I'm not a robot

Diabetes mellitus, also called diabetes, is a term for several conditions involving how your body turns food into energy. The term comes from the Greek word “diabetes,” which means to siphon or to pass through, and the Latin word “mellitus,” which means sweet. In 2021, 529 million people worldwide and 38.4 million in the U.S. had diabetes. When you eat a carbohydrate, your body turns it into a sugar called glucose and sends that to your bloodstream. Your pancreas releases insulin, a hormone that helps move glucose from your blood into your cells, which use it for energy.When you have diabetes and don’t get treatment, your body doesn’t use insulin like it should. Too much glucose stays in your blood, a condition usually called high blood sugar. This can cause health problems that may be serious or even life-threatening.There’s no cure for diabetes. But with treatment and lifestyle changes, you can live a long, healthy life.Diabetes comes in different forms, depending on the cause.Prediabetes is when your blood sugar is higher than it should be but not high enough for your doctor to diagnose it as diabetes. Normal blood sugar levels are between 70 mg/dL and 99 mg/dL. Blood sugar levels in people with prediabetes are between 110 mg/dL and 125 mg/dL.Prediabetes often has no symptoms. More than a third of people in the U.S. have it, but about 90% don't know. If you have prediabetes, you might notice darkened skin on areas like your neck, armpits, and groin.Rarely, you may have other symptoms like:Unexplained weight loss or gainWanting to eat moreWeaknessFatigueSweatingBlurred visionCuts or bruises that heal slowlyHaving skin infections or gum bleeding oftenOver 70% of people with prediabetes later develop type 2 diabetes. You’re also likely to start having heart, kidney, and nerve damage. You can lower these risks and potentially reverse prediabetes by: Exercising regularlyEating a healthy dietMaintaining a healthy weightManaging your stress levelsQuitting smoking Your doctor might recommend medications like acarbose and metformin if you can’t follow these lifestyle changes or you’re at a very high risk of having type 2 diabetes. Type 1 diabetes is also called insulin-dependent diabetes. It used to be called juvenile-onset diabetes because it was thought to start more often in childhood. However, more research has shown it happens as frequently in children and adults. Type 1 diabetes is an organ-specific autoimmune condition. It happens when your body attacks your pancreas with antibodies. The organ is damaged and doesn't make insulin. It affects 2 million people, including about 304,000 children and teens in the U.S.Your genes might cause this type of diabetes. It could also happen because of problems with cells in your pancreas that make insulin. Type 1 diabetes cannot be prevented. Type 1 diabetes symptoms happen quickly, in a few days to weeks. They include:Feeling thirst and hunger oftenPeeing moreBlurry visionFatigueUnexplained weight lossAbout 30% of people with type 1 diabetes have a life-threatening condition that causes loss of consciousness, called diabetic coma, as their first symptom. Get medical help immediately if you or your child show any of these symptoms:Breath that smells fruityDry or flushed skinNauseaDifficulty breathingBeing unable to focusConfusionVomitingStomach pain Many of the health problems that can come with type 1 happen because of damage to tiny blood vessels in your eyes (diabetic retinopathy), nerves (diabetic neuropathy), and kidneys (diabetic nephropathy). People with type 1 also have a higher risk of heart disease and stroke.A doctor may use a test called random plasma glucose (RPG) to check how much sugar you have in your blood when diagnosing type 1 diabetes. They may also use an A1c blood test to estimate your blood sugar levels over the last 3 months. Your doctor uses it to see how well your blood sugar is controlled. That helps them know your risk of complications.Treatment for type 1 diabetes involves injecting insulin into the fatty tissue just under your skin. You might use:SyringesInsulin pens that use prefilled cartridges and a thin needleJet injectors that use high-pressure air to send a spray of insulin through your skinPumps that send insulin through a tube to a catheter under the skin of your bellyIf you have type 1 diabetes, you’ll need to make changes, including:Frequent testing of your blood sugar levelsCareful meal planningDaily exerciseTaking insulin and other medications, including pramlintide or metformin, as neededType 2 diabetes used to be called non-insulin-dependent or adult-onset diabetes. But it’s become more common in children and teens over the past 20 years, largely because more young people are overweight or obese. About 90% of people with diabetes have type 2.When you have type 2 diabetes, your pancreas usually creates some insulin. But either it’s not enough or your body doesn’t use it like it should. Insulin resistance, when your cells don’t respond to insulin, usually happens in fat, liver, and muscle cells.Type 2 diabetes is often milder than type 1. But it can still cause major health complications, especially in the tiny blood vessels in your kidneys, nerves, and eyes. Type 2 also raises your risk of heart disease and stroke.People who have obesity -- more than 20% over their target body weight for their height -- have an especially high risk of type 2 diabetes and the health problems that can follow. Obesity often causes insulin resistance, so your pancreas has to work harder to make more insulin. But it’s still not enough to keep your blood sugar levels where they should be. Treatment for type 2 diabetes involves keeping a