The Diabetes Dictionary

Some terms listed have many meanings; only those meanings that relate to diabetes are included. Words that appear in **bold italic** are listed elsewhere in the dictionary.

Information in this dictionary is not a substitute for a visit to your doctor. Talk with a health professional if you have a problem with your diabetes.

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### Pronunciation Guide

This pronunciation guide uses letters and letter combinations, rather than phonetic symbols, to stand for the various sounds in the English language.

#### Vowels

<table>
<thead>
<tr>
<th>Letter</th>
<th>Sample Words</th>
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<tbody>
<tr>
<td>a</td>
<td>cat, bat</td>
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<tr>
<td>ah</td>
<td>father</td>
</tr>
<tr>
<td>air</td>
<td>pear, hair</td>
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<tr>
<td>ar</td>
<td>park</td>
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<tr>
<td>ay</td>
<td>say, came, weigh</td>
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<tr>
<td>aw</td>
<td>saw, bought</td>
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<tr>
<td>e</td>
<td>bet, set</td>
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<tr>
<td>eh</td>
<td>(used at the end of a syllable or when standing alone) examples: meadow (MEH-doh), enemy (EH-nuh-mee) but diet (DY-et)</td>
</tr>
<tr>
<td>ee</td>
<td>feet, neat</td>
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<tr>
<td>i</td>
<td>sit, igloo</td>
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<tr>
<td>ih</td>
<td>(used at the end of a syllable or when standing alone) examples: chicken (CHIH ken), miracle (MIHR-ih-kuhl) but picnic (PIK-nik)</td>
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<tr>
<td>Ihr</td>
<td>near, here</td>
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<tr>
<td>y</td>
<td>fire, idol</td>
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<tr>
<td>eye</td>
<td>(used at the beginning of a syllable or when standing alone) examples: iron (EYE urn), chloride (KLOH-uh-ur), but silent (SY-luht)</td>
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#### Consonants

<table>
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<td>bat, job</td>
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<tr>
<td>ch</td>
<td>chop, itch</td>
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<td>d</td>
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<td>fur, tough, calf</td>
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<td>rain, fur</td>
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<td>z</td>
<td>zip, jazz, has</td>
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<tr>
<td>zh</td>
<td>measure</td>
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Acanthosis nigricans (ak-an-THOH-siss) (NIG-rih-kanz): a skin condition characterized by darkened skin patches; common in people whose body is not responding correctly to the insulin they make in their pancreas, a condition called insulin resistance. This skin condition is also seen in people who have pre-diabetes or type 2 diabetes.

Acarbose (A-kahr-bohss): an oral medicine used to treat type 2 diabetes. Acarbose slows down the digestion of foods high in carbohydrate, such as rice, bread, milk, and fruit. The result is a slower and lower rise in blood glucose throughout the day, especially right after meals. Acarbose belongs to the class of medicines called alpha-glucosidase inhibitors. (Brand name: Precose.)

Acesulfame potassium (AY-see-SUHL-faym) (poh-TASS-euhm): a dietary sweetener with no calories and no nutritional value. Also known as acesulfame-K. (Brand name: Sunett.)

Actoplus Met (AK-toh-pluhss) (met): the brand name of an oral medicine used to treat type 2 diabetes; a combination of pioglitazone and metformin.

Actos (AK-tohss): see pioglitazone.

Acute (uh-KYOOT): describes something that happens suddenly and for a short time. Opposite of chronic, or long-lasting.


Adhesive capsulitis (ad-HEE-siv) (KAP-soo-LY-tiss): a condition of the shoulder associated with diabetes that results in pain and loss of the ability to move the shoulder in all directions.

**AGEs (AY-JEE-EEZ):** stands for advanced glycosylation end products. 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.

**albumin** (al-BYOO-min): the main protein in blood. Over several years, people who are developing diabetic kidney disease leak small amounts of albumin into the urine, a condition called microalbuminuria. As kidney disease progresses, more albumin leaks into the urine, a condition called macroalbuminuria or proteinuria. As the amount of albumin in the urine increases, the kidneys’ ability to filter the blood decreases.

**albuminuria** (al-BYOO-min-YOO-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, or kidney disease. See albumin.

**alpha cell** (AL-fuh) (sel): 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 the liver to release glucose into the blood for energy.

**alpha-glucosidase inhibitor** (AL-fuh-gloo-KOH-sih-dayss) (in-HIB-ih-tur): a class of oral medicine for type 2 diabetes that slows down the digestion of foods high in carbohydrate, such as rice, bread, milk, and fruit. The result is a slower and lower rise in blood glucose after meals. (Generic names/Brand names: acarbose/Precose; miglitol/Glyset.)

**alternative site testing:** using areas of the body other than the fingertips for blood glucose monitoring.

**Amaryl** (AM-uh-ril): see glimepiride.

**amputate** (AM-pyoo-tayt): to cut a part, such as a foot, from the body.
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.

amylin mimetic (AM-ih-lin) (mih-MET-ik): a type of injectable medicine for diabetes that mimics the effect of the hormone amylin. This medicine helps food move more slowly through the stomach and helps keep the liver from releasing stored glucose. (Generic name/Brand name: pramlintide acetate/Symlin.)

amyotrophy (uh-my-OT-roh-fee): a type of neuropathy resulting in pain, weakness, 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 carried to the body’s cells. Anemia can cause extreme fatigue.

angiopathy (AN-jee-OP-uh-thee): any disease of the blood vessels (arteries, capillaries, veins) or lymphatic vessels.

antibodies (AN-tee-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 (AY-WUHN-SEE): a test that measures a person’s average blood glucose level over the past 2 to 3 months. Hemoglobin 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 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. Results are given as a percentage or as an average glucose value, called an estimated average glucose.

Apidra (uh-PEE-druh): see insulin glulisine.

ARB (arb): an oral medicine that lowers blood pressure. ARB stands for angiotensin receptor blocker. For people with diabetes, especially those who have protein (albumin) in the urine, it also helps slow down kidney damage.
arteriosclerosis (ar-TIHR-ee-oh-sklur-OH-siss): see atherosclerosis.

artery (AR-tur-ee): a large blood vessel that carries blood with oxygen from the heart to all parts of the body.

aspartame (ASS-par-taym): a dietary sweetener with almost no calories and no nutritional value.

atherosclerosis (ATH-ur-oh-sklur-OH-siss): clogging, narrowing, and hardening of the body’s large blood vessels, also called arteries. Atherosclerosis can lead to coronary heart disease, heart attacks, peripheral arterial disease, strokes, and transient ischemic attacks. It can also damage the arteries that go to the kidneys.

athlete’s foot (ATH-leets) (fut): a fungal infection of the skin on the foot, also called tinea pedis. The fungus is common in people with diabetes, the elderly, and people with an impaired immune system. The skin may peel, crack, bleed, or cause pain. Some people have no symptoms and do not know they have an infection. The affected skin is also more vulnerable to bacteria that cause cellulitis.

Common Types of Athlete’s Foot
- moccasin, which affects the soles of the feet
- interdigital, which affects the skin between the toes
- inflammatory or blistering, which affects the soles and sides of the feet

autoimmune disease (AW-toh-ih-MYOON) (dih-ZEEZ): a disorder of the body’s immune system in which the immune system mistakenly attacks and destroys body tissue it believes to be foreign.
autonomic neuropathy (AW-toh-NOM-ik) (noo-ROP-uh-thee): a type of neuropathy affecting the lungs, heart, stomach, intestines, bladder, or genitals.

Avandamet (uh-VAN-duh-met): the brand name of an oral medicine used to treat type 2 diabetes; a combination of rosiglitazone and metformin.

Avandaryl (uh-VAN-duh-ril): the brand name of an oral medicine used to treat type 2 diabetes; a combination of rosiglitazone and glimepiride.

