The Diabetes Dictionary
The Diabetes Dictionary

This dictionary defines words that are often used when people talk or write about diabetes. It is designed for people who have diabetes and for their families and friends.

The words are listed in alphabetical order. Some words have many meanings; only those meanings that relate to diabetes are included. Words that appear in bold italic are defined elsewhere in the dictionary. A term will refer the reader to another definition only when the second definition gives additional information about a topic that is directly related to the first term.

Information in this dictionary is not a substitute for your health care professional’s advice.

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acanthosis (uh-kan-THO-sis) nigricans (NIH-grih-kans): a skin condition characterized by darkened skin patches; common in people whose body is not responding correctly to the insulin that they make in their pancreas (insulin resistance). This skin condition is also seen in people who have pre-diabetes or type 2 diabetes.

acarbose (AK-er-bose): an oral medicine used to treat type 2 diabetes. It blocks the enzymes that digest starches in food. The result is a slower and lower rise in blood glucose throughout the day, especially right after meals. Belongs to the class of medicines called alpha-glucosidase inhibitors. (Brand name: Precose.)

ACE inhibitor: an oral medicine that lowers blood pressure; ACE stands for angiotensin (an-gee-oh-TEN-sin) converting enzyme. For people with diabetes, especially those who have protein (albumin) in the urine, it also helps slow down kidney damage.

acesulfame (a-see-SUL-fame) potassium (puh-TAS-ee-um): a dietary sweetener with no calories and no nutritional value. Also known as acesulfame-K. (Brand name: Sunett.)

acetohexamide (a-see-toh-HEX-uh-myde): an oral medicine used to treat type 2 diabetes. It lowers blood glucose by helping the pancreas make more insulin and by helping the body better use the insulin it makes. Belongs to the class of medicines called sulfonylureas. (Brand name: Dymelor.)

Actos: see pioglitazone.

acute: describes something that happens suddenly and for a short time. Opposite of chronic.

adhesive capsulitis (cap-soo-LITE-is): a condition of the shoulder associated with diabetes that results in pain and loss of the ability to move the shoulder in all directions.

adult-onset diabetes: former term for type 2 diabetes.

AGEs (A-G-EEZ): stands for advanced glycosylation (gly-KOH-sih-LAY-shun) endproducts. AGEs are produced in the body when glucose links with protein. They play a role in damaging blood vessels, which can lead to diabetes complications.
albuminuria (al-BYOO-mih-NOO-ree-uh): a condition in which the urine has more than normal amounts of a protein called albumin. Albuminuria may be a sign of nephropathy (kidney disease).

alpha (AL-fa) cell: a type of cell in the pancreas. Alpha cells make and release a hormone called glucagon. The body sends a signal to the alpha cells to make glucagon when blood glucose falls too low. Then glucagon reaches the liver where it tells it to release glucose into the blood for energy.

alpha-glucosidase (AL-fa-gloo-KOH-sih-days) inhibitor: a class of oral medicine for type 2 diabetes that blocks enzymes that digest starches in food. The result is a slower and lower rise in blood glucose throughout the day, especially right after meals. (Generic names: acarbose and miglitol.)

Amaryl: see glimepiride.

amylin (AM-ih-lin): a hormone formed by beta cells in the pancreas. Amylin regulates the timing of glucose release into the bloodstream after eating by slowing the emptying of the stomach.

amyotrophy (a-my-AH-truh-fee): a type of neuropathy resulting in pain, weakness, and/or wasting in the muscles.

anemia (uh-NEE-mee-uh): a condition in which the number of red blood cells is less than normal, resulting in less oxygen being carried to the body’s cells.

angiopathy (an-gee-AH-puh-thee): any disease of the blood vessels (veins, arteries, capillaries) or lymphatic vessels.

antibodies (AN-ti-bod-eez): proteins made by the body to protect itself from “foreign” substances such as bacteria or viruses. People get type 1 diabetes when their bodies make antibodies that destroy the body’s own insulin-making beta cells.
A1C: a test that measures a person’s average blood glucose level over the past 2 to 3 months. Hemoglobin (HEE-mo-glo-bin) is the part of a red blood cell that carries oxygen to the cells and sometimes joins with the glucose in the bloodstream. Also called hemoglobin A1C or glycosylated (gly-KOH-sih-lay-ted) hemoglobin, the test shows the amount of glucose that sticks to the red blood cell, which is proportional to the amount of glucose in the blood.

ARB: an oral medicine that lowers blood pressure; ARB stands for angiotensin (an-gee-oh-TEN-sin) receptor blocker.

arteriosclerosis (ar-TEER-ee-oh-skluh-RO-sis): hardening of the arteries.

artery: a large blood vessel that carries blood with oxygen from the heart to all parts of the body.

aspart (ASS-part) insulin: a rapid-acting insulin. On average, aspart insulin starts to lower blood glucose within 10 to 20 minutes after injection. It has its strongest effect 1 to 3 hours after injection but keeps working for 3 to 5 hours after injection.

aspartame (ASS-per-tame): a dietary sweetener with almost no calories and no nutritional value. (Brand names: Equal, NutraSweet.)

atherosclerosis (ATH-uh-row-skluh-RO-sis): clogging, narrowing, and hardening of the body’s large arteries and medium-sized blood vessels. Atherosclerosis can lead to stroke, heart attack, eye problems, and kidney problems.

autoimmune (AW-toh-ih-MYOON) disease: disorder of the body’s immune system in which the immune system mistakenly attacks and destroys body tissue that it believes to be foreign.

autonomic (aw-toh-NOM-ik) neuropathy (ne-ROP-uh-thee): a type of neuropathy affecting the lungs, heart, stomach, intestines, bladder, or genitals.

Avandia: see rosiglitazone.
background retinopathy (REH-tih-NOP-uh-thee): a type of damage to the retina of the eye marked by bleeding, fluid accumulation, and abnormal dilation of the blood vessels. Background retinopathy is an early stage of diabetic retinopathy. Also called simple or nonproliferative (non-pro-LIF-er-uh-tiv) retinopathy.

basal rate: a steady trickle of low levels of longer-acting insulin, such as that used in insulin pumps.

beta cell: a cell that makes insulin. Beta cells are located in the islets of the pancreas.

biguanide (by-GWAH-nide): a class of oral medicine used to treat type 2 diabetes that lowers blood glucose by reducing the amount of glucose produced by the liver and by helping the body respond better to insulin. (Generic name: metformin.)

blood glucose: the main sugar found in the blood and the body’s main source of energy. Also called blood sugar.

blood glucose level: the amount of glucose in a given amount of blood. It is noted in milligrams in a deciliter, or mg/dL.

blood glucose meter: a small, portable machine used by people with diabetes to check their blood glucose levels. After pricking the skin with a lancet, one places a drop of blood on a test strip in the machine. The meter (or monitor) soon displays the blood glucose level as a number on the meter’s digital display.

Blood glucose meter
blood pressure: the force of blood exerted on the inside walls of blood vessels. Blood pressure is expressed as a ratio (example: 120/80, read as “120 over 80”). The first number is the systolic (sis-TAH-lik) pressure, or the pressure when the heart pushes blood out into the arteries. The second number is the diastolic (DY-uh-STAH-lik) pressure, or the pressure when the heart rests.

blood sugar: see blood glucose.

blood sugar level: see blood glucose level.

blood urea (yoo-REE-uh) nitrogen (NY-truh-jen) (BUN): a waste product in the blood from the breakdown of protein. The kidneys filter blood to remove urea. As kidney function decreases, the BUN levels increase.

blood vessels: tubes that carry blood to and from all parts of the body. The three main types of blood vessels are arteries, veins, and capillaries.