healthy weight, eating right, and exercising. Some people need medication, too.Your doctor might do an A1c test a few times a year to see how well you’ve been controlling your blood sugar.Pregnancy usually causes some form of insulin resistance. If this becomes diabetes, it’s called gestational. Doctors often spot it in 2%-10% of pregnancies. You may be diagnosed in the middle or late pregnancy with a: Glucose challenge test, which checks how your body responds to sugarOr an oral glucose tolerance test, which checks how well your body uses and stores sugarIt usually causes no or mild symptoms like feeling thirstier or peeing more often. It goes away after giving birth. But people who have had gestational diabetes are 8-10 times more likely to develop type 2 diabetes and have twice the risk of developing heart disease compared to those who have not had it. If you’ve had gestational diabetes, you’ll need to be tested for type 2 diabetes every 3 years for the rest of your life. If you get gestational diabetes while pregnant, your symptoms should go away once you have your baby. (Photo Credit: iStock/Getty Images) Gestational diabetes is more of a risk for the baby than the mother. Because your blood sugars travel through their placenta to the baby, it’s important to control gestational diabetes to protect the baby's growth and development. A baby might have unusual weight gain before birth, trouble breathing at birth, or a higher risk of obesity and diabetes later in life. You might need a cesarean section because of an overly large baby, or they might have damage to their heart, kidney, nerves, and eyes.Gestational diabetes treatment involves:Careful meal planning to make sure you get enough nutrients without too much fat and caloriesDaily exerciseKeeping weight gain under controlTaking insulin to control your blood sugar levels, if neededRarely, diabetes can happen due to changes in a single gene that can affect how much insulin the body can produce. When this is the case, it is called monogenic diabetes. The gene mutation is often passed down from one or both parents. However, gene mutations may also happen unexpectedly. In the U.S., monogenic diabetes happens in 1% to 4% of all diabetes cases. The two main types of monogenic diabetes areNeonatal diabetes mellitus, which happens in babiesMaturity-onset diabetes of the young, which occurs in teens and young adultsMany times, doctors mistake monogenic diabetes for type 2 diabetes. But a doctor might suspect monogenic diabetes if: Diabetes is diagnosed before a baby is 6 months oldA child or young adult has diabetes, including those having a family history of diabetes, that shows neither type 1 nor type 2 diabetes features.A person has slightly high blood sugar levels after not eating for some time. Then, they recommend genetic testing to confirm it and determine which specific type you have. They might also test your family members to see if they have it.You may get diabetes medicines you take by mouth or insulin injections to treat it.Secondary diabetes is a type of diabetes that happens because of another primary condition, which may include:Endocrine dysfunctions or hormone-related problems like having too much cortisol hormone (Cushing's syndrome) and having too much growth hormone (acromegaly)Disorders involving the pancreasHaving excess ironCystic fibrosis (CF)Polycystic ovarian syndrome (PCOS)Medications like steroids may also trigger secondary diabetes. Treatment may involve managing the underlying cause, making lifestyle changes, and taking insulin and other medications to control your blood sugar levels.Type 1 and type 2 diabetes are the most common types of diabetes. Type 1 diabetes affects 1.3 million people in the U.S., and type 2 diabetes occurs in 37 million people. Type 1 diabetes happens when the immune system mistakenly attacks your pancreas, causing it to stop producing insulin. Both genetic and environmental factors play a role in causing this immune response. Type 2 diabetes is a hormonal condition that happens when your body doesn't respond well to insulin, which leads to high blood sugar levels. With time, the pancreas in people with type 2 diabetes may stop working as well as it should until it stops being able to produce insulin. Type 1 diabetes symptoms usually happen suddenly within a few days to a week. Type 2 diabetes symptoms take a while, about a year, to develop.People with type 1 diabetes need insulin medicine because the body can’t make it anymore. People with type 2 diabetes only need insulin when their pancreas stops making it. Diabetes is a group of conditions that affect how well your body turns food into energy. It causes high blood sugar levels that can lead to serious health issues like heart disease, eye damage, dementia, stroke, and kidney damage. Your doctor will manage it depending on the type you have. You may need insulin injections and antidiabetic medicines. They’ll also recommend following lifestyle changes like eating a healthy diet and exercising. Is type 2 diabetes manageable?Yes, type 2 diabetes is manageable with medicines and healthy lifestyle changes.What causes diabetes mellitus?What causes diabetes will depend on the type. It may be related to your genes, lifestyle, and family history. But all forms of diabetes cause you to have high blood sugar levels. What are diabetes mellitus types 1 and 2?Types 1 and 2 diabetes are the most common type of diabetes. Type 1 diabetes happens when your immune system attacks and damages your pancreas, causing it to stop making enough insulin. Type 2 diabetes occurs when your body stops using insulin well. There are a number of different types of diabetes, some of which are more