

GLOSSARY
(EXCERPTS FROM
THE DIABETES DICTIONARY)³³

ANGIOTENSIN CONVERTING ENZYME (ACE) INHIBITOR: A type of drug used to lower blood pressure. Studies indicate that it may also help prevent or slow the progression of kidney disease in people with diabetes.

ARTERIOSCLEROSIS: A group of diseases in which the walls of the arteries get thick and hard. In one type of arteriosclerosis, fat builds up inside the walls and slows the blood flow. These diseases often occur in people who have had diabetes for a long time.

AUTONOMIC NEUROPATHY: A disease of the nerves affecting mostly the internal organs such as the bladder muscles, the cardiovascular system, the digestive tract, and the genital organs. These nerves are not under a person's conscious control and function automatically. Also called visceral neuropathy.

BETA CELL: A type of cell in the pancreas in areas called the islets of Langerhans. Beta cells make and release insulin, a hormone that controls the level of glucose (sugar) in the blood.

CARBOHYDRATE: One of the three main classes of foods and a source of energy. Carbohydrates are mainly sugars and starches that the body breaks down into glucose (a simple sugar that the body can use to feed its cells). The body also uses carbohydrates to make a substance called glycogen that is stored in the liver and muscles for future use. If the body does not have enough insulin or cannot use the insulin it has, then the body will not be able to use carbohydrates for energy the way it should. This condition is called diabetes.

CEREBROVASCULAR DISEASE: Damage to the blood vessels in the brain, resulting in a stroke. The blood vessels become blocked because of fat deposits or they become thick and hard, blocking the flow of blood to the brain. Sometimes, the blood vessels may burst, resulting in a hemorrhagic stroke.

CHOLESTEROL: A fat-like substance found in blood, muscle, liver, brain, and other tissues in people and animals. The body makes and needs some cholesterol. Too much cholesterol, however, may cause fat to build up in the artery walls and cause a disease that slows or stops the flow of blood.

COMA: A sleep-like state; not conscious. May be due to a high or low level of glucose (sugar) in the blood. See also: Diabetic coma.

CONGENITAL DEFECTS: Problems or conditions that are present at birth.

DIABETIC COMA: A severe emergency in which a person is not conscious because the blood glucose (sugar) is too low or too high.

DIALYSIS: A method for removing waste such as urea from the blood when the kidneys can no longer do the job. The two types of dialysis are *hemodialysis* and *peritoneal dialysis*. In *hemodialysis*, the patient's blood is passed through a tube into a machine that filters out waste products. The cleansed blood is then returned to the body. In *peritoneal dialysis*, a special solution is run through a tube into the peritoneum, a thin tissue that lines the cavity of the abdomen. The body's waste products are removed through the tube. Hemodialysis and peritoneal dialysis may be used to treat people with diabetes who have kidney failure.

DILATED PUPIL EXAMINATION: A necessary part of an examination for diabetic eye disease. Special drops are used to enlarge the pupils, enabling the doctor to view the back of the eye for damage.

END-STAGE RENAL DISEASE (ESRD): The final phase of kidney disease; treated by dialysis or kidney transplantation.

GANGRENE: The death of body tissue. It is most often caused by a loss of blood flow, especially in the legs and feet.

GESTATIONAL DIABETES MELLITUS: A type of diabetes mellitus that can occur when a woman is pregnant. In the second half of the pregnancy, the woman may have glucose (sugar) in the blood at a higher than normal level. However, when the pregnancy ends, the blood glucose levels return to normal in about 95 percent of all cases.

GLUCAGON: A hormone that raises the level of glucose (sugar) in the blood. The alpha cells of the pancreas (in areas called the islets of Langerhans) make glucagon when the body needs to put more sugar into the blood. An injectable form of glucagon, which can be bought in a drug store, is sometimes used to treat insulin shock. The glucagon is injected and quickly raises blood glucose levels.

GLUCOSE: A simple sugar found in the blood. It is the body's main source of energy; also known as dextrose.

GLYCOSYLATED HEMOGLOBIN TEST: A blood test that measures a person's average blood glucose (sugar) level for the 2- to 3-month period before the test.

HIGH BLOOD PRESSURE: When the blood flows through the vessels at a greater than normal force. High blood pressure strains the heart; harms the arteries; and increases the risk of heart attack, stroke, and kidney problems. Also called hypertension.

HORMONE: A chemical released by special cells to tell other cells what to do. For instance, insulin is a hormone made by the beta cells in the pancreas. When released, insulin tells other cells to use glucose (sugar) for energy.