BMI: see body mass index.

body mass index (BMI): a measure used to evaluate body weight relative to a person’s height.

BMI is used to find out if a person is underweight, normal weight, overweight, or obese.

To find BMI: Multiply body weight in pounds by 703. Divide that number by height in inches. Divide that number by height in inches again. Find the resulting number in the chart below.

<table>
<thead>
<tr>
<th>Underweight</th>
<th>Normal weight</th>
<th>Overweight</th>
<th>Obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 18.5</td>
<td>18.5–24.9</td>
<td>25.0–29.9</td>
<td>30.0 and above</td>
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</tbody>
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bolus (BOH-lus): an extra amount of insulin taken to cover an expected rise in blood glucose, often related to a meal or snack.

borderline diabetes: a former term for type 2 diabetes or impaired glucose tolerance.

brittle diabetes: a term used when a person’s blood glucose level moves often from low to high and from high to low.

BUN: see blood urea nitrogen.

bunion (BUN-yun): a bulge on the first joint of the big toe, caused by the swelling of a fluid sac under the skin. This spot can become red, sore, and infected.
callus: a small area of skin, usually on the foot, that has become thick and hard from rubbing or pressure.

calorie: a unit representing the energy provided by food. Carbohydrate, protein, fat, and alcohol provide calories in the diet. Carbohydrate and protein have 4 calories per gram, fat has 9 calories per gram, and alcohol has 7 calories per gram.

capillary (KAP-ih-lair-ee): the smallest of the body’s blood vessels. Oxygen and glucose pass through capillary walls and enter the cells. Waste products such as carbon dioxide pass back from the cells into the blood through capillaries.

capsaicin (kap-SAY-ih-sin): an ingredient in hot peppers that can be found in ointment form for use on the skin to relieve pain from diabetic neuropathy.

carbohydrate (kar-boh-HY-drate): one of the three main nutrients in food. Foods that provide carbohydrate are starches, vegetables, fruits, dairy products, and sugars.

Sources of carbohydrate

carbohydrate counting: a method of meal planning for people with diabetes based on counting the number of grams of carbohydrate in food.

cardiologist (kar-dee-AH-luh-jist): a doctor who treats people who have heart problems.

cardiovascular (KAR-dee-oh-VASK-yoo-ler) disease: disease of the heart and blood vessels (arteries, veins, and capillaries).

cataract (KA-ter-act): clouding of the lens of the eye.

CDE: see certified diabetes educator.
cerebrovascular (seh-REE-broh-VASK-yoo-ler) disease: damage to blood vessels in the brain. Vessels can burst and bleed or become clogged with fatty deposits. When blood flow is interrupted, brain cells die or are damaged, resulting in a stroke.

certified diabetes educator (CDE): a health care professional with expertise in diabetes education who has met eligibility requirements and successfully completed a certification exam. See diabetes educator.

Charcot’s (shar-KOHZ) foot: a condition in which the joints and soft tissue in the foot are destroyed; it results from damage to the nerves.

cheiroarthropathy (KY-roh-ar-THRAHP-uh-thee): see limited joint mobility.

cheiropathy (ky-RAH-puh-thee): see limited joint mobility.

chlorpropamide (klor-PROH-pah-mide): an oral medicine used to treat type 2 diabetes. It lowers blood glucose levels by helping the pancreas make more insulin and by helping the body better use the insulin it makes. Belongs to the class of medicines called sulfonylureas. (Brand name: Diabinese.)

cholesterol (koh-LES-ter-all): a type of fat produced by the liver and found in the blood; it is also found in some foods. Cholesterol is used by the body to make hormones and build cell walls.

chronic: describes something that is long-lasting. Opposite of acute.

circulation: the flow of blood through the body’s blood vessels and heart.

coma: a sleep-like state in which a person is not conscious. May be caused by hyperglycemia (high blood glucose) or hypoglycemia (low blood glucose) in people with diabetes.

combination oral medicines: a pill that includes two or more different medicines. See Glucovance.

combination therapy: the use of different medicines together (oral hypoglycemic agents or an oral hypoglycemic agent and insulin) to manage the blood glucose levels of people with type 2 diabetes.
complications: harmful effects of diabetes such as damage to the eyes, heart, blood vessels, nervous system, teeth and gums, feet and skin, or kidneys. Studies show that keeping blood glucose, blood pressure, and low-density lipoprotein cholesterol levels close to normal can help prevent or delay these problems.

congenital (kun-JEN-i-tul) defects: problems or conditions that are present at birth.

congestive heart failure: loss of the heart’s pumping power, which causes fluids to collect in the body, especially in the feet and lungs.

conventional therapy: a term used in clinical trials where one group receives treatment for diabetes in which A1C and blood glucose levels are kept at levels based on current practice guidelines. However, the goal is not to keep blood glucose levels as close to normal as possible, as is done in intensive therapy. Conventional therapy includes use of medication, meal planning, and exercise, along with regular visits to health care providers.

coronary artery disease: see coronary heart disease.

coronary (KOR-uh-ner-ee) heart disease: heart disease caused by narrowing of the arteries that supply blood to the heart. If the blood supply is cut off the result is a heart attack.

C-peptide (see-peptide): “Connecting peptide,” a substance the pancreas releases into the bloodstream in equal amounts to insulin. A test of C-peptide levels shows how much insulin the body is making.

creatinine (kree-AT-ih-nin): a waste product from protein in the diet and from the muscles of the body. Creatinine is removed from the body by the kidneys; as kidney disease progresses, the level of creatinine in the blood increases.
dawn phenomenon (feh-NAH-meh-nun): the early-morning (4 a.m. to 8 a.m.) rise in blood glucose level.

DCCT: see Diabetes Control and Complications Trial.

dehydration (dee-hy-DRAY-shun): the loss of too much body fluid through frequent urinating, sweating, diarrhea, or vomiting.

dermopathy (dur-MAH-puh-thee): disease of the skin.

desensitization (dee-sens-ih-tiz-A-shun): a way to reduce or stop a response such as an allergic reaction to something. For example, if someone has an allergic reaction to something, the doctor gives the person a very small amount of the substance at first to increase one’s tolerance. Over a period of time, larger doses are given until the person is taking the full dose. This is one way to help the body get used to the full dose and to prevent the allergic reaction.

dextrose (DECKS-trohss), also called glucose: simple sugar found in blood that serves as the body’s main source of energy.

DiaBeta: see glyburide.

diabetes: see diabetes mellitus.

Diabetes Control and Complications Trial (DCCT): a study by the National Institute of Diabetes and Digestive and Kidney Diseases, conducted from 1983 to 1993 in people with type 1 diabetes. The study showed that intensive therapy compared to conventional therapy significantly helped prevent or delay diabetes complications. Intensive therapy included multiple daily insulin injections or the use of an insulin pump with multiple blood glucose readings each day. Complications followed in the study included diabetic retinopathy, neuropathy, and nephropathy.

diabetes educator: a health care professional who teaches people who have diabetes how to manage their diabetes. Some diabetes educators are certified diabetes educators (CDEs). Diabetes educators are found in hospitals, physician offices, managed care organizations, home health care, and other settings.
diabetes insipidus (in-SIP-ih-dus): a condition characterized by frequent and heavy urination, excessive thirst, and an overall feeling of weakness. This condition may be caused by a defect in the pituitary gland or in the kidney. In diabetes insipidus, blood glucose levels are normal.

diabetes mellitus (MELL-ih-tus): a condition characterized by hyperglycemia resulting from the body’s inability to use blood glucose for energy. In type 1 diabetes, the pancreas no longer makes insulin and therefore blood glucose cannot enter the cells to be used for energy. In type 2 diabetes, either the pancreas does not make enough insulin or the body is unable to use insulin correctly.