prevalent than others. The most common form of diabetes in the general population is type 2 diabetes, which often develops from pre-diabetes Type 1 diabetes is more common in children and gestational diabetes is a form of diabetes that can occur during pregnancy. In some cases, it may not be clear which type of diabetes you have. If your doctor cannot be sure which type of diabetes you have, they may run one or more tests to help determine your diabetes type Some conditions, including genetic syndromes and surgery, can lead to high blood glucose levels and therefore diabetes. Such types of diabetes account for around 1 to 2% of all diagnosed cases of diabetes. There are a number of conditions that are not necessarily a direct cause but are closely linked with type 2 diabetes. Type 1 diabetes is an autoimmune disease, meaning that the body’s immune system mistakes its own cells for invading pathogens that need to be destroyed. People with type 1 diabetes tend to have a higher risk of having other autoimmune diseases than the rest of the population. Even though people talk about having diabetes, the term actually describes a group of diseases. These conditions all relate to the body’s ability to produce or use insulin, a hormone produced by the pancreas that helps you remove glucose, or sugar, from your blood, and convert it into energy. When this process is disrupted, your blood sugar levels can rise. Common Symptoms of diabetes include: Increased thirst Increased hunger Frequent urination Fatigue Blurry Vision Cuts or sores that are slow to heal Mood changes or irritability If you do not manage your diabetes and keep your blood sugar levels under control, it can lead to serious or even life-threatening complications over time. There are several different types of diabetes. The most common form of diabetes is type 2. With type 2 diabetes, the pancreas keeps making insulin, but the body becomes resistant to it. That means the insulin gradually stops working, and glucose starts to accumulate in your bloodstream over time. With type 2 diabetes, symptoms develop slowly, often over years, so you might not start to notice a problem until the disease is quite advanced. While genetics can be a risk factor for type 2 diabetes, age, diet, and lifestyle also play a role. You’re more likely to develop type 2 diabetes if you have excess weight or are not physically active. You’re also more likely to develop type 2 diabetes later in life, although you can be diagnosed at any age. Type 1 diabetes is an autoimmune disorder, in which the body’s immune system mistakenly attacks healthy cells in the pancreas. When enough of these cells are destroyed, the body can no longer produce insulin, and glucose starts building up in the blood. Unlike type 2 diabetes, type 1 diabetes can progress very rapidly. Symptoms can come on suddenly and become very severe within weeks or months. Scientists still aren’t sure what causes some people to develop type 1 diabetes, although they think genetics plays a role. You’re more likely to develop type 1 diabetes if you have close family members who also have the disease. It’s also more commonly diagnosed in children and young adults, although you can develop type 1 diabetes at any age. One thing they do know is that type 1 diabetes does not seem to be caused by a person’s lifestyle choices. If your glucose numbers are higher than normal, you may be diagnosed with prediabetes. This means that your body is becoming resistant to insulin, and is growing less efficient at removing sugar from the blood and converting it into energy. Genetics and lifestyle, including diet and exercise, are risk factors for prediabetes. Left untreated, prediabetes can develop into type 2 diabetes. The good news is that prediabetes can be reversed with treatment and lifestyle changes. Eating a healthy diet, increasing your physical activity, and taking any medications as prescribed can help restore your body’s ability to regulate blood sugar levels. Up to 10% of pregnant women may develop gestational diabetes, a condition which causes glucose levels to rise during pregnancy. Gestational diabetes is usually diagnosed through routine screening. In some cases it can be managed through diet and exercise, while other women will need to take insulin or other medications. There are a number of risk factors for gestational diabetes, including having excess weight, having a family history of diabetes, having prediabetes, and having polycystic ovary syndrome. If you’ve had gestational diabetes before, you’re more likely to develop it again. While gestational diabetes usually goes away after you give birth, it can increase your risk of developing type 2 diabetes later in life. If you have symptoms of diabetes, talk with your doctor right away. It’s very important to diagnose diabetes early so you can start managing it and keep your blood sugar under control. In most cases, diabetes can be managed with a healthy lifestyle and medication. No matter what type of diabetes you have, it’s important to also manage your stress, by getting enough sleep, connecting with loved ones, making time to relax and unwind, and keeping a positive attitude. Treating Type 2 DiabetesType 2 diabetes can sometimes be managed with lifestyle changes, including eating a healthy diet, getting more exercise, losing excess weight, and quitting smoking. You may also need to take insulin, as well as medications to manage related conditions like high blood pressure. Treating Type 1 DiabetessPeople with type 1 diabetes need to carefully monitor their glucose levels and take insulin to control their blood sugar. It’s also important to count carbohydrates, eat a balanced