

Diabetes

Fact:

If one is overweight, losing even a few pounds can improve blood sugar levels.

Fiction:

It's a myth that type 2 diabetics require a low-sugar diet.

Prevention:

You may be able to prevent diabetes through healthy habits alone.

Treatment:

Effective treatments include a healthy lifestyle and medication.

Diabetes is a problem with the way the body converts food for energy and growth. One of the silent killers, the first sign of untreated diabetes may be a diabetic coma.

Understanding Diabetes

Normally, the digestive system converts part of food into a sugar called glucose. Glucose enters the bloodstream to fuel your cells. For the cells to use the sugar, they need a hormone called insulin that the pancreas produces. Two types of diabetes exist:

- In type 1 diabetes, the pancreas doesn't produce enough insulin
- In type 2 diabetes, the body doesn't respond normally to the insulin your body makes (insulin resistance)

Gestational diabetes occurs during pregnancy and generally stabilizes after childbirth.

In diabetes, the cells don't get enough sugar, eventually leading to serious complications such as heart disease, kidney failure, nerve damage, blindness and tissue damage due to circulation problems.

About Type 1 Diabetes

Type 1 diabetes affects 10% of diabetics—up to a million people in the U.S. Also known as insulin-dependent diabetes mellitus (IDDM) or juvenile-onset diabetes, type 1 usually develops before age 30. The body's own immune system, perhaps triggered by a virus, attacks and destroys the insulin-producing cells of the pancreas. The body does not make enough insulin, so the body cannot turn blood glucose into energy without injections of insulin. Type 1 diabetics must receive insulin daily for life.

Symptoms develop abruptly and include:

- Thirst, dry mouth and dehydration
- Frequent urination
- Extreme hunger
- Unexplained weight loss
- Weakness and fatigue
- Inability to pay attention
- Fruity-smelling breath*

Children with type 1 diabetes may develop problems in school and relapse into urinary incontinence after being dry for months or even years.

Although type 1 diabetes runs in families, if one identical twin has this form of diabetes, the chances of the other identical twin being a type 1 diabetic are less than 50%.

About Type 2 Diabetes

Type 2 diabetes, also known as noninsulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes, affects 90% of those with diabetes.* In this form, the body needs more insulin than normal, and sugar builds up in the blood. It occurs most often after age 40 in overweight people, and can often be treated with lifestyle changes alone although about a third of people with type 2 diabetes require insulin injections.

Type 2 diabetes calls for a low calorie diet, but not necessarily a low sugar diet. Blood sugar is often high in the morning even if one doesn't eat at night. The liver releases stored sugar, and can also manufacture sugar from fats. The muscles and other tissues require less sugar during sleep, so sugar builds up.

Symptoms of type 2 develop more slowly than type 1, and include:

- Excessive thirst
- Frequent urination
- Blurred vision
- Recurring bladder, vaginal and skin infections
- Slow-healing sores
- Irritability
- Tingling or loss of feeling in hands or feet**

Chances of type 2 diabetes increase with a family history of diabetes or if one is overweight.

Type 2 diabetes causes long-term damage to the large and small arteries, in part because of its common partners: high blood pressure, obesity and high cholesterol. This leads to heart attack, stroke, problems with feet and legs and amputations (more than half of those performed in the US), kidney failure (40% of dialysis patients), blindness, stomach and bowel problems, dizziness when standing, impotence and localized nerve failures.

About Gestational Diabetes

Gestational diabetes develops in about 7%* of pregnant women late in pregnancy when hormones interfere with insulin. Although it often resolves after childbirth, women who have had gestational diabetes have an increased risk of developing type 2 diabetes later. Some have the usual diabetic symptoms, while some have no symptoms. Unlike type 1 diabetes, gestational diabetes rarely causes birth defects although the baby's blood sugar should be monitored after birth. However, babies may be larger than usual, and your doctor may induce labor. Control weight before pregnancy to reduce risk.

When It's an Emergency

An **insulin reaction** or low blood sugar results from too much insulin, excess exercise or too little food. Symptoms include:

- Trembling and weakness
- Drowsiness
- Confusion
- Dizziness
- Double vision
- Seizures
- Loss of consciousness

The victim should eat something containing sugar, such as fruit juice, candy, or sugared soft drinks, and check blood sugar level. Seek emergency care if the

victim vomits, is unable to cooperate or if symptoms persist more than 30 minutes after treatment. Stay with the diabetic at least an hour after recovery to be sure the person is thinking clearly.

A **diabetic coma**, also known as diabetic ketoacidosis or DKA, develops more slowly than an insulin reaction, often over hours or days, and results from high blood sugar (hyperglycemia). Most often, it occurs when a diabetic skips a dose or is ill. Symptoms include:

- Nausea and vomiting
- Abdominal pain
- Weakness
- Thirst
- Sweet-smelling breath
- Deeper and more rapid breathing
- Gradual confusion and loss of consciousness

Diabetic coma may be the first symptom of undiagnosed diabetes.

Prevention and Treatment

Breastfeeding a child seems to help reduce that child's chances of diabetes, as does introducing solid foods at a later age.

Good health habits can prevent diabetes, and help treat it once it exists. Seek:

- A healthy weight. Some people are able to treat type 2 diabetes with weight loss alone.
- A diet rich in fruits, vegetables and low-fat dairy foods
- Regular aerobic exercise
- Normal cholesterol levels and blood pressure
- Avoidance of alcohol
- A balanced lifestyle and a positive frame of mind (stress and tension narrow arteries and make the heart beat stronger, for double impact on blood pressure)

Also:

- Don't smoke, which can make bad circulation worse
- Keep up vaccinations including the annual flu vaccine
- Get regular eye and foot exams

Doctors recommend that diabetics eat something before or during exercise, and try to schedule exercise at a regular time each day. Drink plenty of fluids, and choose low impact activities to avoid eye damage and feet problems.

Foot care is very important to maintain circulation and avoid amputation:

- Check feet regularly for sores, color changes or altered sensation. Get help or use a mirror to examine all surfaces
- Wash feet daily and dry them thoroughly and gently
- Trim toenails straight across and file off rough edges
- Don't remove warts or trim calluses or corns yourself.

Clothes and shoes are important to foot care:

- Don't walk barefoot, inside or outside
- Wear cushioned, well-fitting shoes, checking the insides daily for wear and rough edges
- Avoid tight clothing around the legs and ankles
- Wear socks when it is cold

The good lifestyle choices that can help prevent diabetes can also help treat it. Diabetics need to find the balance—eating and exercising enough but not too

much.

Often health care providers will assign you a health care team to teach you how to check your blood sugar and learn to adjust medication levels. It may include a nutritionist to help you schedule healthy meals.

All type 1 diabetics, and one-third of type 2 diabetics, require insulin. It must be taken by injection or a pump, because the digestive tract breaks down insulin taken orally. With more than 20 types of insulin, your health care team may experiment to see which type works best for you.

* IntelliHealth
** Mayo Clinic

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