Avandia (uh-VAN-dee-uh): see rosiglitazone.

background retinopathy (BAK-ground) (RET-ih-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 retinopathy.

basal rate (BAY-suhl) (rayt): a continuous supply of low levels of longer-acting insulin, as used in insulin pumps.

beta cell (BAY-tuh) (sel): a cell that makes insulin. Beta cells are located in the islets of the pancreas.

biguanide (by-GWAH-nyd): 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. This type of medicine also helps treat insulin resistance, a condition in which the body doesn’t use insulin the way it should. (Generic names/Brand names: metformin/Glucophage, Glucophage XR, Riomet.)
Blood glucose (bluhd) (GLOO-kohss): the main sugar found in the blood and the body’s main source of energy. Also called blood sugar.

Blood glucose level (bluhd) (GLOO-kohss) (LEV-uhl): the amount of glucose in a given amount of blood. In the United States, blood glucose levels are noted in milligrams per deciliter, or mg/dL.

Blood glucose meter (bluhd) (GLOO-kohss) (MEE-tur): 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 then displays the blood glucose reading.

Blood glucose monitoring (bluhd) (GLOO-kohss) (MON-ih-TUR-ing): checking blood glucose levels by using a blood glucose meter or blood glucose test strips that change color when touched by a blood sample in order to manage diabetes.

Blood pressure: the force of blood exerted on the inside walls of blood vessels. Blood pressure is expressed as two numbers. For example, a blood pressure result of 120/80 is said as “120 over 80.” The first number is the systolic pressure, or the pressure when the heart pushes blood into the arteries. The second number is the diastolic pressure, or the pressure when the heart rests.

Blood sugar: see blood glucose.

Blood sugar level: see blood glucose level.

Blood urea nitrogen (BUN) (bluhd) (yoo-REE-uh) (NY-troh-jen): a waste product in the blood that comes from the breakdown of protein. The kidneys filter blood to remove urea. As kidney function decreases, the BUN level increases.
blood vessels (bluhd) (VESS-uhlz): tubes that carry blood to and from all parts of the body. The three main types of blood vessels are arteries, capillaries, and veins.

BMI: see body mass index.

<table>
<thead>
<tr>
<th>BMI Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 and below</td>
<td>underweight.</td>
</tr>
<tr>
<td>19 to 24</td>
<td>normal.</td>
</tr>
<tr>
<td>25 to 29</td>
<td>overweight.</td>
</tr>
<tr>
<td>30 and above</td>
<td>obese.</td>
</tr>
</tbody>
</table>

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 below.

borderline diabetes (BOR-dur-lyn) (DY-uh-BEE-teez): a former term for type 2 diabetes or pre-diabetes.

brittle diabetes (BRIH-tuhl) (DY-uh-BEE-teez): a term used when a person’s blood glucose level moves often from low to high and from high to low.

BUN (BEE-YOO-EN): see blood urea nitrogen.

bunion (BUHN-yuhn): 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.

Byetta (by-YAY-tuh): see exenatide.
callus (KAL-uhss): 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, fat, protein, 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.

Candida (KAN-did-uh): a fungus that is normally found in the body but commonly becomes overgrown in people with diabetes. Overgrowth is due to increased sugar in the body and a weakened immune system. Use of antibiotics or birth control pills also increases the risk of candida overgrowth. Candida overgrowth can lead to infection, causing itching, skin lesions, or rash. Some common areas of infection are in or around the mouth, armpits, groin, vagina, and nails.

CAPD (SEE-AY-PEE-DEE): see continuous ambulatory peritoneal dialysis under dialysis.

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-drayt): 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 (KAR-boh-HY-drayt) (KOUN-ting): a method of meal planning for people with diabetes based on counting the number of grams of carbohydrate in food.

cardiologist (KAR-dee-OL-oh-jist): a doctor who treats people who have heart problems.


carpal tunnel syndrome (KAR-puhhl) (TUHN-uhl) (SIN-drohm): a common form of neuropathy occurring with diabetes. Symptoms of carpal tunnel syndrome include nighttime hand tingling and pain and numbness and weakness in the hand and wrist that sometimes radiates up the arm. Carpal tunnel syndrome often affects both wrists and occurs more often in women than men.

cataract (KAT-uh-rakt): clouding of the lens of the eye.

CCPD: see continuous cycling peritoneal dialysis under dialysis.

CDE: see certified diabetes educator.

celiac disease (SEE-lee-ak) (dih-ZEEZ): the inability to digest and absorb proteins called gluten found in wheat, rye, and barley. Celiac disease causes damage to the lining of the small intestine and prevents absorption of nutrients. Also called celiac sprue, gluten intolerance, and nontropical sprue.

cellulitis (SEL-yoo-L Y-tiss): a skin infection caused by bacteria that gets into the skin through a wound. Cellulitis may develop from skin problems such as ulcers, eczema, psoriasis, or a fungal infection like athlete’s foot. People with diabetes, peripheral arterial disease, or a weakened immune system may develop cellulitis. If not treated with antibiotics, the infection can spread to the blood or lymph nodes and cause death.

cerebral vascular disease (seh-REE-bruhl) (VASS-kyoo-lur) (dih-ZEEZ): damage to blood vessels in the brain. Vessels can burst and bleed or become clogged with fatty deposits. A stroke results when blood flow is interrupted and brain cells die or are damaged.
C

Certified diabetes educator (CDE) (SER-tih-fyd) (DY-uh-BEE-teez) (EH-juh-KAY-tur): a health care professional with expertise in diabetes education who has met eligibility requirements and successfully completed a certification exam. See diabetes educator.

CGMS: see continuous glucose monitoring system.

Charcot’s foot (SHAHR-kohz) (fut): a condition resulting from nerve damage in which the joints and soft tissue in the foot are destroyed.

Cheiroarthropathy (KY-roh-ar-THROP-uh-thee): see limited joint mobility.

Cheiropathy (ky-ROP-uh-thee): see limited joint mobility.

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

Cholesterol (koh-LESS-tur-ol): a type of fat produced by the liver and found in the blood. Cholesterol is also found in some foods. The body uses cholesterol to make hormones and build cell walls.

Chronic (KRON-ik): describes something that is long-lasting. Opposite of acute.

Chronic kidney disease (CKD) (KRON-ik) (KID-nee) (dih-ZEEZ): any condition that causes reduced kidney function over a period of time. CKD is present when a patient’s glomerular filtration rate remains below 60 milliliters per minute for more than 3 months. CKD may develop over many years and lead to end-stage renal disease.

Circulation (SUR-kyoo-LAY-shuhn): the flow of blood through the body’s blood vessels and heart.

CKD: see chronic kidney disease.

Claudication (CLAW-dih-KAY-shuhn): see intermittent claudication.
coma (KOH-muh): a sleeplike state in which a person is not conscious. A coma may be caused by hyperglycemia (high blood glucose) or hypoglycemia (low blood glucose) in people with diabetes.

combination diabetes pill (KOM-bih-NAY-shuhn) (DY-uh-BEE-teez) (pil): a pill that includes two different medicines.

combination therapy: the use of different medicines together to manage blood glucose levels.

complications (KOM-plih-KAY-shuhnz): 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 LDL cholesterol levels close to normal can help prevent or delay these problems.

congenital defects (kon-JEN-ih-tuhl) (DEE-fektz): problems or conditions that are present at birth.

congestive heart failure (kon-JESS-tiv) (hart) (FAYL-yoor): the type of heart failure in which loss of the heart’s pumping power causes fluid to build up in the body.

constipation (KON-stih-PAY-shuhn): a condition in which the stool becomes hard and dry. A person who is constipated usually has fewer than three bowel movements in a week. Bowel movements may be painful.


continuous cycling peritoneal dialysis (kon-TIN-yoo-uhss) (SY-kling) (PAIR-ih-toh-NEE-uhl) (dy-AL-ih-siss): see continuous cycling peritoneal dialysis under dialysis.

continuous glucose monitoring system (CGMS) (kon-TIN-yoo-uhss) (GLOO-kohss) (MON-ih-TUR-ing) (SISS-tuhtm): a small sensor inserted below the skin that measures blood glucose levels approximately 12 times an hour.

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 (KOR-uh-nair-ee) (AR-tur-ee) (dih-ZEEZ): see coronary heart disease.

coronary heart disease (KOR-uh-nair-ee) (hart) (dih-ZEEZ): 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-PEP-tyd): 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.