Diabetes Prevention Program (DPP): a study by the National Institute of Diabetes and Digestive and Kidney Diseases conducted from 1998 to 2001 in people at high risk for type 2 diabetes. All study participants had impaired glucose tolerance, also called pre-diabetes, and were overweight. The study showed that people who lost 5 to 7 percent of their body weight through a low-fat, low-calorie diet and moderate exercise (usually walking for 30 minutes 5 days a week) reduced their risk of getting type 2 diabetes by 58 percent. Participants who received treatment with the oral diabetes drug metformin reduced their risk of getting type 2 diabetes by 31 percent.

diabetic diarrhea (dy-uh-REE-uh): loose stools, fecal incontinence, or both that result from an overgrowth of bacteria in the small intestine and diabetic neuropathy in the intestines. This nerve damage can also result in constipation.

diabetic eye disease: see diabetic retinopathy.

diabetic ketoacidosis (KEY-toe-ass-ih-DOH-sis) (DKA): an emergency condition in which extremely high blood glucose levels, along with a severe lack of insulin, result in the breakdown of body fat for energy and an accumulation of ketones in the blood and urine. Signs of DKA are nausea and vomiting, stomach pain, fruity breath odor, and rapid breathing. Untreated DKA can lead to coma and death.

diabetic myelopathy (my-eh-LAH-puh-thee): damage to the spinal cord found in some people with diabetes.
diabetic nephropathy: see nephropathy.

diabetic neuropathy: see neuropathy.

diabetic retinopathy (REH-tih-NOP-uh-thee): diabetic eye disease; damage to the small blood vessels in the retina. Loss of vision may result.

diabetogenic (DY-uh-beh-toh-JEN-ic): causing diabetes. For example, some drugs cause blood glucose levels to rise, resulting in diabetes.

diabetologist (DY-uh-beh-TAH-luh-jist): a doctor who specializes in treating people who have diabetes.

Diabinese: see chlorpropamide.

diagnosis (DY-ug-NO-sis): the determination of a disease from its signs and symptoms.

dialysis (dy-AL-ih-sis): the process of cleaning wastes from the blood artificially. This job is normally done by the kidneys. If the kidneys fail, the blood must be cleaned artificially with special equipment. The two major forms of dialysis are hemodialysis and peritoneal dialysis.

- hemodialysis (HE-mo-dy-AL-ih-sis): the use of a machine to clean wastes from the blood after the kidneys have failed. The blood travels through tubes to a dialyzer (DY-uh-LY-zur), a machine that removes wastes and extra fluid. The cleaned blood then goes back into the body.

Hemodialysis

- peritoneal (PEH-rih-tuh-NEE-ul) dialysis: cleaning the blood by using the lining of the abdomen as a filter. A cleansing solution called dialysate (dy-AL-ih-sate) is infused from a bag into the abdomen. Fluids and wastes flow through the lining of the belly and remain “trapped” in the dialysate. The dialysate is then drained from the belly, removing the extra fluids and wastes from the body.
dietitian (DY-eh-TIH-shun): a health care professional who advises people about meal planning, weight control, and diabetes management. A registered dietitian (RD) has more training.

dilated (DY-lay-ted) eye exam: a test done by an eye care specialist in which the pupil (the black center) of the eye is temporarily enlarged with eyedrops to allow the specialist to see the inside of the eye more easily.

dilated eye

Undilated eye

dKA: see diabetic ketoacidosis.

D-phenylalanine (dee-fen-nel-AL-ah-neen) derivative: a class of oral medicine for type 2 diabetes that lowers blood glucose levels by helping the pancreas make more insulin right after meals. (Generic name: nateglinide.)

DPP: see Diabetes Prevention Program.

Dupuytren’s (doo-PWEE-trenz) contracture (kon-TRACK-chur): a condition associated with diabetes in which the fingers and the palm of the hand thicken and shorten, causing the fingers to curve inward.

Dymelor: see acetohexamide.
edema (eh-DEE-muh): swelling caused by excess fluid in the body.

electromyography (ee-LEK-troh-my-AH-gruh-fee) (EMG): a test used to detect nerve function. It measures the electrical activity generated by muscles.

EMG: see electromyography.

decorine (EN-doh-krin) gland: a group of specialized cells that release hormones into the blood. For example, the islets in the pancreas, which secrete insulin, are endocrine glands.

docrinologist (EN-doh-krih-NAH-luh-jist): a doctor who treats people who have endocrine gland problems such as diabetes.

d-stage renal disease (ESRD): see kidney failure.

enzyme (EN-zime): protein made by the body that brings about a chemical reaction, for example, the enzymes produced by the gut to aid digestion.

erectile dysfunction: see impotence.

euglycemia (you-gly-SEEM-ee-uh): a normal level of glucose in the blood.

exchange lists: one of several approaches for diabetes meal planning. Foods are categorized into three groups based on their nutritional content. Lists provide the serving sizes for carbohydrates, meat and meat alternatives, and fats. These lists allow for substitution for different groups to keep the nutritional content fixed.
fasting blood glucose test: a check of a person’s blood glucose level after the person has not eaten for 8 to 12 hours (usually overnight). This test is used to diagnose pre-diabetes and diabetes. It is also used to monitor people with diabetes.

fat: 1. One of the three main nutrients in food. Foods that provide fat are butter, margarine, salad dressing, oil, nuts, meat, poultry, fish, and some dairy products. 2. Excess calories are stored as body fat, providing the body with a reserve supply of energy and other functions.

50/50 insulin: premixed insulin that is 50 percent intermediate-acting (NPH) insulin and 50 percent short-acting (regular) insulin.

fluorescein (fluh-RESS-een) angiography (an-gee-AH-grah-fee): a test to examine blood vessels in the eye; done by injecting dye into an arm vein and then taking photos as the dye goes through the eye’s blood vessels.

fructosamine (frook-TOH-sah-meen) test: measures the number of blood glucose molecules (MAH-leh-kyools) linked to protein molecules in the blood. The test provides information on the average blood glucose level for the past 3 weeks.

fructose (FROOK-tohss): a sugar that occurs naturally in fruits and honey. Fructose has 4 calories per gram.
gangrene (GAN-gren): the death of body tissue, most often caused by a lack of blood flow and infection. It can lead to amputation.

gastroparesis (gas-tro-puh-REE-sis): a form of neuropathy that affects the stomach. Digestion of food may be incomplete or delayed, resulting in nausea, vomiting, or bloating, making blood glucose control difficult.

gestational (jes-TAY-shun-ul) diabetes mellitus (MELL-ih-tus) (GDM): a type of diabetes mellitus that develops only during pregnancy and usually disappears upon delivery, but increases the risk that the mother will develop diabetes later. GDM is managed with meal planning, activity, and, in some cases, insulin.

gingivitis (JIN-jih-VY-tis): a condition of the gums characterized by inflammation and bleeding.


