

## Checkup Diabetes: the latest research and treatments at UC San Diego

By Scott LaFee | September 25, 2013

**D**iabetes is a monumental public health issue, not just because millions of Americans have been diagnosed with the metabolic disease, but also for the many more millions who either remain undiagnosed or have signs suggesting they will likely become diabetic.

According to the American Diabetes Association, 25.8 million children and adults in the United States – 8.3 percent of the population – have diabetes. That covers 18.8 million people who have been diagnosed and an estimated 7 million more who have not. Another 79 million people are believed to be prediabetic: They have higher than normal levels of blood sugar, but not yet high enough to be classified as type 2 diabetes. (Generally speaking, experts say that without intervention prediabetes is likely to become full-fledged diabetes in 10 years or less.)

Type 1 diabetes is an inherited autoimmune disorder in which insulin-producing beta cells in the pancreas are destroyed. Insulin is a hormone critical to the regulation of cellular metabolism, particularly how cells absorb glucose or sugar from the blood. Only about 10 percent of diabetes cases are type 1.

The vast majority of diabetes patients have type 2, which is characterized by insulin resistance. Basically this means insulin doesn't/can't do its job adequately, and blood sugar levels rise to unhealthy levels. Obesity is thought to be the primary cause of type 2 diabetes. The long-term consequences are serious. Diabetes is a major risk factor for heart disease, stroke, vision loss, kidney failure and poor blood circulation that leads to amputations.

UC San Diego Health is among the leaders in the study and treatment of diabetes. For example, in its most recent rankings, *U.S. News & World Report* rated UC San Diego Health's diabetes and endocrinology services [29th](#) [↗](#) in the nation, out of more than 5,000 hospitals evaluated.

Here's a quick look at some of things happening at UC San Diego, both in the clinic and in the lab:

### Treatment

- → Rare, rushed visits with a doctor benefit no one. An emerging alternative is the "shared medical appointment" during which you and a small group of patients with similar health issues meet for 90 minutes with a doctor and a multidisciplinary health care team. You

accomplish the same goals of an individual appointment with the added benefit of receiving more discussion with your doctor and support from others. Diabetes is one of the conditions in which shared medical appointments are now offered through [Steven Edelman, MD](#). Read more about shared medical appointments [here](#).

- → Standard treatment for type 2 diabetes involves getting to and maintaining a healthy weight. Often this can be achieved through diet and exercise, but weight loss surgery is an appropriate option for some patients. [The Bariatric and Metabolic Institute](#) at UC San Diego has weight loss down to a science. You can read more about treating diabetes through weight loss surgery – and watch a video by pioneering surgeon [Santiago Horgan, MD](#), [here](#).

## Research

- → UC San Diego scientists at the Pediatric Diabetes Research Center (PDRC) have shown that a particular protein is essential to the health and functioning of beta cells in a mouse model. The findings help explain how diabetes begins, and could help in developing preventive measures. [Read more.](#) [↗](#)
  - → UC San Diego scientists, led by PDRC director Maike Sander, MD, are exploring how to stimulate regeneration of new beta cells using stem cell technologies. [Read more](#) [↗](#).
  - → Diabetes can be a manageable chronic disease, but it takes serious, consistent effort by patients and physicians. Researchers at UC San Diego School of Medicine are investigating how social media might help by evaluating a new Facebook-like application called Wellaho that aids better communication between doctors and fellow-patients and coordinates treatment and care. [Read more.](#)
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