C-reactive protein (SEE-ree-AK-tiv) (PROH-teen): a substance produced in the liver in response to injury or inflammation. Elevated levels of C-reactive protein are associated with a higher risk of heart attack and stroke.

creatinine (kree-AT-ih-teen): a waste product from meat 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.

creatinine clearance (kree-AT-ih-teen) (KLIHR-ants): a test that measures how efficiently the kidneys remove creatinine and other wastes from the blood. Low creatinine clearance indicates impaired kidney function.

CSII (continuous subcutaneous insulin injection) (SEE-ESS-EYE-EYE): see insulin pump.
dawn phenomenon (dawn) (fuh-NOM-uh-non): the early-morning (4 a.m. to 8 a.m.) rise in blood glucose.

DCCT: see Diabetes Control and Complications Trial.

debridement (day-breed-MAW): removal of dead or infected tissue from a wound. Debridement can be done with enzymes; mechanically, such as in a whirlpool; or through surgery.

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

dermopathy (dur-MOP-uh-thee): disease of the skin.

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

DiaBeta (dy-uh-BAY-tuh): see glyburide.

diabetes (DY-uh-BEE-teez): a condition characterized by hyperglycemia (high blood glucose) resulting from the body’s inability to use blood glucose for energy. In type 1 diabetes, the pancreas no longer makes insulin; 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. Also called diabetes mellitus.

Diabetes Control and Complications Trial (DCCT) (DY-uh-BEE-teez) (kon-TROHL) (and) (KOM-plih-KAY-shuhnz) (TRY-uhl): 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 with conventional therapy significantly helped prevent or delay diabetic retinopathy, kidney disease, and nerve disease. Intensive therapy included multiple daily injections of insulin or the use of an insulin pump with multiple blood glucose readings each day.
diabetes educator (DY-uh-BEE-teez) (EH-juh-KAY-tur): a health care professional who teaches people who have diabetes how to manage their condition. 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 (DY-uh-BEE-teez) (in-SIH-puh-duhss): 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 the kidney. In diabetes insipidus, blood glucose levels are normal.

diabetes mellitus (DY-uh-BEE-teez) (MEH-luh-tuhhss): see diabetes.

Diabetes Prevention Program (DPP) (DY-uh-BEE-teez) (pree-VEN-shuhn) (PROH-gram): 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 physical activity—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-BET-ik) (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 ketoacidosis (DKA)** (DY-uh-BET-ik) (KEE-toh-ASS-ih-DOH-siss): 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** (DY-uh-BET-ik) (MY-uh-LOP-uh-thee): damage to the spinal cord found in some people with diabetes.


**diabetic retinopathy** (DY-uh-BET-ik) (RET-ih-NOP-uh-thee): damage to the small blood vessels in the retina. Loss of vision may result. Also called diabetic eye disease.

**diabetogenic** (DY-uh-BET-oh-JEN-ik): causing diabetes. For example, some drugs cause blood glucose levels to rise, resulting in diabetes.

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

Diabinese (dy-AB-ih-neez): see chlorpropamide.

**diagnosis** (DY-ag-NOH-siss): the determination of a disease from its signs and symptoms.
dialysis (dy-AL-i-siss): 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 (HEE-moh-dy-AL-i-siss): the use of a machine to clean wastes from the blood after the kidneys have failed. The blood travels through tubes to a dialyzer, a machine that removes wastes and extra fluid. The cleaned blood then flows through another set of tubes back into the body.

- peritoneal dialysis (PAIR-ihtoh-NEE-uhl) (dy-AL-i-siss): cleaning of the blood by using the lining of the abdominal cavity, or belly, as a filter. A cleansing liquid, called dialysis solution, is drained from a bag into the abdomen. Fluid and wastes flow through the lining of the abdominal cavity and remain “trapped” in the dialysis solution. The solution is then drained from the abdomen, removing the extra fluid and wastes from the body. The two main types of peritoneal dialysis are continuous ambulatory peritoneal dialysis and continuous cycling peritoneal dialysis.

- continuous ambulatory peritoneal dialysis (CAPD) (kon-TIN-yoo-uhss) (AM-byoo-luh-TOR-ee) (PAIR-ihtoh-NEE-uhl) (dy-AL-i-siss): a form of peritoneal dialysis that needs no machine. With CAPD, the blood is always being cleaned. The dialysis solution passes from a plastic bag through a catheter and into the abdomen. The dialysis solution stays in the abdomen with the catheter sealed. After several hours,
the person using CAPD drains the solution back into a disposable bag. Then the person refills the abdomen with fresh solution through the same catheter to begin the cleaning process again.

- **continuous cycling peritoneal dialysis (CCPD)**
  (kon-TIN-yoo-uhss) (SY-kling) (PAIR-ih-toh-NEE-uhl) (dy-AL-ih-siss): a form of peritoneal dialysis that uses a machine. This machine automatically fills and drains the **dialysis solution** from the abdomen. A typical CCPD schedule involves three to five exchanges during the night while the person sleeps. During the day, the person using CCPD performs one exchange, draining the dialysis solution after an entire day.

**dialysis solution** (dy-AL-ih-siss) (suh-LOO-shuhn): a cleansing liquid used in the two major forms of **dialysis**—**hemodialysis** and **peritoneal dialysis**. Dialysis solution contains **dextrose**, a **sugar**, and other chemicals similar to those in the body. Dextrose draws wastes and extra fluid from the body into the dialysis solution.

**diastolic pressure** (DY-uh-STOL-ik) (PRESH-ur): the **blood pressure** when the heart rests.

**dietitian** (DY-uh-TISH-uhn): a health care professional who advises people about meal planning, weight control, and **diabetes** management. A registered dietitian (RD) has met certain requirements.

**dilated eye exam** (DY-lay-ted) (eye) (ek-ZAM): 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.
dipeptidyl peptidase-4 inhibitor  

DKA: see diabetic ketoacidosis.

D-phenylalanine derivative  
(DEE-FEN-il-AL-uh-neen) (duh-RIV-uh-tiv): a type of oral medicine for type 2 diabetes that lowers blood glucose levels by helping the pancreas make more insulin right after meals. (Generic name/Brand name: nateglinide/Starlix.)

DPP: see Diabetes Prevention Program.

DPP-4 inhibitor  
(DEE-PEE-PEE-FOR) (in-HIB-ih-tur): a class of oral medicine used to treat type 2 diabetes that lowers blood glucose by helping the body make more insulin when it’s needed. This type of medicine also helps keep the liver from putting stored blood glucose into the blood. (Generic name/Brand name: sitagliptin phosphate/Januvia.)

Duetact (DOO-uh-tak): the brand name of an oral medicine used to treat type 2 diabetes; a combination of pioglitazone and glimepiride.

Dupuytren’s contracture  
(doo-pwee-TRENZ) (kon-TRAK-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.

duration: in referring to insulin, the length of time during which insulin keeps lowering blood glucose levels. Duration may also refer to the length of time a person has had diabetes, which determines a person’s risk of developing diabetes complications.
eAG: see estimated average glucose.

edema (eh-DEE-muh): swelling caused by too much fluid in the body.

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

EMG: see electromyography.

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

endocrinologist (EN-doh-krih-NOL-uh-jist): a doctor who treats people who have endocrine gland problems such as diabetes.

end-stage renal disease (ESRD) (END-STAYJ) (REE-nuhl) (dih-ZEEZ): total and permanent kidney failure. When the kidneys fail, the body retains fluid. Harmful wastes build up. A person with ESRD needs treatment to replace the work of the failed kidneys.

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

erectile dysfunction (ee-REK-tyl) (diss-FUHNK-shuhn): the inability to get or maintain an erection for satisfactory sexual intercourse. Also called impotence.