diet, and get regular exercise. Treating PrediabetesPrediabetes can be slowed down or even reversed with lifestyle changes, including losing excess weight, eating a healthy diet, getting more exercise, and quitting smoking. Treating Gestational DiabetesDepending on what is causing gestational diabetes, you may be able to keep your blood sugar levels under control with diet and exercise, or you may need to take insulin. Treating Type 3c DiabetesTreating type 3c diabetes can be more complicated, because treatment may be affected by the underlying condition that caused the diabetes. For example, someone with pancreatic cancer may have difficulty eating or maintaining a healthy weight, making it harder to manage blood sugar levels. Work with your diabetes care team to come up with a management plan. Scientists at the Diabetes Research Institute are aggressively working toward a cure that would reverse type 1 diabetes. Research is focused on finding a biological cure that would restore the body’s ability to produce insulin on its own. One treatment possibility involves a process called islet transplantation, in which clusters of cells from a healthy pancreas are injected into someone with type 1 diabetes. While this treatment is still being studied, some patients who have had it have been able to stop taking insulin, or reduce the amount of insulin they need. Diabetes is a serious disease, but there are tools to manage it. The first step to managing your diabetes is understanding which type you have. With information and proper treatment, you can keep your blood sugar levels under control and avoid complications, staying healthy for a long time to come. Get more answers to your questions about type 1 diabetes, type 2 diabetes and gestational diabetes symptoms and treatments. (In Spanish: ¿Que es La Diabetes?). Educate teachers, school personnel and other child care providers about taking care of your child with type 1 diabetes. Get news about research toward a cure, diabetes management tips, information for parents of children with type 1 diabetes and more. Sign up and become a DRI Insider today! BE A DRI INSIDER - GET NEWS! What is it? This type of diabetes causes the level of glucose, known as sugar, in your blood to become too high. This occurs when your body cannot produce enough of a hormone called insulin which controls blood glucose. Type 1 diabetes is not influenced by your diet or your lifestyle and can affect people of any age. What are the symptoms? The symptoms of type 1 diabetes often show quickly, sometimes in just a matter of days. These are the main symptoms: Increased thirst Urinating more than usual Feeling fatigued Unexplained weight-loss How is it diagnosed? GP's will complete a urine test and will also check your blood sugar levels. If they are under the belief that you do have diabetes, you will be advised to go to the hospital immediately where an assessment will be carried out. You will be required to stay in the hospital until your blood test results are ready, usually the same day. Should the assessment determine that you do have type 1 diabetes, a specialist diabetes nurse will talk you through everything you need to know and what you will need to do to manage it. How is it treated? Type 1 diabetes can be managed by daily injections of insulin, or an insulin pump which helps to keep your blood sugar levels under control. About 8% of people with diabetes in the UK have type 1 diabetes." Diabetes UK What is it? This type of diabetes is a condition which causes the level of glucose in your blood to become too high. It is caused by your body having problems with producing insulin, the hormone that controls your blood sugar levels. Type 2 diabetes can increase your risk of acquiring problems with your eyes, heart and nerves. There are links to type 2 diabetes with being overweight, inactive & your genetics. What are the symptoms? Needing to urinate more often, especially at night time A constant thirst that cannot be quenched Fatigue Unexplained weightloss How is it diagnosed? It is not uncommon for type 2 diabetes to be uncovered via blood or urine tests taken by your GP for something else. If the tests come back that you do have diabetes, your GP will discuss with you what the condition is and the next steps you need to take. How is it treated? Type 2 diabetes is treated by medication, but you may also be advised to change your diet and to do more physical exercise. Anyone with a type 2 diabetes diagnosis is required to attend regular check-ups at their local GP. Six in 10 people have no symptoms when they're diagnosed with type 2 diabetes." Diabetes UK What is it? This type of diabetes develops during pregnancy and normally disappears post giving birth. It is caused by high blood sugar and can occur at any stage of pregnancy. The reason it occurs is that the individual's body isn't able to produce enough of the hormone insulin to meet their additional needs during pregnancy. What are the symptoms? Often, there will not be any symptoms of gestational diabetes, or they may be similar to pregnancy side-effects which can make it difficult to detect. However, if a pregnant individuals blood sugar levels rise too high they may experience the following symptoms: Increased thirst Urinating more often than usual A dry mouth Fatigue How is it diagnosed? Certain factors contribute towards a persons' risk of gestational diabetes; having a Body Mass Index over 30, if they have had a baby before who has weighed 10lb or more at birth, have had gestational diabetes before or have a family history of the condition. The risk of gestational diabetes will be determined during the first antenatal appointment 8 to 12 