HYPERGLYCEMIA: Too high a level of glucose (sugar) in the blood; a sign that diabetes is out of control. Many things can cause hyperglycemia. It occurs when the body does not have enough insulin or cannot use the insulin it does have to turn glucose into energy.

HYPERINSULINEMIA: Too high a level of insulin in the blood. This term most often refers to a condition in which the body produces too much insulin.

HYPERTENSION: Blood pressure that is above the normal range. *See also:* High blood pressure.

HYPOGLYCEMIA: Too low a level of glucose (sugar) in the blood. This occurs when a person with diabetes has injected too much insulin, eaten too little food, or has exercised without extra food.

IMPAIRED GLUCOSE TOLERANCE (IGT): Blood glucose (sugar) levels higher than normal but not high enough to be called diabetes. People with IGT may or may not develop diabetes. Other names (no longer used) for IGT are "borderline," "subclinical," "chemical," or "latent" diabetes.

IMPLANTABLE INSULIN PUMP: A small pump placed inside of the body that delivers insulin in response to commands from a hand-held device called a programmer.

INSULIN: A hormone that helps the body use glucose (sugar) for energy. The beta cells of the pancreas (in areas called the islets of Langerhans) make the insulin. When the body cannot make enough insulin on its own, a person with diabetes must inject insulin made from other sources, i.e., beef, pork, human insulin (recombinant DNA origin), or human insulin (pork-derived semisynthetic).

INSULIN-DEPENDENT DIABETES MELLITUS (IDDM): A chronic condition in which the pancreas makes little or no insulin because the beta cells have been destroyed. The body is then not able to use the glucose (blood sugar) for energy. IDDM usually comes on abruptly, although the damage to the beta cells may begin much earlier. The signs of IDDM are a great thirst, hunger, a need to urinate often, and loss of weight. To treat the disease, the person must inject insulin, follow a diet plan, exercise daily, and test blood glucose several times a day. IDDM usually occurs in children and adults who are under age 30. This type of diabetes used to be known as "juvenile diabetes," "juvenile-onset diabetes," and "ketosis-prone diabetes." It is also called type I diabetes mellitus.

INSULIN PUMP: A device that delivers a continuous supply of insulin into the body. The insulin flows from the pump through a plastic tube that is connected to a needle inserted into the body and taped in place. Insulin is delivered at two rates: a low, steady rate (called the basal rate) for continuous day-long coverage, and extra boosts of insulin (called bolus doses) to cover meals or when extra insulin is needed. The pump runs on batteries and can be worn clipped to a belt or carried in a pocket. It is used by people with insulin-dependent diabetes.

INSULIN REACTION: Too low a level of glucose (sugar) in the blood; also called hypoglycemia. This occurs when a person with diabetes has injected too much insulin, eaten too little food, or exercised without extra food.

INSULIN RECEPTORS: Areas on the outer part of a cell that allow the cell to join or bind with insulin that is in the blood. When the cell and insulin bind together, the cell can take glucose (sugar) from the blood and use it for energy.

INSULIN SHOCK: A severe condition that occurs when the level of blood glucose (sugar) drops quickly. The signs are shaking, sweating, dizziness, double vision, convulsions, and collapse. Insulin shock may occur when an insulin reaction is not treated quickly enough.

ISLET CELL TRANSPLANTATION: Moving the beta (islet) cells from a donor pancreas and putting them into a person whose pancreas has stopped producing insulin. The beta cells make the insulin that the body needs to use glucose (sugar) for energy. Although transplanting islet cells may one day help people with diabetes, the procedure is still in the research stage.

KETOACIDOSIS: Severe, out-of-control diabetes (high blood sugar) that needs emergency treatment. Diabetic ketoacidosis (DKA) happens when blood sugar levels get too high. This may happen because of illness, taking too little insulin, or getting too little exercise. The body starts using stored fat for energy, and ketone bodies (acids) build up in the blood.

KETONE BODIES: Chemicals that the body makes when there is not enough insulin in the blood and it must break down fat for its energy. Ketone bodies can poison and even kill body cells. When the body does not have the help of insulin, the ketones build up in the blood and then "spill" over into the urine so that the body can get rid of them. The body can also rid itself of one type of ketone, called acetone, through the lungs. This gives the breath a fruity odor. Ketones that build up in the body for a long time lead to serious illness and coma.

KETOSIS: A condition of having ketone bodies build up in body tissues and fluids. The signs of ketosis are nausea, vomiting, and stomach pain. Ketosis can lead to ketoacidosis.

LIPID: A term for fat. The body stores fat as energy for future use just like a car that has a reserve fuel tank. When the body needs energy, it can break down the lipids into fatty acids and burn them like glucose (sugar).