ESRD: see end-stage renal disease.

estimated average glucose (ESS-tuh-may-ted) (AV-ur-ij) (GLOO-kohss): also called eAG or average glucose; another way to report the results of an A1C test. The A1C test measures average glucose levels over the past 2 to 3 months. In the past, results were reported as a percentage. Results reported as an eAG are given as mg/dL, the same units used for self-monitoring of blood glucose with a blood glucose meter. For example, results of an A1C test can be reported as an eAG of 126 mg/dL, which is equal to 6 percent.

euglycemia (YOO-gly-SEE-mee-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 substitutes, and fats. These lists allow for substitution for different groups to keep the nutritional content fixed.

exenatide (eks-EN-uh-tyd): an injectable medicine for diabetes that mimics the effect of incretin hormones, a type of gastrointestinal hormone. This medicine helps food move more slowly through the stomach and helps keep the liver from releasing stored glucose. (Brand name: Byetta.)

fasting blood glucose test (FASS-ting) (bluhd) (GLOO-kohss) (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 see whether people with diabetes are keeping blood glucose levels on target.

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.
fluorescein angiography (flor-ESS-ee-in) (AN-jee-OG-ruh-fee): a test to examine blood vessels in the eye that is done by injecting dye into an arm vein and then taking photos as the dye goes through the eye’s blood vessels.

focal neuropathy (FOH-kuhl) (noo-ROP-uh-thee): a type of neuropathy in which a single nerve or a group of nerves is affected, producing sudden weakness or pain.

fructosamine test (frook-TOHSS-uh-meen) (test): measures the number of blood glucose molecules linked to protein molecules in the blood. The test provides information about a person’s average blood glucose level for the previous 3 weeks.

fructose (FROOK-tohss): a sugar that occurs naturally in fruits and honey. Fructose has 4 calories per gram.

GAD65 (GAD-SIKS-tee-FYV): see islet cell autoantibodies.

gangrene (GANG-green): the death of body tissue, most often caused by a lack of blood flow and infection. Gangrene can lead to amputation.

gastrointestinal (GASS-troh-in-TESS-tin-uhl): related to the stomach and intestines.

gastroparesis (GASS-troh-puh-REE-siss): 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.

gastropathy (gass-TROP-uh-thee): a form of neuropathy that affects the stomach. Symptoms may include nausea, discomfort, a feeling of fullness, and vomiting. The stomach may be delayed in emptying, called gastroparesis.

GDM: see gestational diabetes mellitus.
gestational diabetes mellitus (GDM) (jess-TAY-shuhn-uhl) (DY-uh-BEE-teez) (MEH-luh-tuhs): a type of diabetes that develops only during pregnancy and usually disappears upon delivery but increases the mother’s risk of developing diabetes later in life. GDM is managed with meal planning, physical activity, and, in some cases, medication.

GFR: see glomerular filtration rate.

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


glaucoma (glaw-KOH-muh): an increase in fluid pressure inside the eye that may lead to vision loss.

glucocorticoid (GLOO-koh-kor-tih-koyd): a type of hormone that is produced by the adrenal glands and affects the immune system and the metabolic processes of the body.

glomerular filtration rate (GFR) (gloh-MAIR-yoo-lur) (fil-TRAY-shuhn) (rayt): the rate at which the kidneys filter wastes and extra fluid from the blood, measured in milliliters per minute.

glomeruli (gloh-MAIR-yoo-ly): plural of glomerulus.

glomerulus (gloh-MAIR-yoo-luhss): a tiny set of looping blood vessels where the blood is filtered in the kidney.

glipizide (GLIP-ih-zyd): an oral medicine used to treat type 2 diabetes. Glipizide lowers blood glucose by helping the pancreas make more insulin and by helping the body better use the insulin it makes. Glipizide belongs to the class of medicines called sulfonylureas. (Brand names: Glucotrol, Glucotrol XL.)

Glimepiride (gly-MEP-ih-ryd): an oral medicine used to treat type 2 diabetes. Glimepiride lowers blood glucose by helping the pancreas make more insulin and by helping the body better use the insulin it makes. Glimepiride belongs to the class of medicines called sulfonylureas. (Brand name: Amaryl.)
glucagon (GLOO-kuh-gon): a hormone produced by the alpha cells in the pancreas. Glucagon raises blood glucose. An injectable form of glucagon, available by prescription, may be used to treat severe hypoglycemia.

Glucophage, Glucophage XR (GLOO-koh-fahj): see metformin.

glucose (GLOO-kohss): one of the simplest forms of sugar.

glucose gel (GLOO-kohss) (jel): pure glucose in gel form used for treating hypoglycemia.

glucose tablets (GLOO-kohss) (TAB-lets): chewable tablets made of pure glucose used for treating hypoglycemia.

glucose tolerance test (GLOO-kohss) (TOL-ur-uhhns) (test): see oral glucose tolerance test.

Glucotrol, Glucotrol XL (GLOO-kuh-trohl): see glipizide.

Glucovance (GLOO-koh-vansss): the brand name of an oral medicine used to treat type 2 diabetes; a combination of glyburide and metformin.

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

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

glycemic load (gly-SEE-mik) (lohd): a ranking of a carbohydrate-containing food, based on the food’s glycemic index and the amount of carbohydrate in a typical serving.
glycogen (GLY-koh-jen): the form of glucose found in the liver and muscles; the main source of stored fuel in the body.

glycosuria (GLY-koh-SYOO-re-uh): the presence of glucose in the urine.

glycosylated hemoglobin (GLY-koh-SY-lay-ted) (HEE-moh-GLOH-bin): see A1C.

Glynase PresTab (GLY-nayz) (PRESS-TAB): see glyburide.

Glyset (GLY-set): 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.

HDL cholesterol (AYCH-DEE-EL) (koh-LESS-tur-ol): stands for high-density lipoprotein cholesterol, which is a fat found in the blood that takes extra cholesterol from the blood to the liver for removal. Sometimes called “good” cholesterol.

heart attack: a condition in which the blood vessels to the heart become totally or partially blocked by fatty deposits. When the blood supply is cut off or reduced, oxygen and other needed supplies can’t get through. Then heart muscle can die. Also called a myocardial infarction.

heart failure: a chronic condition in which the heart cannot pump blood properly.

hemodialysis (HEE-moh-dy-AL-ih-siss): see dialysis.

hemoglobin A1C test (HEE-moh-GLOH-bin) (AY-WUHN-SEE) (test): see A1C.

heredity (huh-RED-ih-tee): the passing of a trait from parent to child.

HHNS: see hyperosmolar hyperglycemic nonketotic syndrome.
high blood glucose (hy) (bluhd) (GLOO-kohss): see hyperglycemia.

high blood pressure: see hypertension.


HLA: see human leukocyte antigens.

home glucose monitor (hohm) (GLOO-kohss) (MON-ih-tur): 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—for example, 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.

Humalog (YOO-muh-lawg): see insulin lispro.

Humalog Mix 50/50 (YOO-muh-lawg) (mix): see pre-mixed insulin.

Humalog Mix 75/25 (YOO-muh-lawg) (mix): see pre-mixed insulin.

human leukocyte antigens (HLA) (HYOO-man) (LOO-koh-syt) (AN-tih-jens): 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.

Humulin (YOO-myoo-lin): see pre-mixed insulin.

Humulin 70/30 (YOO-myoo-lin): see pre-mixed insulin.

Humulin N (YOO-myoo-lin): see NPH insulin.

Humulin R (YOO-myoo-lin): see regular insulin.
hyperglycemia (HY-pur-gly-SEE-mee-uh): higher than normal 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-pur-IN-suh-lin-EE-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-pur-LIP-ih-DEE-mee-uh): higher than normal fat and cholesterol levels in the blood.

hyperosmolar hyperglycemic nonketotic syndrome (HHNS) (HY-pur-oz-MOH-lur) (HY-pur-gly-SEE-mik) (non-kee-TOT-ik) (SIN-drohm): 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-pur-TEN-shuhn): 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-poh-gly-SEE-mee-uh): also called low blood glucose, a condition that occurs when one’s blood glucose is lower than normal, usually below 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 *glucose tablets* or juice. Hypoglycemia 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**
(HY-poh-gly-SEE-mee-uh) (uhn-uh-WAIR-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 hypoglycemia’s typical warning signs.