weeks into a pregnancy. Women who have any of the risk factors of gestational diabetes will be offered a screening test which will determine whether or not they have the condition. How is it treated? Controlling blood sugar levels can help to decrease the chances of there being any problems during and after pregnancy. Anyone with the condition will be provided with a blood sugar testing kit so that they can monitor the effects of the treatment. Simple things such as making diet adjustments or exercising can help to reduce blood sugar levels. If this is not effective, medication will also be provided which could be in tablet form or insulin injection. What is it? MODY is a rare form of diabetes which is more often than not, genetic. It occurs due to a mutation in a single gene so if a parent has the gene, their offspring have a 50% chance of inheriting the condition. This type of diabetes is not affected by a persons' weight or lifestyle, and will usually develop before the person is 25 years old. People with MODY experience problems with regulating their blood sugar levels. What are the symptoms? Frequent urination Increased level of thrist Unexplained weight loss How is it diagnosed? A GP can complete a blood test to examine blood sugar levels, or a genetic test can be carried out which will determine the exact type of MODY. How is it treated? MODY is usually treated by medication, and eventually insulin injections. Treatment will be more effective for those who are a healthy weight. It is estimated that 90% of people with MODY are mistakenly diagnosed with type 1 or 2 diabetes at first." Diabetes UK What is it? Neonatal diabetes is a very rare type of diabetes that can occur in babies under the age of 9 months. It is caused by a change in a gene which affects an infants insulin production leading to their levels of blood sugar to rise dramatically. There are two types of neonatal diabetes, transient and permanent. Transient neonatal diabetes can resolve and then reoccur in later life, whilst permanent neonatal diabetes never goes away. What are the symptoms? Excessive thirst Urinating more than usual Dehydration How is it diagnosed? Neonatal diabetes is often diagnosed via genetic testing. How is it treated? Half the time, insulin is not needed to treat neonatal diabetes and instead can be treated with a tablet which is called Glibenclamide. What is it? Wolfram Syndrome is a rare genetic disorder which is known to some as DIDMOAD syndrome as its 4 most common features are diabetes insipidus, diabetes mellitus, optic atrophy and deafness. Diabetes insipidus occurs in 50% of people with Wolfram syndrome and is where the body cannot concentrate urine due to the posterior pituitary gland not making enough of the hormone vasopressin. This causes a person to get very thirsty, and urinate frequently. Diabetes mellitus is similar to type 1 diabetes other than the fact it is not an autoimmune condition. It is treated the same way as type 1 diabetes with insulin injections, a healthy diet, exercise and blood tests. Optic atrophy is when the optic nerve has wasted away leading to colour blindness and a gradual loss of vision. Most people with Wolfram syndrome will have this condition at some point in their lives. Deafness due to Wolfram syndrome leads to 1 in 4 affected needing a hearing aid. They may struggle to hear high pitched sounds. How is it diagnosed? A GP will give a diagnosis of Wolfram syndrome if a child has both optic atrophy and diabetes mellitus. How is it treated? Currently, no cure has been found for Wolfram syndrome, but treatments can be provided for some of the symptoms experienced. For instance, hearing aids can be provided to help with deafness. What is it? Alstrom syndrome is a rare repressively inherited genetic disorder. This means that both parents will carry the gene, but are unlikely to be affected themselves. What are the symptoms? Most of the symptoms of Alstrom syndrome display in infants & young children but it is possible for symptoms to show later in life. The main symptoms are as follows: Obesity and insulin resistance Nystagmus which causes wobbly eyes Type 2 diabetes mellitus Retinal degeneration which is a progressive eye disease Sensorineural hearing loss Photophobia which is a sensitivity to light How is it diagnosed? Alstrom syndrome can be diagnosed via genetic testing. How is it treated? Currently, there isn't a cure for Alstrom syndrome but many of the symptoms can be managed in various ways. For example, hearing aids can assist with hearing loss, and light sensitivity can be helped by dark glasses. Some of the symptoms can also be treated by medications. Those who experience type 2 diabetes will be recommended to follow a healthy diet and to follow an exercise routine. Doing this will also reduce the risk of obesity, another common symptom of Alstrom syndrome. What is it? Some people refer to LADA as 'type 1.5' diabetes as some aspects of the condition are more like type 1 diabetes, and some more like type 2 diabetes. Medical research is currently being conducted to work out what it is that makes LADA different from type 1 & type 2 diabetes. LADA tends to be diagnosed in people who are between ages 30 and 50 years. What are the symptoms? Fatigue Unexplained weight-loss Increased thirst Needing to urinate often How is it diagnosed? People who have LADA normally have antibodies in their blood which are often found in people who have type 1 diabetes. This is assessed by a GADA antibody test. How is it treated? LADA is usually treated by medication to begin with, and then insulin when a persons' blood sugar levels begin to rise. What is it? Type 3c diabetes occurs when there has been