Amaryl.

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glomeruli (glo-MEHR-yoo-lie): plural of *glomerulus*.

glomerulus (glo-MEHR-yoo-lus): a tiny set of looping *blood vessels* in the *kidney* where the blood is filtered and waste products are removed.

**glucagon (GLOO-kah-gahn):** a *hormone* produced by the *alpha cells* in the *pancreas*. It raises *blood glucose*. An injectable form of glucagon, available by prescription, may be used to treat severe *hypoglycemia*.

**Glucophage, Glucophage XR:** see *metformin*.

**glucose**: one of the simplest forms of *sugar*.

**glucose tablets**: chewable tablets made of pure *glucose* used for treating *hypoglycemia*.

**glucose tolerance test**: see *oral glucose tolerance test*.

Glucotrol, Glucotrol XL: see *glipizide*.

**Glucovance**: an oral medicine used to treat *type 2 diabetes*. It is a combination of *glyburide* and *metformin*.

**glyburide** (GLY-buh-ride): an oral medicine used to treat *type 2 diabetes*. It lowers *blood glucose* by helping the *pancreas* make more *insulin* and by helping the body better use the insulin it makes. Belongs to the class of medicines called sulfonylureas. (Brand names: DiaBeta, Glynase PresTab, Micronase; ingredient in Glucovance.)

**glycemic (gly-SEE-mik) index**: a ranking of *carbohydrate*-containing foods, based on the food’s effect on *blood glucose* compared with a standard reference food.

**glycogen** (GLY-koh-jen): the form of *glucose* found in the *liver* and muscles.

**glycosuria** (gly-koh-SOOR-ee-ah): the presence of *glucose* in the *urine*.
glycosylated hemoglobin: see A1C.

Glynase PresTab: see glyburide.

Glyset: see miglitol.

gram: a unit of weight in the metric system. An ounce equals 28 grams. In some meal plans for people with diabetes, the suggested amounts of food are given in grams.

One slice of bread has 15 grams of carbohydrate.

HDL cholesterol (kuh-LESS-tuh-rawl), stands for high-density lipoprotein (LIP-oh-PRO-teen) cholesterol: a fat found in the blood that takes extra cholesterol from the blood to the liver for removal. Sometimes called “good” cholesterol.

hemodialysis: see dialysis.

hemoglobin A1C test: see A1C.

heredity: the passing of a trait from parent to child.

HHNS: see hyperosmolar hyperglycemic nonketotic syndrome.

high blood glucose: see hyperglycemia.

high blood pressure: see hypertension.

high-density lipoprotein cholesterol: see HDL cholesterol.

HLA: see human leukocyte antigens.

home glucose monitor: see blood glucose meter.

honeymoon phase: temporary remission of hyperglycemia that occurs in some people newly diagnosed with type 1 diabetes, when some insulin secretion resumes for a short time, usually a few months, before stopping again.
hormone: a chemical produced in one part of the body and released into the blood to trigger or regulate particular functions of the body. For example, insulin is a hormone made in the pancreas that tells other cells when to use glucose for energy. Synthetic hormones, made for use as medicines, can be the same or different from those made in the body.

human leukocyte antigens (HLA): proteins located on the surface of the cell that help the immune system identify the cell either as one belonging to the body or as one from outside the body. Some patterns of these proteins may mean increased risk of developing type 1 diabetes.

hyperglycemia (HY-per-gly-SEE-mee-uh): excessive blood glucose. Fasting hyperglycemia is blood glucose above a desirable level after a person has fasted for at least 8 hours. Postprandial hyperglycemia is blood glucose above a desirable level 1 to 2 hours after a person has eaten.

hyperinsulinemia (HY-per-IN-suh-lih-NEE-mee-uh): a condition in which the level of insulin in the blood is higher than normal. Caused by overproduction of insulin by the body. Related to insulin resistance.

hyperlipidemia (HY-per-li-pih-DEE-mee-uh): higher than normal fat and cholesterol levels in the blood.

hyperosmolar (HY-per-oz-MOH-lur) hyperglycemic (HY-per-gly-SEE-mik) nonketotic (non-kee-TAH-tik) syndrome (HHNS): an emergency condition in which one’s blood glucose level is very high and ketones are not present in the blood or urine. If HHNS is not treated, it can lead to coma or death.

hypertension (HY-per-TEN-shun): a condition present when blood flows through the blood vessels with a force greater than normal. Also called high blood pressure. Hypertension can strain the heart, damage blood vessels, and increase the risk of
heart attack, stroke, kidney problems, and death.

hypoglycemia (hy-po-gly-SEE-mee-uh): a condition that occurs when one’s blood glucose is lower than normal, usually less than 70 mg/dL. Signs include hunger, nervousness, shakiness, perspiration, dizziness or light-headedness, sleepiness, and confusion. If left untreated, hypoglycemia may lead to unconsciousness. Hypoglycemia is treated by consuming a carbohydrate-rich food such as a glucose tablet or juice. It may also be treated with an injection of glucagon if the person is unconscious or unable to swallow. Also called an insulin reaction.

hypoglycemia unawareness (un-uhWARE-ness): a state in which a person does not feel or recognize the symptoms of hypoglycemia. People who have frequent episodes of hypoglycemia may no longer experience the warning signs of it.

hypotension (hy-poh-TEN-shun): low blood pressure or a sudden drop in blood pressure. Hypotension may occur when a person rises quickly from a sitting or reclining position, causing dizziness or fainting.

IDDM (insulin-dependent diabetes mellitus): former term for type 1 diabetes.

immune (ih-MYOON) system: the body’s system for protecting itself from viruses and bacteria or any “foreign” substances.

immunosuppressant (ih-MYOON-oh-suh-PRESS-unt): a drug that suppresses the natural immune responses. Immunosuppressants are given to transplant patients to prevent organ rejection or to patients with autoimmune diseases.

impaired fasting glucose (IFG): a condition in which a blood glucose test, taken after an 8- to 12-hour fast, shows a level of glucose higher than normal but not high enough for a diagnosis of diabetes. IFG, also called pre-diabetes, is a level of 100 mg/dL to 125 mg/dL. Most people with pre-diabetes are at increased risk for developing type 2 diabetes.
impaired glucose tolerance (IGT): a condition in which blood glucose levels are higher than normal but are not high enough for a diagnosis of diabetes. IGT, also called pre-diabetes, is a level of 140 mg/dL to 199 mg/dL 2 hours after the start of an oral glucose tolerance test. Most people with pre-diabetes are at increased risk for developing type 2 diabetes. Other names for IGT that are no longer used are “borderline,” “subclinical,” “chemical,” or “latent” diabetes.

implantable (im-PLAN-tuh-bull) insulin pump: a small pump placed inside the body to deliver insulin in response to remote-control commands from the user.

impotence (IM-po-tents): the inability to get or maintain an erection for sexual activity. Also called erectile (ee-REK-tile) dysfunction (dis-FUNK-shun).

incidence (IN-sih-dints): a measure of how often a disease occurs; the number of new cases of a disease among a certain group of people for a certain period of time.

incontinence (in-KON-tih-nents): loss of bladder or bowel control; the accidental loss of urine or feces.

inhaled insulin: an experimental treatment for taking insulin using a portable device that allows a person to breathe in insulin.