**hypotension** (HY-poh-TEN-shuhn): *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.

**IA-2A** (EYE-AY-TOO-AY): see *islet cell autoantibodies*.

**IAA** (EYE-AY-AY): see *islet cell autoantibodies*.

**ICA512** (EYE-SEE-AY-FYV-WUHN-TOO): see *islet cell autoantibodies*.

**ICA** (EYE-SEE-AY): see *islet cell autoantibodies*.

**IDDM** (EYE-DEE-DEE-EM): see *insulin-dependent diabetes mellitus*.

**IFG** (EYE-EF-JEE): see *impaired fasting glucose*.

**IGT** (EYE-JEE-TEE): see *impaired glucose tolerance*.

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

**immunosuppressant** (IM-yoo-noh-soo-PRESS-uhnt): a drug given to stop the natural responses of the body’s *immune system*. Immunosuppressants are given to prevent organ rejection in people who have received organ *transplants* and to patients with *autoimmune diseases*. 
impaired fasting glucose (IFG) (im-P AIRD) (FASS-ting) (GLOO-kohss): a condition in which a fasting blood glucose test 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 to 125 mg/dL. People with pre-diabetes are at increased risk for developing type 2 diabetes, heart disease, and stroke.

impaired glucose tolerance (IGT) (im-P AIRD) (GLOO-kohss) (TOL-ur-uhnss): 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 to 199 mg/dL 2 hours after the start of an oral glucose tolerance test. People with pre-diabetes are at increased risk for developing type 2 diabetes, heart disease, and stroke. Other names for IGT that are no longer used are “borderline,” “subclinical,” “chemical,” or “latent” diabetes.

implantable insulin pump (im-PLANT-uh-buhl) (IN-suh-lin) (puhmp): a small pump placed inside the body to deliver insulin in response to remote-control commands from the user.

impotence (IM-puh-tenss): see erectile dysfunction.

incidence (IN-sih-denss): 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-nenss): loss of bladder or bowel control; the accidental loss of urine or feces.

incretin mimetic (IN-krit-in) (mih-MET-ik): a type of injectable medicine for diabetes that mimics the effect of incretin hormones, a type of gastrointestinal hormone. This medicine helps food move more slowly through the stomach and helps keep the liver from releasing stored glucose. (Generic name/Brand name: exenatide/Byetta.)

inhaled insulin (in-HAYLD) (IN-suh-lin): a type of insulin under development taken with a special device that enables the user to breathe in insulin through the mouth.

injection (in-JEK-shuhn): inserting liquid medication or nutrients into the body with a syringe.
**injection site rotation** (in-JEK-shuhn) (syt) (roh-TAY-shuhn): changing the places on the body where insulin is injected. Rotation prevents the formation of lipodystrophies.

**injection sites** (in-JEK-shuhn) (syts): places on the body where insulin is injected.

**insulin** (IN-suh-lin): 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 must be taken by injection or other means.

**insulin adjustment** (IN-suh-lin) (uh-JUHST-ment): a change in the amount of insulin a person with diabetes takes based on factors such as meal planning, physical activity, and blood glucose levels.

**insulin aspart** (IN-suh-lin) (ASS-part): a rapid-acting insulin with an onset of 15 minutes, a peak at 30 to 90 minutes, and a duration of 3 to 5 hours. (Brand name: NovoLog.)


**insulin detemir** (IN-suh-lin) (DET-ih-mihr): a long-acting insulin with an onset of 1 hour, no peak, and a duration of 20 to 26 hours. (Brand name: Levemir.)

**insulin glargine** (IN-suh-lin) (GLAR-jeen): a type of long-acting insulin with an onset of 1 hour, no peak, and a duration of 20 to 26 hours. (Brand name: Lantus.)

**insulin glulisine** (IN-suh-lin) (gloo-LY-seen): a type of rapid-acting insulin with an onset of 15 minutes, a peak at 30 to 90 minutes, and a duration of 3 to 5 hours. (Brand name: Apidra.)

**insulin infuser** (IN-suh-lin) (in-FYOO-zur): a device for taking insulin in which a small tube is inserted just below the skin and remains in place for several days. Insulin is injected into the end of the tube.

**insulin lispro** (IN-suh-lin) (LISS-proh): a type of rapid-acting insulin with an onset of 15 minutes, a peak at 30 to 90 minutes, and a duration of 3 to 5 hours. (Brand name: Humalog.)
insulinoma (IN-suh-lih-NOH-muh): a tumor of the beta cells in the pancreas. An insulinoma may cause the body to make extra insulin, leading to hypoglycemia.

insulin pen (IN-suh-lin) (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 (IN-suh-lin) (puhmp): 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 at meals and at times when blood glucose is too high, based on doses set by the user.

insulin reaction (IN-suh-lin) (ree-AK-shuhn): when the level of glucose in the blood is too low (below 70 mg/dL). Also called hypoglycemia.

insulin receptors (IN-suh-lin) (REE-sep-turz): 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 (IN-suh-lin) (ree-ZISS-tuhnss): 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 (IN-suh-lin) (shok): see hypoglycemia.

intensive therapy: a treatment for diabetes in which blood glucose is kept as close to normal as possible. Optimal blood glucose levels are reached through frequent injections of insulin or use of an insulin pump, meal planning, adjustment of medicines, and physical activity. People undergoing intensive therapy work closely with their health care team.
intermediate-acting insulin (IN-tur-MEE-dee-uht-AKT-ing) (IN-suh-lin): a type of insulin with an onset of 1 to 3 hours, a peak at 8 hours, and a duration of 12 to 16 hours. See NPH insulin.

intermittent claudication (IN-tur-MIT-ent) (CLAW-dih-KAY-shuhn): 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 injection (IN-truh-MUHSS-kyoo-lur) (in-JEK-shuhn): inserting liquid medication into a muscle with a syringe. Glucagon may be given by intramuscular or subcutaneous injection for hypoglycemia.

islet cell autoantibodies (ICAs) (EYE-let) (sel) (AW-toh-AN-tih-bod-eez): 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 ICAs indicates the body’s immune system has been damaging beta cells in the pancreas. The antibodies that are routinely tested for include IAA, IA-2A, ICA512, and GAD65 (also called GAD or GADA).

islets (EYE-lets): 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.

islets of Langerhans (EYE-lets) (uhv) (LAHNG-ur-hahnz): see islets.

islet transplantation (EYE-let) (TRANZ-plan-TAY-shuhn): 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.
Janumet (JAN-yoo-met): the brand name of an oral medicine used to treat type 2 diabetes; a combination of sitagliptin phosphate and metformin.

Januvia (juh-NOO-vee-uh): see sitagliptin phosphate.

jet injector (jet) (in-JEK-tur): a device that uses high pressure instead of a needle to propel insulin through the skin and into the body.

juvenile diabetes (JOO-vuh-nyl) (DY-uh-BEE-teez): former term for insulin-dependent diabetes mellitus (IDDM) or type 1 diabetes.

ketoacidosis (KEE-toh-ASS-ih-DOH-siss): see diabetic ketoacidosis.

ketone (KEE-tohn): 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 (KEE-toh-NYOO-ree-uh): a condition occurring when ketones are present in the urine, a warning sign of diabetic ketoacidosis.

ketosis (kee-TOH-siss): a ketone buildup in the body that may lead to diabetic ketoacidosis. Signs of ketosis are nausea, vomiting, and stomach pain.
kidney: one of the two bean-shaped organs that filter wastes from the blood. The kidneys are located near the middle of the back, one on each side of the spine. They create urine, which is delivered to the bladder.

Kidneys

kidney disease: see nephropathy.

kidney failure: loss of kidney function. See acute renal failure, chronic kidney disease, and end-stage renal disease.

Kussmaul breathing (KOOS-moul) (BREE-thing): the rapid, deep, and labored breathing of people who have diabetic ketoacidosis.

lactic acidosis (LAK-tik) (ASS-ih-DOH-siss): a serious condition in which there is a buildup of lactic acid in the body. Lactic acidosis can result from diabetic ketoacidosis, liver disease, or kidney disease.

LADA (LAH-DUH): see latent autoimmune diabetes in adults.