damage to someone's pancreas due to an illness or condition. Common conditions/illnesses that affect the pancreas are pancreatic cancer, cystic fibrosis and pancreatitis. It is also possible for someone to get type 3c diabetes if their pancreas has been removed for whatever reason. Type 3c diabetes happens when the pancreas isn't able to produce an adequate amount of insulin for the body. Further to this, it causes the pancreas to discontinue producing the enzyme required to digest food. What are the symptoms? Stomach pain Increased fatigue Unexplained weight-loss Passing wind regularly How is it diagnosed? This type of diabetes is not very well known and consequently can be mistaken for being type 2 diabetes. If a person has issues with their pancreas, you can ask your GP to check for type 3c diabetes. How is it treated? Type 3c diabetes is often treated with either the medication metformin or insulin depending on the level of damage a persons' pancreas has endured. Metformin assists the insulin you do produce to work more effectively, reducing your blood sugar levels. If a person is losing weight, GP's will then prescribe insulin. If you suspect that you may have diabetes, it is advised that you contact your local GP and book an appointment as soon as possible. Would you like assistance with finding care services near you? Please get in touch with TrustedCare today. There are important differences between type 1 diabetes (~5% of persons) and type 2 diabetes (90-95% of persons). Other types, such as unusual genetic forms of diabetes, also exist. Diagnosing the type of diabetes is important for appropriate medical treatment. Type 1... read more There are three ways of diagnosing prediabetes:People who have high blood glucose after not eating for at least 8 hours have “impaired fasting glucose.”After fasting for 8 hours, a healthy person’s blood glucose levels are usually less than 100 mg/dl. A person with... read more Every year, 1 in 10 expectant mothers develop “gestational” diabetes, a disease that appears specifically for the first time during pregnancy. Though the condition usually resolves after the baby is born, women who develop gestational diabetes are at increased risk of... read more How many types of diabetes are there? Many would say there are two. And that is correct. However, recent diabetes research suggests this chronic condition is not as simple as type 1 and type 2. A large groundbreaking study finds there are actually five subgroups of diabetes — and that info may make your diabetes management plan more successful down the line. The current classifications of type 1 and type 2 diabetes haven't changed for more than 20 years. For the more than 420 million people worldwide living with diabetes, these new findings indicate a step toward improved treatment. The Study A recent study in The Lancet: Diabetes & Endocrinology looked at six measurable factors in nearly 15,000 people recently diagnosed with diabetes: age, body mass index, the presence of beta-cell antibodies, level of metabolic control, measures of beta-cell function and insulin resistance. By looking at these diagnostic factors, researchers were able to define not just two, but five, subgroups of diabetes. In particular, type 2 diabetes appears to have highly variable characteristics. The findings offer a better understanding of the underlying factors of diabetes, as well as hope for earlier and more personalized treatments that may prevent complications. Here's what to know. Group 1: Severe Autoimmune Diabetes (SAID) This type is what is currently classified as type 1 diabetes. In people with this type of diabetes, the immune system produces antibodies that destroy beta cells (the cells that produce insulin). This production is known as an autoimmune response. The diabetes management plan for people with type 1 diabetes includes close monitoring of blood glucose levels and insulin replacement with daily injections or use of an insulin pump. Group 2: Severe Insulin-Deficient Diabetes (SIDD) People with this type of diabetes looked very similar to those with type 1: They were younger, not overweight and their bodies didn't produce adequate insulin. The difference was there weren't antibodies present, which means their immune system wasn't the underlying cause of their condition. In people with SIDD, damage to insulin-producing cells caused their bodies to produce too little insulin. This group had the highest risk of vision loss. The diabetes management plan for people with this type of diabetes is similar to those with type 1, but they may also take oral medications. Group 3: Severe Insulin-Resistant Diabetes (SIRD) This type of diabetes was characterized by insulin resistance, which means their body doesn't respond to its own insulin properly. People with SIRD are generally overweight, which further contributes to insulin resistance. The study found those with type 3 diabetes had a higher risk of kidney disease. Researchers also found that of the five subgroups, the diabetes management plans for people with SIRD were the least effective. That means these people stand to benefit the most from new diagnostics and more intensive treatment that may come from this research. Group 4: Mild Obesity-Related Diabetes (MOD) People with this milder form of diabetes are very overweight and have some insulin resistance. Because the insulin resistance isn't as severe as with SIRD, this milder form of diabetes is believed to be caused by obesity. Group 5: Mild Age-Related Diabetes (MARD) People with MARD were elderly and had a milder form of diabetes than those who developed it in middle age. The study found this was the most common form of diabetes. The