injection (in-JEK-shun): inserting liquid medication or nutrients into the body with a syringe. A person with diabetes may use short needles or pinch the skin and inject at an angle to avoid an intramuscular injection of insulin.

injection site rotation: changing the places on the body where insulin is injected. Rotation prevents the formation of lipodystrophies.

injection sites: places on the body where insulin is usually injected.

insulin: a hormone that helps the body use glucose for energy. The beta cells of the pancreas make insulin. When the body cannot make enough insulin, insulin is taken by injection or through use of an insulin pump.

insulin adjustment: a change in the amount of insulin a person with diabetes takes based on factors such as meal planning, activity, and blood glucose levels.
insulin-dependent diabetes mellitus (IDDM): former term for type 1 diabetes.

insulinoma (IN-suh-lih-NOH-mah): a tumor of the beta cells in the pancreas. An insulinoma may cause the body to make extra insulin, leading to hypoglycemia.

insulin pen: a device for injecting insulin that looks like a fountain pen and holds replaceable cartridges of insulin. Also available in disposable form.

insulin pump: an insulin-delivering device about the size of a deck of cards that can be worn on a belt or kept in a pocket. An insulin pump connects to narrow, flexible plastic tubing that ends with a needle inserted just under the skin. Users set the pump to give a steady trickle or basal amount of insulin continuously throughout the day. Pumps release bolus doses of insulin (several units at a time) at meals and at times when blood glucose is too high, based on programming done by the user.

insulin reaction: when the level of glucose in the blood is too low (at or below 70 mg/dL). Also known as hypoglycemia.

insulin receptors: areas on the outer part of a cell that allow the cell to bind with insulin in the blood. When the cell and insulin bind, the cell can take glucose from the blood and use it for energy.

insulin resistance: the body’s inability to respond to and use the insulin it produces. Insulin resistance may be linked to obesity, hypertension, and high levels of fat in the blood.

insulin shock: see hypoglycemia.

intensive therapy: a treatment for diabetes in which blood glucose is kept as close to normal as possible through frequent injections or use of an insulin pump; meal planning; adjustment of medicines; and exercise based on blood glucose test results and frequent contact with a person’s health care team.
intermediate-acting insulin: a type of insulin that starts to lower blood glucose within 1 to 2 hours after injection and has its strongest effect 6 to 12 hours after injection, depending on the type used. See lente insulin and NPH insulin.

intermittent (IN-ter-MIT-ent) claudication (CLAW-dih-KAY-shun): pain that comes and goes in the muscles of the leg. This pain results from a lack of blood supply to the legs and usually happens when walking or exercising.

intramuscular (in-trah-MUS-kyoo-lar) injection: inserting liquid medication into a muscle with a syringe. Glucagon may be given by subcutaneous or intramuscular injection for hypoglycemia.

islet (EYE-lot) cell autoantibodies (aw-toe-AN-ti-bod-eez) (ICA): proteins found in the blood of people newly diagnosed with type 1 diabetes. They are also found in people who may be developing type 1 diabetes. The presence of ICA indicates that the body’s immune system has been damaging beta cells in the pancreas.

islet transplantation: moving the islets from a donor pancreas into a person whose pancreas has stopped producing insulin. Beta cells in the islets make the insulin that the body needs for using blood glucose.

islets: groups of cells located in the pancreas that make hormones that help the body break down and use food. For example, alpha cells make glucagon and beta cells make insulin. Also called islets of Langerhans (LANG-er-hahns).

islets of Langerhans: see islets.
jet injector (in-JECT-ur): a device that uses high pressure instead of a needle to propel insulin through the skin and into the body.

juvenile diabetes: former term for insulin-dependent diabetes mellitus (IDDM), or type 1 diabetes.

ketoacidosis: see diabetic ketoacidosis.

ketone: a chemical produced when there is a shortage of insulin in the blood and the body breaks down body fat for energy. High levels of ketones can lead to diabetic ketoacidosis and coma. Sometimes referred to as ketone bodies.

ketonuria (key-TOE-NUH-ree-ah): a condition occurring when ketones are present in the urine, a warning sign of diabetic ketoacidosis.

ketosis (ke-TOE-sis): a ketone buildup in the body that may lead to diabetic ketoacidosis. Signs of ketosis are nausea, vomiting, and stomach pain.

kidney disease: see nephropathy.

kidney failure: a chronic condition in which the body retains fluid and harmful wastes build up because the kidneys no longer work properly. A person with kidney failure needs dialysis or a kidney transplant. Also called end-stage renal (REE-nul) disease or ESRD.
kidneys: the two bean-shaped organs that filter wastes from the blood and form urine. The kidneys are located near the middle of the back. They send urine to the bladder.

LADA: see latent autoimmune diabetes in adults.

lancet: a spring-loaded device used to prick the skin with a small needle to obtain a drop of blood for blood glucose monitoring.

laser surgery treatment: a type of therapy that uses a strong beam of light to treat a damaged area. The beam of light is called a laser. A laser is sometimes used to seal blood vessels in the eye of a person with diabetes. See photocoagulation.

latent autoimmune diabetes in adults (LADA): a condition in which type 1 diabetes develops in adults.

LDL cholesterol: see low-density lipoprotein cholesterol.

lente (LEN-tay) insulin: an intermediate-acting insulin. On average, lente insulin starts to lower blood glucose levels within 1 to 2 hours after injection. It has its strongest effect 8 to 12 hours after injection but keeps working for 18 to 24 hours after injection. Also called L insulin.

limited joint mobility: a condition in which the joints swell and the skin of the hand becomes thick,
tight, and waxy, making the joints less able to move. It may affect the fingers and arms as well as other joints in the body.

**lipid (LIP-id):** a term for fat in the body. Lipids can be broken down by the body and used for energy.

**lipid profile:** a blood test that measures total cholesterol, triglycerides, and HDL cholesterol. LDL cholesterol is then calculated from the results. A lipid profile is one measure of a person’s risk of cardiovascular disease.

**lipoatrophy (LIP-oh-AT-ruh-fee):** loss of fat under the skin resulting in small dents. Lipoatrophy may be caused by repeated injections of insulin in the same spot.

**lipodystrophy (LIP-oh-DIH-struh-fee):** defect in the breaking down or building up of fat below the surface of the skin, resulting in lumps or small dents in the skin surface. (See lipohypertrophy or lipoatrophy.) Lipodystrophy may be caused by repeated injections of insulin in the same spot.

**lipohypertrophy (LIP-oh-hy-PER-truh-fee):** buildup of fat below the surface of the skin, causing lumps. Lipohypertrophy may be caused by repeated injections of insulin in the same spot.

**lispro (LYZ-proh) insulin:** a rapid-acting insulin. On average, lispro insulin starts to lower blood glucose within 5 minutes after injection. It has its strongest effect 30 minutes to 1 hour after injection but keeps working for 3 hours after injection.

**liver:** an organ in the body that changes food into energy, removes alcohol and poisons from the blood, and makes bile, a substance that breaks down fats and helps rid the body of wastes.
long-acting insulin: a type of insulin that starts to lower blood glucose within 4 to 6 hours after injection and has its strongest effect 10 to 18 hours after injection. See ultralente insulin.

low blood sugar: see hypoglycemia.

low-density lipoprotein (LDL) cholesterol (kuh-LESS-tuh-rawl): a fat found in the blood that takes cholesterol around the body to where it is needed for cell repair and also deposits it on the inside of artery walls. Sometimes called “bad” cholesterol.

macrosomia (mack-roh-SOH-mee-ah): abnormally large; in diabetes, refers to abnormally large babies that may be born to women with diabetes.