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

Lantus (LAN-tuhss): see insulin glargine.

laser 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) (LAY-tent) (AW-toh-ih-MYOON) (DY-uh-BEE-teez) (in) (uh-DUHLTS): a type of diabetes, usually first diagnosed after age 30, in which people show signs of both type 1 diabetes and type 2 diabetes. Most people with LADA still produce their own insulin when first diagnosed and do not require insulin injections. Some experts believe that LADA is a slowly developing kind of type 1 diabetes because patients have antibodies against the insulin-producing beta cells in the pancreas. Several years after diagnosis, people with LADA must take insulin to control blood glucose levels.

LDL cholesterol (EL-DEE-EL) (koh-LESS-tur-ol): stands for low-density lipoprotein cholesterol; 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.

Levemir (LEV-uh-mihr): see insulin detemir.

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 (LIP-id) (PROH-fyl): 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-roh-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-DISS-troh-fee): a 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. Lipodystrophy may be caused by repeated injections of insulin in the same spot. See lipoatrophy and lipohypertrophy.

lipohypertrophy (LIP-oh-hy-PUR-troh-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.

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 (long-AK-ting) (IN-suh-lin): a type of insulin with an onset of 1 hour, no peak, and a duration of 20 to 26 hours. See insulin detemir and insulin glargine.

low blood glucose (loh) (bluhd) (GLOO-kohss): see hypoglycemia.

low blood pressure: see hypotension.


lymphatic vessels (lim-FAT-ik) (VESS-uhlz): thin tubes in the body that carry white blood cells and lymphatic fluid. Lymphatic fluid has cells that fight infection.
macrosomia (MAK-roh-SOH-mee-uh): abnormally large; in diabetes, refers to abnormally large babies that may be born to women with diabetes.


Macrosomia

macrovessel disease (MAK-roh-VASS-party-lur) (dih-ZEEZ): a disease of the large blood vessels, such as those found in the heart.

meclizine (MEH-klih-zin): an anti-nausea medication that works by blocking your body's sense of motion.

megalocyte (MEH-guh-loh-sye): a large red blood cell.

megaloblastic anemia (MEH-guh-loh-BLICKSTIK) (uh-NEE-mee): a type of anemia caused by problems with red blood cell production, usually due to a lack of folic acid or vitamin B-12.

megalufate (MEH-guh-lu-fate): a medication used to treat anemia caused by a lack of vitamin B-12.

megazone (MEH-guh-zohn): a large blood vessel.

melanocyte (MEHL-uh-noh-sye): a cell in the skin that produces melanin, the pigment that gives skin its color.

melanoma (MEHL-uh-noh-mah): a type of skin cancer that begins in melanocytes.

melanopsin (MEHL-uh-nop-sin): a type of photoreceptor in the retina that is sensitive to light at night.

melatonin (MEHL-uh-ton-in): a hormone that helps regulate sleep and wakefulness.

melanophore (MEHL-uh-noh-fawr): a cell in the skin that produces melanin, the pigment that gives skin its color.

melanocyte-stimulating hormone (MEHL-uh-noh-syte-stim-uh-ling HAWM-mon): a hormone that stimulates the production of melanin in the skin.

melanosome (MEHL-uh-noh-som): a structure in melanocytes that contains melanin, the pigment that gives skin its color.

melatonin (MEHL-uh-ton-in): a hormone that helps regulate sleep and wakefulness.

mecamylamine (MEHK-uh-muh-LEHM-uh-nee): a medication used to lower blood pressure.

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mecamylamine (MEHK-uh-muh-LEHM-uh-nee): a medication used to lower blood pressure.
Metaglip (MET-uh-glip): the brand name of an oral medicine used to treat type 2 diabetes; a combination of glipizide and metformin.

metformin (met-FOR-min): an oral medicine used to treat type 2 diabetes. Metformin 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. Metformin belongs to the class of medicines called biguanides. (Brand names: Glucophage, Glucophage XR, Riomet.)

mg/dL: milligrams per deciliter (MIL-ih-gramz) (pur) (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-kroh-al-BYOO-min): small amounts of the protein called albumin in the urine detectable with a special laboratory test. See albumin.

microaneurysm (MY-kroh-AN-yoo-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 (MY-kroh-nayz): see glyburide.

microvascular disease (MY-kroh-VASS-kyoo-lur) (dih-ZEEZ): 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-tol): an oral medicine used to treat type 2 diabetes. Miglitol slows down the digestion of foods high in carbohydrate, such as rice, bread, milk, and fruit. The result is a slower and lower rise in blood glucose after meals. Miglitol 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 to provide both short- and long-term control of blood glucose levels.

mmol/L: millimoles per liter (mil-ih-mohlz) (pur) (LEE-tur); 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 (MOH-dee): see maturity-onset diabetes of the young.

monitor: see blood glucose meter.

monofilament (MON-oh-FIL-uh-ment): 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.

monogenic (MON-oh-JEN-ik): related to a single gene. Some rare forms of diabetes are monogenic, including neonatal diabetes mellitus and maturity-onset diabetes of the young (MODY).

mononeuropathy (MON-oh-noo-ROP-uh-thee): a type of neuropathy affecting a single nerve.

NAFLD (EN-AY-EF-EL-DEE): see nonalcoholic fatty liver disease.

NASH (nuhsh): see nonalcoholic steatohepatitis.

nateglinide (nuh-TEG-lih-nyd): an oral medicine used to treat type 2 diabetes. Nateglinide lowers blood glucose levels by helping the pancreas make more insulin right after meals. Nateglinide belongs to the class of medicines called D-phenylalanine derivatives. (Brand name: Starlix.)

NDM: see neonatal diabetes mellitus.

necrobiosis lipoidica diabeticorum (NEK-roh-by-OH-siss) (lih-POY-dih-kuh) (DY-uh-bet-ih-KOR-uhhm): 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.

neonatal diabetes mellitus (NDM) (NEE-oh-NAY-tuhl) (DY-uh-BEE-teez) (MEH-luh-tuhss): a rare, monogenic form of diabetes that occurs in the first 6 months of life. In about half of those with NDM, the condition is lifelong and is called permanent neonatal diabetes mellitus (PNDM).

In the rest of those with NDM, the condition is transient and disappears during infancy but can reappear later in life; this type of NDM is called transient neonatal diabetes mellitus (TNDM).

neotame (NEE-oh-taym): a dietary sweetener with no calories and no nutritional value.

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

nephrologist (neh-FROL-uh-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 wastes and extra fluid from the bloodstream.

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

nerve disease: see neuropathy.
neurogenic bladder (NOO-rob-JEN-ik) (BLAD-ur): loss of bladder control caused by damage to the nerves controlling the bladder.

neurologist (noo-ROL-uh-jist): a doctor who specializes in problems of the nervous system, such as neuropathy.

neuropathy (noo-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 the legs and feet.

NIDDM (EN-EYE-DEE-DEE-EM): see noninsulin-dependent diabetes mellitus.

nonalcoholic fatty liver disease (NAFLD) (NON-al-koh-HOL-ik) (FAT-ee) (LIV-ur) (dih-ZEEZ): fat in the liver. NAFLD can lead to nonalcoholic steatohepatitis (NASH) and chronic liver disease. NAFLD can be a complication of insulin resistance and diabetes.

nonalcoholic steatohepatitis (NASH) (NON-al-koh-HOL-ik) (STEE-uh-toh-HEP-uh-TY-tiss): a common liver disease, often without symptoms, that resembles alcoholic liver disease but occurs in people who drink little or no alcohol. The major characteristic of NASH is fat in the liver, along with inflammation and damage. NASH can be a complication of insulin resistance and diabetes.


noninvasive blood glucose monitoring (NON-in-VAY-siv) (bluhd) (GLOO-kohss) (MON-ih-TUR-ing): measuring blood glucose without pricking the finger to obtain a blood sample.
Novolin 70/30 (NOH-voh-lin): see pre-mixed insulin.

Novolin N (NOH-voh-lin): see NPH insulin.

Novolin R (NOH-voh-lin): see regular insulin.

NovoLog (NOH-voh-lawg): see insulin aspart.

NovoLog Mix 70/30 (NOH-voh-lawg) (mix): see pre-mixed insulin.

