

Knowing your Type

New studies suggest a cure for diabetes is on the horizon. In the meantime, awareness and prevention are the keys to keeping the disease at bay.

THE SPECIALIST: Dr. Derek LeRoith

Dr. Derek LeRoith, an endocrinologist, has spent more than 25 years conducting diabetes research and teaching at the National Institutes of Health. Originally from South Africa, he has been at Mount Sinai since 2005.

► THE BIG STORY

A study conducted at the Harvard Medical School in Boston is offering hope to those who suffer from diabetes, a disease where the body can't properly produce or convert insulin, needed for energy. A cocktail of drugs given to mice suggested a halting of the disease. Meanwhile, more new research suggests both frog slime and black tea can help treat diabetes. But according to LeRoith, the management of diabetes is the number one thing. "There are no miracle cures coming down the line," he says.

► WHO'S AT RISK

Diabetes divides into two major categories — Type 1 and Type 2 — which affect different groups of people and may have different symptoms.

About 10% of American diabetics have Type 1, which used to be called "juvenile diabetes" because it commonly starts in childhood. "A Type 1 is a youngster who has to take insulin because their pancreas has stopped working and no longer makes insulin," explains LeRoith, "it's mostly Caucasians." Although most Type 1 diabetics develop the disease during childhood or adolescence, it is possible to develop the disease at any age.

The vast majority of Americans with diabetes have Type 2, which doctors used to call "adult onset diabetes" because it usually manifests itself when patients are in their 40s or 50s. Type 2 diabetics still produce insulin, but their bodies don't respond well to it anymore. "Type 2 runs in families, and has a very strong genetic component," says LeRoith. Overweight and obese individuals are most at risk to develop Type 2. "If you take 100 obese individuals, about 20% will develop diabetes," says LeRoith.

Hispanics, African-Americans, Native Americans and Indian-Americans have a very high incidence of Type 2; white Americans also have a high incidence, but not as high as these groups.

► SIGNS AND SYMPTOMS

The two types of diabetes can also manifest themselves in different ways. LeRoith describes a common scenario for a Type 1: "The young individual can rapidly lose weight, become thirsty, pass volumes of urine, and end up going to the emergency room for extreme distress as result of these symptoms."

Adults with Type 2 often suffer for many years before they are correctly diagnosed. "Sometimes, we can determine that a patient has had diabetes for five years without knowing it," says LeRoith. Type 2 shares some symptoms with Type 1 — ex-



Mount Sinai's Dr. Derek LeRoith encourages screenings for those with family history of diabetes.

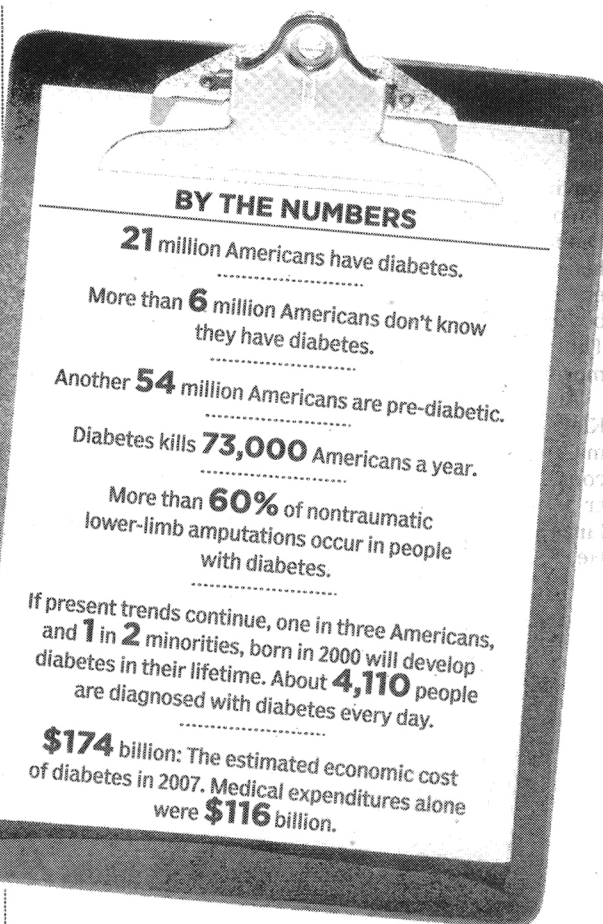
treme thirst, and waking up at night to pass urine — but it also has other warning signs like neuropathy, a condition where a nerve in the legs starts to deteriorate, which can feel like pins and needles. Type 2s can also have high lipids in their blood, or high blood pressure for years before they show other symptoms. "Sometimes, a heart attack can be the first sign," say LeRoith.

► TRADITIONAL TREATMENT

The essential first step in getting treatment is diagnosis, which for diabetes is a straightforward process: a blood sugar test determines if you have diabetes or pre-diabetes. (Pre-diabetes, LeRoith explains, is "somewhere between normal and diabetes.")

Type 1 diabetics must take insulin via a pump or injection in order to survive. Most Type 1 patients start by taking insulin twice a day, and progress to taking it three or four times a day.

Type 2 diabetes is treated with a combination of lifestyle changes and medication. "Type 2s have a diet and exercise regi-



men, and often take an oral tablet to get their blood sugar down," says LeRoith. "They may take insulin injections, but usually only years later." Patients usually can keep diabetes in check if they stick to this regimen. "It has good results," LeRoith says. "We can use single tablets, or two and even three tablets together, and get good results if the patient is compliant." In other words, if the patient sticks to a healthy diet, exercises, and takes the pills as directed.

► RESEARCH BREAKTHROUGHS

A recent Australian study found that bariatric surgery, or "weight-loss surgery," is much more effective at treating diabetes than the traditional regimen of diet, exercise and medication. The doctors conducting the study found that the surgery worked better because those patients lost far more weight than the patients who were trying to lose weight through diet and exercise. But the long-term effects and success of this treatment are not yet known.

► WHAT YOU CAN DO

■ Prevent the disease.

Because diabetes is most often triggered by obesity, adopting a healthy lifestyle is the key to prevention. LeRoith is blunt: "You have to take care of weight and exercise."

■ Be informed.

A good place to start is the American Diabetes Association, at diabetes.org.

■ Watch the indicators.

Patients should be screened every year for the indicators: overweight, blood pressure, lipids (triglyceride and cholesterol) and blood sugars.

■ Know your family history.

"We are looking at families that have obesity or diabetes," says LeRoith, "and trying to prevent the child from developing it too."

► QUESTIONS FOR THE DOCTOR

Because diabetes is so preventable, you should enlist your doctor's help in stopping the disease before it starts. If you don't have full-blown diabetes, ask your doctor, "Could I be pre-diabetic?" If you are, ask your doctor to help you develop a plan to keep your diabetic tendencies under control.

Another good question is,

"What are my numbers?" It's essential that you and your doctor monitor the key indicators (overweight, blood pressure, lipids — triglyceride and cholesterol — and blood sugars). Dr. LeRoith recommends that patients keep a copy of this information at home. "If you're computer-wise," he says, "keep an Excel file, and follow it from year to year." Let your family members know where this information is kept.