Macrosomia

macrovascular (mack-roh-VASK-yoo-ler) disease: disease of the large blood vessels, such as those found in the heart. Lipids and blood clots build up in the large blood vessels and can cause atherosclerosis, coronary heart disease, stroke, and peripheral vascular disease.

macula (MACK-yoo-la): the part of the retina in the eye used for reading and seeing fine detail.

macular (MACK-yoo-lur) edema (eh-DEE-mah): swelling of the macula.
maturity-onset diabetes of the young (MODY): a kind of type 2 diabetes that accounts for 1 to 5 percent of people with diabetes. Of the six forms identified, each is caused by a defect in a single gene.

meglitinide (meh-GLIH-tin-ide): a class of oral medicine for type 2 diabetes that lowers blood glucose by helping the pancreas make more insulin right after meals. (Generic name: repaglinide.)

metabolic syndrome: the tendency of several conditions to occur together, including obesity, insulin resistance, diabetes or pre-diabetes, hypertension, and high lipids.

metabolism: the term for the way cells chemically change food so that it can be used to store or use energy and make the proteins, fats, and sugars needed by the body.

metformin (met-FOR-min): an oral medicine used to treat type 2 diabetes. It lowers blood glucose by reducing the amount of glucose produced by the liver and helping the body respond better to the insulin made in the pancreas. Belongs to the class of medicines called biguanides. (Brand names: Glucophage, Glucophage XR; an ingredient in Glucovance.)

mg/dL: milligrams (MILL-ih-grams) per deciliter (DESS-ih-lee-tur), a unit of measure that shows the concentration of a substance in a specific amount of fluid. In the United States, blood glucose test results are reported as mg/dL. Medical journals and other countries use millimoles per liter (mmol/L). To convert to mg/dL from mmol/L, multiply mmol/L by 18. Example: 10 mmol/L × 18 = 180 mg/dL.

microalbumin (MY-kro-al-BYOO-min): small amounts of the protein called albumin in the urine detectable with a special lab test.

microaneurysm (MY-kro-AN-yeh-rizm): a small swelling that forms on the side of tiny blood vessels. These small swellings may break and allow blood to leak into nearby tissue. People with diabetes may get microaneurysms in the retina of the eye.
Micronase: see glyburide.

microvascular (MY-kro-VASK-yoo-ler) disease: disease of the smallest blood vessels, such as those found in the eyes, nerves, and kidneys. The walls of the vessels become abnormally thick but weak. Then they bleed, leak protein, and slow the flow of blood to the cells.

miglitol (MIG-lih-tall): an oral medicine used to treat type 2 diabetes. It blocks the enzymes that digest starches in food. The result is a slower and lower rise in blood glucose throughout the day, especially right after meals. Belongs to the class of medicines called alpha-glucosidase inhibitors. (Brand name: Glyset.)

mixed dose: a combination of two types of insulin in one injection. Usually a rapid- or short-acting insulin is combined with a longer acting insulin (such as NPH insulin) to provide both short-term and long-term control of blood glucose levels.

mmol/L: millimoles per liter, a unit of measure that shows the concentration of a substance in a specific amount of fluid. In most of the world, except for the United States, blood glucose test results are reported as mmol/L. In the United States, milligrams per deciliter (mg/dL) is used. To convert to mmol/L from mg/dL, divide mg/dL by 18. Example: 180 mg/dL ÷ 18 = 10 mmol/L.

MODY: see maturity-onset diabetes of the young.

monitor: see blood glucose meter.

monofilament: a short piece of nylon, like a hairbrush bristle, mounted on a wand. To check sensitivity of the nerves in the foot, the doctor touches the filament to the bottom of the foot.

mononeuropathy (MAH-noh-ne-ROP-uh-thee): neuropathy affecting a single nerve.

myocardial (my-oh-KAR-dee-ul) infarction (in-FARK-shun): an interruption in the blood supply to the heart because of narrowed or blocked blood vessels. Also called a heart attack.
nateglinide (neh-TEH-glin-ide): an oral medicine used to treat type 2 diabetes. It lowers blood glucose levels by helping the pancreas make more insulin right after meals. Belongs to the class of medicines called D-phenylalanine derivatives. (Brand name: Starlix.)

necrobiosis (NEK-roh-by-OH-sis) lipoidica (lih-POY-dik-ah) diabeticorum (DY-uh-bet-ih-KOR-um): a skin condition usually on the lower part of the legs. Lesions can be small or extend over a large area. They are usually raised, yellow, and waxy in appearance and often have a purple border.

neovascularization (NEE-oh-VASK-yoo-ler-ih-ZAY-shun): the growth of new, small blood vessels. In the retina, this may lead to loss of vision or blindness.

nephrologist (neh-FRAH-luh-jist): a doctor who treats people who have kidney problems.

nephropathy (neh-FROP-uh-thee): disease of the kidneys. Hyperglycemia and hypertension can damage the kidneys’ glomeruli. When the kidneys are damaged, protein leaks out of the kidneys into the urine. Damaged kidneys can no longer remove waste and extra fluids from the bloodstream.

nerve conduction studies: tests used to measure for nerve damage; one way to diagnose neuropathy.

nerve disease: see neuropathy.

neurologist (ne-RAH-luh-jist): a doctor who specializes in problems of the nervous system, such as neuropathy.

neuropathy (ne-ROP-uh-thee): disease of the nervous system. The three major forms in people with diabetes are peripheral neuropathy, autonomic neuropathy, and mononeuropathy. The most common form is peripheral neuropathy, which affects mainly the legs and feet.

NIDDM: see noninsulin-dependent diabetes mellitus.

noninsulin-dependent diabetes mellitus (NIDDM): former term for type 2 diabetes.

noninvasive (NON-in-VAY-siv) blood glucose monitoring: measuring blood glucose without pricking the finger to obtain a blood sample.
**N-O**

**NPH insulin:** an *intermediate-acting insulin*; NPH stands for neutral protamine Hagedorn. On average, NPH insulin starts to lower *blood glucose* within 1 to 2 hours after injection. It has its strongest effect 6 to 10 hours after injection but keeps working about 10 hours after injection. Also called N insulin.

**nutritionist (noo-TRIH-shuh-nist):** a person with training in nutrition; may or may not have specialized training and qualifications. See *dietitian*.

**obesity:** a condition in which a greater than normal amount of fat is in the body; more severe than *overweight*; having a *body mass index* of 30 or more.

**obstetrician (ob-steh-TRIH-shun):** a doctor who treats pregnant women and delivers babies.

**OGTT:** see *oral glucose tolerance test*.

**ophthalmologist (AHF-thal-MAH-luh-jist):** a medical doctor who diagnoses and treats all eye diseases and eye disorders. Ophthalmologists can also prescribe glasses and contact lenses.

**optician (ahp-TI-shun):** a health care professional who dispenses glasses and lenses. An optician also makes and fits contact lenses.
optometrist (ahp-TAH-meh-trist): a primary eye care provider who prescribes glasses and contact lenses. Optometrists can diagnose and treat certain eye conditions and diseases.

oral glucose tolerance test (OGTT): a test to diagnose pre-diabetes and diabetes. The oral glucose tolerance test is given by a health care professional after an overnight fast. A blood sample is taken, then the patient drinks a high-glucose beverage. Blood samples are taken at intervals for 2 to 3 hours. Test results are compared with a standard and show how the body uses glucose over time.

oral hypoglycemic (hy-po-gly-SEE-mik) agents: medicines taken by mouth by people with type 2 diabetes to keep blood glucose levels as close to normal as possible. Classes of oral hypoglycemic agents are alpha-glucosidase inhibitors, biguanides, D-phenylalanine derivatives, meglitinides, sulfonylureas, and thiazolidinediones.