MACROSOMIA: Abnormally large; in diabetes, refers to abnormally large babies that may be born to women with diabetes.

METFORMIN: A drug currently being tested as a treatment for noninsulin-dependent diabetes; belongs to a class of drugs called biguanides.

MG/DL: Milligrams per deciliter. Term used to describe how much glucose (sugar) is in a specific amount of blood. In self-monitoring of blood glucose, test results are given as the amount of glucose in milligrams per deciliter of blood. A fasting reading of 70 to 110 mg/dL is considered in the normal (nondiabetic) range.

MICROANEURYSM: A small swelling that forms on the side of tiny blood vessels. These small swellings may break and bleed into nearby tissue.

MYOCARDIAL INFARCTION: Also called a heart attack; results from permanent damage to an area of the heart muscle. This happens when the blood supply to the area is interrupted because of narrowed or blocked blood vessels.

NEPHROPATHY: Disease of the kidneys caused by damage to the small blood vessels or to the units in the kidneys that clean the blood. People who have had diabetes for a long time may have kidney damage.

NEUROPATHY: Disease of the nervous system. Many people who have had diabetes for a while have nerve damage. The three major forms of nerve damage are: peripheral neuropathy, autonomic neuropathy, and mononeuropathy. The most common form is peripheral neuropathy, which mainly affects the feet and legs.

NONINSULIN-DEPENDENT DIABETES MELLITUS (NIDDM): The most common form of diabetes mellitus; about 90 to 95 percent of people who have diabetes have NIDDM. Unlike the insulin-dependent type of diabetes, in which the pancreas makes no insulin, people with noninsulin-dependent diabetes produce some insulin, sometimes even large amounts. However, either their bodies do not produce enough insulin or their body cells are resistant to the action of insulin. People with NIDDM can often control their condition by losing weight through diet and exercise. If not, they may need to combine insulin or a pill with diet and exercise. Generally, NIDDM occurs in people who are over age 40. Most of the people who have this type of diabetes are overweight. Noninsulin-dependent diabetes mellitus used to be called "adult-onset diabetes," "maturity-onset diabetes," "ketosis-resistant diabetes," and "stable diabetes." It is also called type II diabetes mellitus.

OBESITY: When people have 20 percent (or more) extra body fat for their age, height, sex, and bone structure. Fat works against the action of insulin. Extra body fat is thought to be a risk factor for diabetes.

ORAL GLUCOSE TOLERANCE TEST (OGTT): A test to see if a person has diabetes. See: Glucose tolerance test.

ORAL HYPOGLYCEMIC AGENTS: Pills or capsules that people take to lower the level of glucose (sugar) in the blood. The pills work for some people whose pancreas still makes some insulin. They can help the body in several ways such as causing the cells in the pancreas to release more insulin.

PANCREAS: An organ behind the lower part of the stomach that is about the size of a hand. It makes insulin so that the body can use glucose (sugar) for energy. It also makes enzymes that help the body digest food. Spread all over the pancreas are areas called the islet of Langerhans. The cells in these areas each have a special purpose. The alpha cells make glucagon, which raises the level of glucose in the blood; the beta cells make insulin; the delta cells make somatostatin. There are also the PP cells and the D₁ cells, about which little is known.

PERIPHERAL NEUROPATHY: Nerve damage, usually affecting the feet and legs; causing pain, numbness, or a tingling feeling; also called "somatic neuropathy" or "distal sensory polyneuropathy."

PERIPHERAL VASCULAR DISEASE: Disease in the large blood vessels of the arms, legs, and feet. People who have had diabetes for a long time may get this because major blood vessels in their arms, legs, and feet are blocked and these limbs do not receive enough blood.

PREECLAMPSIA: A condition that some women with diabetes have during the late stages of pregnancy. Two signs of this condition are high blood pressure and swelling because the body cells are holding extra water.

PROTEIN: One of the three main classes of food. Proteins are made of amino acids, which are called the building blocks of the cells. The cells need proteins to grow and to mend themselves. Proteins is found in many foods such as meat, fish, poultry, and eggs.

RENAL: A term that means having something to do with the kidneys.

RETINOPATHY: A disease of the small blood vessels in the retina of the eye.

SULFONYLUREAS: Pills or capsules that people take to lower the level of glucose (sugar) in the blood. See also: Oral hypoglycemic agents.

TRIGLYCERIDE: A type of blood fat. The body needs insulin to remove this type of fat from the blood. When diabetes is under control and a person's weight is what it should be, the level of triglycerides in the blood is usually about what it should be.

VASCULAR: Relating to the body's blood vessels (arteries, veins, and capillaries).