NPH insulin (EN-PEE-AYCH) (IN-suh-lin): an intermediate-acting insulin with an onset of 1 to 3 hours, a peak at 8 hours, and a duration of 12 to 16 hours. Also called N insulin. (Brand names: Humulin N, Novolin N.)

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

obesity (oh-BEE-sih-tee): 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-stuh-TRISH-uhn): a doctor who treats pregnant women and delivers babies.

OGTT: see oral glucose tolerance test.

onset: in referring to insulin, how soon the insulin starts to lower blood glucose levels after it is taken. Onset may also refer to the time when a person’s diabetes began.

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

Ophthalmologist
optician (op-TISH-uhn): a health care professional who dispenses glasses and lenses. An optician also makes and fits contact lenses.

optometrist (op-TOM-uh-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) (OR-uhl) (GLOO-kohss) (TOL-ur-uhhns) (test): 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 and then the patient drinks a high-glucose beverage. Blood samples are taken at hourly intervals for 2 to 3 hours. Test results are compared with a standard and show how the body uses glucose over time.

oral hypoglycemic agents (OR-uhl) (HY-poh-gly-SEE-mik) (AY-jents): medicines taken by mouth by people with type 2 diabetes to keep blood glucose levels as close to normal as possible. Types of oral hypoglycemic agents are alpha-glucosidase inhibitors, biguanides, D-phenylalanine derivatives, DPP-4 inhibitors, meglitinides, sulfonylureas, and thiazolidinediones.

overweight: an above-normal body weight; having a body mass index of 25 to 29.
PAD (PEE-AY-DEE): see *peripheral arterial disease.*

pancreas (PAN-kree-uhss): 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

pancreas transplantation (PAN-kree-uhss) (TRANZ-plan-TAY-shuhn): a surgical procedure to take a healthy whole or partial pancreas from a donor and place it into a person with *diabetes.*

pancreatitis (PAN-kree-uh-TI-tiss): an irritation of the pancreas that can cause it to stop working. Pancreatitis can be *acute* or *chronic.* *Diabetes* may develop when pancreatic tissue is destroyed from chronic pancreatitis and the *insulin*-producing cells of the pancreas, called *beta cells,* have been damaged. Pancreatitis can also occur as a side effect of the diabetes medication *exenatide* (*Byetta*).

PCOS (PEE-SEE-OH-ESS): see *polycystic ovary syndrome.*

peak: in referring to *insulin* speeds, the length of time the insulin is working hardest to lower *blood glucose levels.*

pediatric endocrinologist (PEE-dee-AH-rik) (en-doh-krih-NAH-luh-jist): a doctor who treats children who have *endocrine gland* problems such as *diabetes.*

pedorthist (ped-OR-thist): a healthcare professional who specializes in fitting shoes for people with disabilities or deformities. A pedorthist can custom-make shoes or orthotics (special inserts for shoes).
pen injector (pen) (in-JEK-tur): a penlike device for injecting insulin; contains a needle and a cartridge of insulin.

periodontal disease (PAIR-ee-oh-DON-tuhl) (dih-ZEEZ): disease of the gums.

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

peripheral arterial disease (PAD) (puh-RIF-ur-uhl) (ar-TEE-ree-uhl) (dih-ZEEZ): also called peripheral vascular disease; a condition in which the large blood vessels of the legs are narrowed or blocked by fatty deposits, decreasing blood flow to the legs and feet. PAD increases the chances of amputation, heart attack, and stroke.

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

peripheral vascular disease (PVD) (puh-RIF-ur-uhl) (VASS-kyoo-lur) (dih-ZEEZ): see peripheral arterial disease.

peritoneal dialysis (PAIR-ih-toh-NEE-uhl) (dy-AL-ih-siss): see dialysis.

permanent neonatal diabetes mellitus (PNDM) (PUR-muh-nent) (NEE-oh-NAY-tuhl) (DY-uh-BEE-teez) (MEH-luh-tuhss): a rare, monogenic form of diabetes that first occurs in the first 6 months of life and is a permanent condition.

pharmacist (FAR-muh-sist): a health care professional who prepares and distributes medicine to people. Pharmacists also give information about medicines.
photocoagulation (FOH-toh-koh-AG-yoo-LAY-shuhn): a treatment for diabetic retinopathy. A laser—a strong beam of light—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-GLIH-tuh-zohn): an oral medicine used to treat type 2 diabetes. Pioglitazone helps treat insulin resistance, the condition in which your body doesn’t use insulin the way it should. Pioglitazone belongs to the class of medicines called thiazolidinediones. (Brand name: Actos.)

PNDM: see permanent neonatal diabetes mellitus.

podiatrist (poh-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 (poh-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.

cystic ovary syndrome (PCOS) (POL-ee-SISS-tik) (OH-vuh-ree) (SIN-drohm): a condition in which women have high levels of male hormones, increasing the risk of irregular or absent menstrual cycles, infertility, obesity, ovarian cysts, heart disease, and diabetes. PCOS is associated with insulin resistance.

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

polyphagia (POL-ee-FAY-jee-uh): excessive hunger; may be a sign of diabetes.

polyuria (POL-ee-YOO-ree-uh): excessive urination; may be a sign of diabetes.

postprandial blood glucose (pohst-PRAN-dee-uhl) (bluhd) (GLOO-kohss): the blood glucose level 1 to 2 hours after eating.

pramlintide acetate (PRAM-lin-tyd) (ASS-ih-tayt): an injectable medicine used to treat diabetes. Pramlintide helps food move more slowly through the stomach and helps keep the liver from releasing stored glucose. Pramlintide belongs to the class of medicines called amylin mimetics. (Brand name: Symlin.)
Prandin (PRAN-din): see repaglinide.

Precose (PREE-kohss): see acarbose.

pre-diabetes (PREE-dy-uh-BEE-teez): 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, heart disease, and stroke. Other names for pre-diabetes are impaired glucose tolerance and impaired fasting glucose.

pre-mixed insulin (PREE-MIKSD) (IN-suh-lin): a commercially produced combination of two different types of insulin. Several types are available:

- Pre-mixed NPH and regular insulin:
  - 70 percent NPH and 30 percent regular (Brand names: Humulin 70/30, Novolin 70/30.)
  - 50 percent NPH and 50 percent regular (Brand name: Humulin 50/50.)

- Pre-mixed insulin lispro suspension and insulin lispro:
  - 75 percent insulin lispro protamine and 25 percent insulin lispro (Brand name: Humalog Mix 75/25.)
  - 50 percent insulin lispro protamine and 50 percent insulin lispro (Brand name: Humalog Mix 50/50.)

- Pre-mixed insulin aspart protamine suspension and insulin aspart:
  - 70 percent insulin aspart protamine and 30 percent insulin aspart (Brand name: NovoLog Mix 70/30.)

preprandial blood glucose (pree-PRAN-dee-uhl) (bluhd) (GLOO-kohss): the blood glucose level before eating.

prevalence (PREV-uh-luhns): 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 retinopathy (proh-LIF-ur-uh-tiv) (RET-ih-NOP-uh-thee): a condition in which fragile new **blood vessels** grow along the retina and in the **vitreous humor** of the eye.

prosthesis (pross-THEE-siss): a man-made substitute for a missing body part such as an arm or a leg.

protein (PROH-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.

proteinuria (proh-teen-YOO-ree-uh): a condition in which the urine contains large amounts of protein, a sign that the kidneys are not working properly.

proximal neuropathy (PROK-sih-muhl) (noo-ROP-uh-thee): a type of neuropathy that causes pain in the thighs, hips, or buttocks and leads to weakness in the legs.