Orinase: see tolbutamide.

overweight: an above-normal body weight; having a body mass index of 25 to 29.9.

pancreas (PAN-kree-us): an organ that makes insulin and enzymes for digestion. The pancreas is located behind the lower part of the stomach and is about the size of a hand.

pancreas transplantation: a surgical procedure to take a healthy whole or partial pancreas from a donor and place it into a person with diabetes.

pediatric (pee-dee-AT-rik) endocrinologist (en-doh-krih-NAH-luh-jist): a doctor who treats children who have endocrine gland problems such as diabetes.
pedorthist (ped-OR-thist): a health care professional who specializes in fitting shoes for people with disabilities or deformities. A pedorthist can custom-make shoes or orthotics (special inserts for shoes).

periodontal (PER-ee-oh-DON-tul) disease: disease of the gums.

periodontist (PER-ee-oh-DON-tist): a dentist who specializes in treating people who have gum diseases.

peripheral (puh-RIF-uh-rul) neuropathy (ne-ROP-uh-thee): nerve damage that affects the feet, legs, or hands. Peripheral neuropathy causes pain, numbness, or a tingling feeling.

peripheral (puh-RIF-uh-rul) vascular (VAS-kyoo-ler) disease (PVD): a disease of the large blood vessels of the arms, legs, and feet. PVD may occur when major blood vessels in these areas are blocked and do not receive enough blood. The signs of PVD are aching pains and slow-healing foot sores.

peritoneal dialysis: see dialysis.

pharmacist (FAR-mah-sist): a health care professional who prepares and distributes medicine to people. Pharmacists also give information on medicines.

photocoagulation (FOH-toh-koh-ag-yoo-LAY-shun): a treatment for diabetic retinopathy. A strong beam of light (laser) is used to seal off bleeding blood vessels in the eye and to burn away extra blood vessels that should not have grown there.
pioglitazone (py-oh-GLIT-uh-zone): an oral medicine used to treat type 2 diabetes. It helps insulin take glucose from the blood into the cells for energy by making cells more sensitive to insulin. Belongs to the class of medicines called thiazolidinediones. (Brand name: Actos.)

podiatrist (puh-DY-uh-trist): a doctor who treats people who have foot problems. Podiatrists also help people keep their feet healthy by providing regular foot examinations and treatment.

podiatry (puh-DY-uh-tree): the care and treatment of feet.

point system: a meal planning system that uses points to rate the caloric content of foods.

polydipsia (pah-lee-DIP-see-uh): excessive thirst; may be a sign of diabetes.

polyphagia (pah-lee-FAY-jee-ah): excessive hunger; may be a sign of diabetes.

polyuria (pah-lee-YOOR-ee-ah): excessive urination; may be a sign of diabetes.

postprandial (post-PRAN-dee-ul) blood glucose: the blood glucose level taken 1 to 2 hours after eating.

Prandin: see repaglinide.

Precose: see acarbose.

pre-diabetes: a condition in which blood glucose levels are higher than normal but are not high enough for a diagnosis of diabetes. People with pre-diabetes are at increased risk for developing type 2 diabetes and for heart disease and stroke. Other names for pre-diabetes are impaired glucose tolerance and impaired fasting glucose.

premixed insulin: a commercially produced combination of two different types of insulin. See 50/50 insulin and 70/30 insulin.

preprandial (pree-PRAN-dee-ul) blood glucose: the blood glucose level taken before eating.

prevalence: the number of people in a given group or population who are reported to have a disease.

proinsulin (proh-IN-suh-lin): the substance made first in the pancreas and then broken into several pieces to become insulin.

proliferative (pro-LIH-fur-ah-tiv) retinopathy (REH-tih-NOP-uh-thee): a condition in which fragile new blood vessels grow along the retina and in the vitreous humor of the eye.
prosthesis (prahs-THEE-sis): a man-made substitute for a missing body part such as an arm or a leg.

protein (PRO-teen): 1. One of the three main nutrients in food. Foods that provide protein include meat, poultry, fish, cheese, milk, dairy products, eggs, and dried beans. 2. Proteins are also used in the body for cell structure, hormones such as insulin, and other functions.

rapid-acting insulin: a type of insulin that starts to lower blood glucose within 5 to 10 minutes after injection and has its strongest effect 30 minutes to 3 hours after injection, depending on the type used. See aspart insulin and lispro insulin.

rebound hyperglycemia (HY-per-gly-SEE-mee-ah): a swing to a high level of glucose in the blood after a low level. See Somogyi effect.

receptors: see insulin receptors.

Recognized Diabetes Education Programs: diabetes self-management education programs that are approved by the American Diabetes Association.

regular insulin: short-acting insulin. On average, regular insulin starts to lower blood glucose within 30 minutes after injection. It has its strongest effect 2 to 5 hours after injection but keeps working 5 to 8 hours after injection. Also called R insulin.

renal (REE-nal): having to do with the kidneys. A renal disease is a disease of the kidneys. Renal failure means the kidneys have stopped working.
renal threshold (THRESH-hold) of glucose: the blood glucose concentration at which the kidneys start to excrete glucose into the urine.

repaglinide (reh-PAG-lih-nide): an oral medicine used to treat type 2 diabetes. It lowers blood glucose by helping the pancreas make more insulin right after meals. Belongs to the class of medicines called meglitinides. (Brand name: Prandin.)

retina (REH-ti-nuh): the light-sensitive layer of tissue that lines the back of the eye.

retinopathy: see background retinopathy, proliferative retinopathy, and diabetic retinopathy.

risk factor: anything that raises the chances of a person developing a disease.

rosiglitazone (rose-ee-GLIH-tuh-zone): an oral medicine used to treat type 2 diabetes. It helps insulin take glucose from the blood into the cells for energy by making cells more sensitive to insulin. Belongs to the class of medicines called thiazolidinediones. (Brand name: Avandia.)

saccharin (SAK-ah-rin): a sweetener with no calories and no nutritional value.

secondary diabetes: a type of diabetes caused by another disease or certain drugs or chemicals.

self-management: in diabetes, the ongoing process of managing diabetes. Includes meal planning, planned physical activity, blood glucose monitoring, taking diabetes medicines, handling episodes of illness and of low and high blood glucose, managing diabetes when traveling, and more. The person with diabetes designs his or her own self-management treatment plan in consultation with a variety of health care professionals such as doctors, nurses, dietitians, pharmacists, and others.

70/30 insulin: premixed insulin that is 70 percent intermediate-acting (NPH) insulin and 30 percent short-acting (regular) insulin.

sharps container: a container for disposal of used needles and syringes; often made of hard plastic so that needles cannot poke through.
short-acting insulin: a type of insulin that starts to lower blood glucose within 30 minutes after injection and has its strongest effect 2 to 5 hours after injection. See regular insulin.

side effects: the unintended action(s) of a drug.

sliding scale: a set of instructions for adjusting insulin on the basis of blood glucose test results, meals, or activity levels.

