and I embraced it. I am now on an insulin pump, and the technology is getting better all the time.

You couldn't ask for a better time to be on insulin.



## Stephan Ellis

Diagnosed with diabetes in 2003





When I was first told that I had diabetes, my doctor put me on two different pills; however, they were not working for me. I spoke with several friends who have diabetes and they suggested I talk with my doctor about an insulin regimen. During my next doctor's visit, I asked to start insulin. My doctor was surprised that I asked, but he agreed it was the right thing for me. We experimented until we found one that worked best for me. This was in 2003, and I have been on the same regimen since. Insulin has given me much more freedom. Now I am using a pump which is even more convenient. It has truly changed my life in the best way. Even today my doctor calls me his "poster boy" because I am in great control. And I have insulin to thank for that.

## Frank Atherton

Diagnosed with diabetes in 2000





## Ken Kortas

Sanofi Senior Medical Science  
Liaison, Diabetes  
Diagnosed with diabetes in 1964



I was diagnosed with type 1 diabetes in 1964. At that time, for each insulin injection, you would boil the glass syringe and plunger as well as the 26-gauge needle for 10 minutes. Then, after cooling off and putting the syringe and needle together, you would draw up both the U40 Regular and U40 NPH insulin (70% Beef and 30% Pork animal insulin) and inject before breakfast. After the injection, you would use a thin metal wire to clean out the needle as well as a sharpening stone to sharpen the needle for your next injection before dinner, where you would go through the entire process again. Quite a difference from the insulin pens, disposable syringes, insulin pumps, patches, pods, inhaled insulins, and other devices we use today.



Sugar testing was also quite different from the CGMs and finger sticks we use now; we would have to test the urine for sugar (which was a rough estimate for calculating your insulin dose) with a "double void" (i.e., testing your second urine specimen) in the morning. We fortunately have come a long way from the initial discovery of insulin 100 years ago - a life-saving drug for all with type 1 and many with type 2. I cannot give enough thanks to everyone over the years who has helped me live with type 1 diabetes, especially my mother, my friends and my colleagues!





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