**pump:** see *insulin pump.*
rapid-acting insulin (RA-pid-AK-ting) (IN-suh-lin): a type of insulin with an onset of 15 minutes, a peak at 30 to 90 minutes, and a duration of 3 to 5 hours. See insulin aspart, insulin glulisine, and insulin lispro.

rebound hyperglycemia (REE-bound) (HY-pur-gly-SEE-mee-uh): see Somogyi effect.

receptors (ree-SEP-turz): see insulin receptors.


regular insulin (REH-gyuh-lur) (IN-suh-lin): a short-acting insulin with an onset of 30 to 60 minutes, a peak of 2 to 4 hours, and a duration of 5 to 8 hours. Also called R insulin. (Brand names: Humulin R, Novolin R.)

renal (REE-nuhl): of or relating to the kidneys. A renal disease is a disease of the kidneys. Renal failure means the kidneys have stopped working.

renal threshold of glucose (REE-nuhl) (THRESH-ohld) (uhv) (GLOO-kohss): the blood glucose concentration at which the kidneys start to excrete glucose into the urine.

repaglinide (ruh-P AG-luh-nyd): an oral medicine used to treat type 2 diabetes. Repaglinide lowers blood glucose by helping the pancreas make more insulin right after meals. Repaglinide belongs to the class of medicines called meglitinides. (Brand name: Prandin.)

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

retinal hemorrhages (RET-ih-nuhl) (HEM-uh-ruhj-ez): bleeding blood vessels in the retina, which can cause protein deposits, or exudates, in the retina. Laser surgery is required to prevent blindness. Retinal hemorrhage is a common form of diabetic retinopathy.
retinopathy (RET-ih-NOP-uh-thee): see background retinopathy, proliferative retinopathy, and diabetic retinopathy.

R insulin (AR) (IN-suh-lin): see regular insulin.

Riomet (RY-oh-met): see metformin.

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

rosiglitazone (rohss-ih-GLIH-tuh-zohn): an oral medicine used to treat type 2 diabetes. Rosiglitazone helps treat insulin resistance, the condition in which your body doesn’t use insulin the way it should. Rosiglitazone belongs to the class of medicines called thiazolidinediones. (Brand name: Avandia.)

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

saturated fat: a type of dietary fat that can increase the risk of heart disease. Saturated fat is found in meat, poultry skin, butter, lard, shortening, and all milk and dairy products except fat-free versions.

secondary diabetes (SEK-uhn-DAIR-ee) (DY-uh-BEE-teez): a type of diabetes caused by another disease or certain drugs or chemicals.

self-management: 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 blood glucose 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.

sharps container: a container for the disposal of used needles and syringes; often made of hard plastic so needles cannot penetrate the container.
short-acting insulin (short-AK-ting) (IN-suh-lin): a type of insulin with an onset of 30 to 60 minutes, a peak at 2 to 4 hours, and a duration of 5 to 8 hours. See regular insulin.

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

sitagliptin phosphate (sih-tuh-GLIP-tin) (FOSS-fayt): an oral medicine used to treat type 2 diabetes. Sitagliptin lowers blood glucose by helping the body make more insulin when it’s needed. It also helps keep the liver from putting stored glucose into the blood. Sitagliptin belongs to the class of medicines called DPP-4 inhibitors. (Brand name: Januvia.)

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

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

sorbitol (SOR-bih-tol): 1. a sugar alcohol—a 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 (STAR-liks): see nateglinide.

stroke: a condition in which the blood supply to the brain is suddenly cut off, caused by a blockage or the bursting of a blood vessel in the brain or neck. Then brain tissue can be damaged. A stroke can cause a person to lose the ability to speak or move parts of the body.

subcutaneous injection (SUHБ-kyoo-TAY-nee-uhss) (in-JEK-shuhn): putting a fluid into the tissue under the skin with a needle and syringe.

sucralose (SOO-kruh-LOHSS): a dietary sweetener made from sugar but with no calories and no nutritional value.
sucrose (SOO-krohss): a two-part sugar made of glucose and fructose. Known as table sugar or white sugar, it is found naturally in sugar cane and 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.


sulfonylurea (SUHL-foh-nil-yoo-REE-uh): 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/Brand names: chlorpropamide/Diabinese; glimepiride/Amaryl; glipizide/ Glucotrol, Glucotrol XL; glyburide/ DiaBeta, Glynase PresTab, Micronase; tolazamide [generic only]; tolbutamide [generic only].)

Sunett (SOO-net): see acesulfame potassium.

Symlin (SIM-lin): see pramlintide acetate.

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, dietitian, nurse, diabetes educator, and others. The team provides information and advises the person with diabetes.

thiazolidinedione (THY-uh-ZOHL-ih-deen-DY-ohn): 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/Brand names: pioglitazone/Actos; rosiglitazone/Avandia.)

TIA (TEE-EYE-AY): see transient ischemic attack.

tight control: see intensive therapy.

tinea pedis (TIN-ce-uh) (PEE-diss): see athlete’s foot.

TNDM: see transient neonatal diabetes mellitus.

tolazamide (tol-AZ-uh-myd): an oral medicine used to treat type 2 diabetes. Tolazamide lowers blood glucose by helping the pancreas make more insulin and by helping the body better use the insulin it makes. Tolazamide belongs to the class of medicines called sulfonylureas. (Available only in generic form.)

tolbutamide (tol-BYOO-tuh-myd): an oral medicine used to treat type 2 diabetes. Tolbutamide lowers blood glucose by helping the pancreas make more insulin and by helping the body better use the insulin it makes. Tolbutamide belongs to the class of medicines called sulfonylureas. (Available only in generic form.)

trans fat: a type of dietary fat that increases the risk of heart disease. Trans fat is produced when liquid oils are turned into solids through a process called hydrogenation. Foods with trans fat include those listing hydrogenated or partially hydrogenated fat on the label, such as crackers, snack foods, commercially produced baked goods, and some stick margarines.

transient ischemic attack (TIA) (TRANZ-see-uhht) (iss-KEE-mik) (uh-TAK): a condition in which blood flow to the brain is temporarily blocked. TIAs can cause temporary weakness or numbness, sudden confusion, dizziness, vision problems, or severe headache.
transient neonatal diabetes mellitus (TNDM) (TRANZ-see-uhnt) (NEE-oh-NAY-tuhl) (DY-uh-BEE-teez) (MEH-luh-tuhs): a rare, monogenic form of diabetes that occurs in the first 6 months of life. TNDM disappears during infancy but can reappear later in life.

transplant (TRANZ-plant): replacement of a damaged or diseased organ with a healthy one.

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

type 1 diabetes (typ) (whuhn) (DY-uh-BEE-teez): 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 (typ) (too) (DY-uh-BEE-teez): 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 children, teens, and young people.


U-100 (YOO-whuhn-HUHN-dred): see unit of insulin.

UKPDS: see United Kingdom Prospective Diabetes Study.

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

**United Kingdom Prospective Diabetes Study (UKPDS)** (yoo-NY-ted) (KING-duhm) (pruh-SPEK-tiv) (STUHD-ee): a British study 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.

unit of insulin (YOO-nit) (uhv) (IN-suh-lin): 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.

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-uh): 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.

urinalysis (YOOR-ih-NAL-ih-siss): a test of a urine sample that can reveal many problems of the urinary tract and other body systems. The sample may be observed for color, cloudiness, concentration; signs of drug use; chemical composition, including glucose; the presence of protein, blood cells, or germs; or other signs of disease.

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

urologist (yoo-ROL-uh-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 erectile dysfunction.
vaginal yeast (VAJ-ih-nuhl) (yeest): see Candida.

vascular (VASS-kyoo-lur): relating to the body’s blood vessels.

Vascular system

vein (vayn): a blood vessel that carries blood to the heart.

very-low-density lipoprotein (VLDL) cholesterol (VAIR-ee-loh-DEN-sih-tee) (LIP-oh-PROH-teen) (koh-LESS-tur-ol): see VLDL cholesterol.

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 humor (VIT-ree-uh-mur): the clear gel that lies behind the eye’s lens and in front of the retina.

VLDL cholesterol (VEE-EL-DEE-EL) (koh-LESS-tur-ol): stands for very-low-density lipoprotein cholesterol. A form of cholesterol in the blood. High levels may be related to cardiovascular disease.

void (voyd): to urinate; to empty the bladder.
**wound care:** steps taken to ensure 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-lij-tol):** a *carbohydrate*-based sweetener found in plants and used as a substitute for *sugar*; provides *calories*. Found in some mints and chewing gum.
Notes
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 of 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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