Somogyi (suh-MOH-jee) effect, also called rebound hyperglycemia: when the blood glucose level swings high following hypoglycemia. The Somogyi effect may follow an untreated hypoglycemic episode during the night and is caused by the release of stress hormones.

sorbitol (SORE-bih-tall): 1. A sugar alcohol (sweetener) with 4 calories per gram. 2. A substance produced by the body in people with diabetes that can cause damage to the eyes and nerves.

split mixed dose: division of a prescribed daily dose of insulin into two or more injections given over the course of the day.

starch: another name for carbohydrate, one of the three main nutrients in food.

Starlix: see nateglinide.

stroke: condition caused by damage to blood vessels in the brain; may cause loss of ability to speak or to move parts of the body.

subcutaneous (sub-kyoo-TAY-nee-us) injection: putting a fluid into the tissue under the skin with a needle and syringe.

sucralose: a sweetener made from sugar but with no calories and no nutritional value.

sucrose: a two-part sugar made of glucose and fructose. Known as table sugar or white sugar, it is found naturally in sugar cane and in beets.

sugar: 1. A class of carbohydrates with a sweet taste; includes glucose, fructose, and sucrose. 2. A term used to refer to blood glucose.
sugar alcohols: sweeteners that produce a smaller rise in blood glucose than other carbohydrates. Their calorie content is about 2 calories per gram. Includes erythritol, hydrogenated starch hydrolysates, isomalt, lactitol, maltitol, mannitol, sorbitol, and xylitol. Also known as polyols (PAH-lee-alls.)

sugar diabetes: former term for diabetes mellitus.

sulfonylurea (sul-fah-nil-yoo-REE-ah): a class of oral medicine for type 2 diabetes that lowers blood glucose by helping the pancreas make more insulin and by helping the body better use the insulin it makes. (Generic names: acetohexamide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide.)

syndrome x: see insulin resistance and metabolic syndrome.

syringe (suh-RINJ): a device used to inject medications or other liquids into body tissues. The syringe for insulin has a hollow plastic tube with a plunger inside and a needle on the end.
team management: a diabetes treatment approach in which medical care is provided by a team of health care professionals including a doctor, a dietitian, a nurse, a diabetes educator, and others. The team act as advisers to the person with diabetes.

thiazolidinedione (THIGH-uh-ZOH-lih-deen-DYE-own): a class of oral medicine for type 2 diabetes that helps insulin take glucose from the blood into the cells for energy by making cells more sensitive to insulin. (Generic names: pioglitazone and rosiglitazone.)

tight control: see intensive therapy.

tolazamide (tohl-AH-zah-mide): an oral medicine used to treat type 2 diabetes. It lowers blood glucose by helping the pancreas make more insulin and by helping the body better use the insulin it makes. Belongs to the class of medicines called sulfonylureas. (Brand name: Tolinase.)

tolbutamide (tohl-BYOO-tah-mide): an oral medicine used to treat type 2 diabetes. It lowers blood glucose by helping the pancreas make more insulin and by helping the body better use the insulin it makes. Belongs to the class of medicines called sulfonylureas. (Brand name: Orinase.)

Tolinase: see tolazamide.

triglyceride (try-GLISS-er-ide): the storage form of fat in the body. High triglyceride levels may occur when diabetes is out of control.

type 1 diabetes: a condition characterized by high blood glucose levels caused by a total lack of insulin. Occurs when the body’s immune system attacks the insulin-producing beta cells in the pancreas and destroys them. The pancreas then produces little or no insulin. Type 1 diabetes develops most often in young people but can appear in adults.
**type 2 diabetes**: a condition characterized by high blood glucose levels caused by either a lack of insulin or the body’s inability to use insulin efficiently. Type 2 diabetes develops most often in middle-aged and older adults but can appear in young people.

**type I diabetes**: former term for type 1 diabetes.

**type II diabetes**: former term for type 2 diabetes.

**UKPDS**: see *United Kingdom Prospective Diabetes Study*.

**ulcer** (UL-sur): a deep open sore or break in the skin.

**ultralente** (UL-truh-LEN-tay) **insulin**: long-acting insulin. On average, ultralente insulin starts to lower blood glucose within 4 to 6 hours after injection. It has its strongest effect 10 to 18 hours after injection but keeps working 24 to 28 hours after injection. Also called U insulin.

**unit of insulin**: the basic measure of insulin. U-100 insulin means 100 units of insulin per milliliter (mL) or cubic centimeter (cc) of solution. Most insulin made today in the United States is U-100.

**United Kingdom Prospective Diabetes Study (UKPDS)**: a study in England, conducted from 1977 to 1997 in people with type 2 diabetes. The study showed that if people lowered their blood glucose, they lowered their risk of eye disease and kidney damage. In addition, those with type 2 diabetes and hypertension who lowered their blood pressure also reduced their risk of stroke, eye damage, and death from long-term complications.
U-100: see unit of insulin.

urea (yoo-REE-uh): a waste product found in the blood that results from the normal breakdown of protein in the liver. Urea is normally removed from the blood by the kidneys and then excreted in the urine.

uremia (yoo-REE-mee-ah): the illness associated with the buildup of urea in the blood because the kidneys are not working effectively. Symptoms include nausea, vomiting, loss of appetite, weakness, and mental confusion.

urine: the liquid waste product filtered from the blood by the kidneys, stored in the bladder, and expelled from the body by the act of urinating.

urine testing: also called urinalysis; a test of a urine sample to diagnose diseases of the urinary system and other body systems. In people with diabetes, a doctor may check for

1. Glucose, a sign of diabetes or other diseases.
2. Protein, a sign of kidney damage, or nephropathy. (Also see albuminuria.)
3. White blood cells, a sign of urinary tract infection.
4. Ketones, a sign of diabetic ketoacidosis or other conditions.

Urine may also be checked for signs of bleeding. Some tests use a single urine sample. For others, 24-hour collection may be needed. And sometimes a sample is “cultured” to see exactly what type of bacteria grows.

urologist (yoo-RAH-luh-jist): a doctor who treats people who have urinary tract problems. A urologist also cares for men who have problems with their genital organs, such as impotence.
vascular (VAS-kyoo-ler): relating to the body’s blood vessels.

very-low-density lipoprotein (VLDL) cholesterol: a form of cholesterol in the blood; high levels may be related to cardiovascular disease.

vitrectomy (vih-TREK-tuh-mee): surgery to restore sight in which the surgeon removes the cloudy vitreous humor in the eye and replaces it with a salt solution.

vitreous (VIH-tree-us) humor: the clear gel that lies behind the eye’s lens and in front of the retina.

VLDL cholesterol: see very-low-density lipoprotein cholesterol.

void: to urinate; to empty the bladder.

wound care: steps taken to ensure that a wound such as a foot ulcer heals correctly. People with diabetes need to take special precautions so wounds do not become infected.

xylitol (ZY-ih-tall): a carbohydrate-based sweetener found in plants and used as a substitute for sugar; provides calories. Found in some mints and chewing gum.
The National Diabetes Information Clearinghouse (NDIC) is a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The NIDDK is part of the National Institutes of Health under the U.S. Department of Health and Human Services. Established in 1978, the Clearinghouse provides information about diabetes to people with diabetes and to their families, health care professionals, and the public. The NDIC answers inquiries, develops and distributes publications, and works closely with professional and patient organizations and Government agencies to coordinate resources about diabetes.

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