Takeaway Researchers aren't suggesting it's time to reexamine the current type 1 or type 2 diabetes diagnoses. This is, however, a great jumping off point to refine our understanding of diabetes and the specific diabetes management plans for each type. Staying on top of the latest research and treatment advances is an important part of your diabetes management plan. Be sure to discuss what you learn with your doctor and ask if there are ways you can improve your treatment. Diabetes, or diabetes mellitus, is a chronic health condition that affects how your body uses food for energy. Your body isn’t able to move sugar, or glucose, from your bloodstream into your cells, so you end up with a surplus in your bloodstream. Approximately 34.2 million people in the United States are living with diabetes, according to the Centers for Disease Control and Prevention’s 2020 National Diabetes Statistics Report. That represents 10.5% of the population. But not everyone has the same type of diabetes, which is why it’s important to know the different types. RELATED: Diabetes statistics 4 types of diabetes There are four main types of diabetes: Type 1 diabetes, Type 2 diabetes, gestational diabetes, and a condition known as prediabetes, in which you have higher-than-normal blood glucose levels but not quite high enough (yet) to qualify as Type 2 diabetes. With all four, prompt diagnosis is critical—and so is compliance with your diabetes treatment. Over time, high blood sugar levels can damage your blood vessels and raise your risk of developing certain health problems (some life-threatening), so it’s important to begin treatment—and stick with it faithfully—as soon as you get diagnosed. But don’t despair. Regardless of what form of diabetes you might have, you can live a very full, healthy life. Adopting and embracing positive behavioral changes can not only lead to effective diabetes management, but it will also help you live a healthier life overall, says Lucille Hughes, DNP, the director of diabetes education for Mount Sinai South Nassau in Oceanside, New York. Compare common types of diabetes Type 1 diabetes 5%-10% of 34.2 million Americans who have diabetes Pancreas does not make any insulin or not enough insulin to move sugar out of bloodstream and into cells Having a close relative with Type 1 diabetes Insulin therapy Type 2 diabetes 90%-95% of 34.2 million Having high blood sugar levels that average out to be 6.5% or greater as measured by an A1C test or fasting blood glucose level 126 or greater Being overweight or having obesity Leading a sedentary lifestyle Being over 45 years of age Having a family history of Type 2 diabetes Having a history of smoking Being in certain racial/ethnic groups Having PCOS Having high cholesterol Having high blood pressure Lifestyle changes to improve diet and increase exercise Weight loss Insulin therapy Metformin or other medications Prediabetes 88 million Having elevated blood sugar levels (A1c between 5.7% and 6.4% or fasting blood glucose level 100-125) that are higher than normal but not quite high enough to be Type 2 diabetes Same as Type 2 diabetes Positive lifestyle changes to help you achieve and maintain a healthy weight, such as increased physical activity Gestational diabetes 5%-10% of pregnancies each year Elevated blood sugar levels during pregnancy Having a family history of prediabetes or Type 2 diabetes Being 25 or older Being overweight before pregnancy Being certain racial/ethnic groups Insulin may be necessary for some Healthy diet and exercise Type 1 diabetes Formerly known as juvenile diabetes or insulin-dependent diabetes, Type 1 diabetes is much less common than Type 2. The CDC estimates that 5%-10% of people with diabetes have Type 1 diabetes. People with a close family member with Type 1 diabetes are at increased risk. When you have Type 1 diabetes, your pancreas either doesn’t produce insulin at all or makes only a small amount of this hormone—not enough to help the sugar in your bloodstream enter your cells to be used for energy. As a result, your blood sugar levels are too high. According to the American Diabetes Association (ADA), the symptoms of Type 1 diabetes can include: Unusual thirst Frequent urination or urge to urinate High levels of fatigue Unusual level of hunger Blurry vision Weight loss Bruises or cuts that take longer to heal If you or your child develop any symptoms of high blood sugar, you should seek medical care right away. A healthcare provider can begin the process of diagnosis by testing your blood sugar levels and possibly running a test to detect autoantibodies common in people with Type 1 diabetes. Once you’re diagnosed, you will need to frequently monitor your blood sugar levels and ketones, and you’ll begin treatment with insulin, either via injection or insulin pump, to keep your blood sugar levels within a healthy range. When your body doesn’t have enough insulin to get sugar from your bloodstream into your cells, a very serious complication called diabetic ketoacidosis can develop. You also have to watch out for signs of low blood sugar, or hypoglycemia. Over time, you can develop other complications from Type 1 diabetes. These can include diabetic neuropathy, diabetic retinopathy, and nephropathy. However, maintaining good control over your blood sugar levels can help lower the risk. Type 2 diabetes The vast majority of diabetes cases are Type 2 cases. About 90%-95% of the 34 million Americans with diabetes have Type 2. Similar to Type 1 diabetes, with Type 2 diabetes your body still has a problem with moving sugar into your cells—but not because your pancreas stopped producing insulin. Your pancreas continues to make insulin, but your cells aren’t sensitive to it and can’t use the insulin the way they are supposed to. People who are more susceptible to developing Type 2 diabetes are those who are overweight, lead a sedentary lifestyle, are 45+, have a family history of Type 2, or have a history of smoking. Certain races and ethnic groups are also at higher risk, as are people who have polycystic ovary syndrome, high cholesterol, or high blood pressure. Type 2 diabetes is typically diagnosed with a glycated hemoglobin blood test or A1C test, which reports your average blood sugar levels as a percentage over the past three months. A normal number would be below 5.7%. To qualify for a Type 2 diabetes diagnosis, the number would be 6.5% or above. As for symptoms, they’re similar to those of Type 1 diabetes. “The onset of Type 2 diabetes is usually slower, and the symptoms are not as noticeable as those for Type 1 diabetes,” says Aleida Saenz, APRN, FNP-BC, CDCES, the director of patient education at the Diabetes Research Institute (DRI). “For these reasons, many people mistakenly overlook the warning signs. They might also think that the symptoms are the signs of other conditions, like aging, overworking, or hot weather.” Over time, you can develop similar complications from Type 2 diabetes as those of Type 1 diabetes. Once diagnosed, medication or insulin may be necessary. Metformin is commonly prescribed for people with Type 2; it lowers your liver’s glucose production and improves your body’s sensitivity to insulin, according to the Mayo Clinic. There is a wide array of other oral diabetes medications in a variety of drug classes that you might take, such as sulfonylureas, meglitinides, SGLT2 inhibitors, alpha-glucosidase inhibitors, thiazolidinediones, DPP-4 inhibitors, and others. Many people with Type 2 diabetes are able to lower their blood sugar levels by making behavioral changes, such as losing some weight and improving their diets. RELATED DRUGS: Jardiance coupons, Ozempic coupons, Trulicity coupons, Victoza coupons Gestational diabetes As you might suspect from the name, gestational diabetes affects pregnant people. It’s a condition that develops in pregnant women when their blood sugar levels are too high. Between 2% and 10% of all pregnancies each year in the U.S. are affected by gestational diabetes, according to the CDC. A screening test between the 24th and 28th week of pregnancy is routine: A woman will undergo an oral glucose tolerance test to gauge her blood sugar levels. Many, but not all, pregnant women will need insulin injections during their pregnancy after they’re diagnosed with gestational diabetes. For many, blood sugar levels will drop back down to normal after they deliver their babies. But they will still need some follow-up monitoring in the postpartum period—and they may also need to stay vigilant longer than that as half of all pregnant women with gestational diabetes go on to develop Type 2 diabetes. Prediabetes Prediabetes can be a precursor to Type 2. When diagnosed with prediabetes, it means your blood sugar levels are elevated beyond the normal level—but not high enough to qualify as Type 2 diabetes yet. On an A1C test, your levels would hover somewhere between 5.7% and 6.4%. Approximately 88 million people in the U.S. have prediabetes, according to the CDC’s 2020 National Diabetes Statistics Report. The prevalence is higher among men than women. And unfortunately, you may not even realize that you have prediabetes, as the CDC estimates that as many as 84% of people with prediabetes are unaware. The danger there is you might not take steps to reverse it before it becomes Type 2 diabetes. “The complications are silent,” says Hughes. “So, the patient is not getting any physical reinforcement to say that their behavior isn’t good.” Since you might not realize you have prediabetes, you might want to talk to your healthcare provider about having your blood sugar levels checked yearly, especially if you have any of the risk factors (which are the same as with Type 2 diabetes). RELATED: Can you reverse diabetes? How to lower your risk of diabetes You can control some but not all of the risk factors of the four types of diabetes. However, if you have any of these risk factors, discuss your diabetes risk with your healthcare provider. The earlier you can intervene, the better, explains Nilem Patel, MD, an endocrinologist in Los Angeles, California, who is affiliated with Adventist Health-White Memorial. “In general, you’re trying to fend off the complications of diabetes as long as you can,” she says. Along with glucose management, these steps can help: Stick to a healthy meal plan that provides the nutrients you need without sending your blood sugar levels soaring. Often, this means restricting carbohydrates. Consult a registered dietitian to get some help with meal planning. Maintain a healthy body weight. If you’re overweight, losing just 5%-10% of your total body weight can help you improve your blood sugar levels and decrease insulin resistance. Reduce your portion sizes. It’s easy to eat too much without even realizing it, so be sure to educate yourself on serving sizes and tricks, such as the recommended 3 oz. serving of meat is about the size of your palm. Move more throughout the day. Being active will make your body more sensitive to insulin, according to the CDC. So, take the stairs instead of the elevator, or walk around when you’re talking on the phone. Exercise at least 30 minutes five days per week. This will help you lose a few pounds and maintain a healthy weight once you get there. Exercise also lowers your risk of heart disease and nerve damage, which increase when you have diabetes. “Today, a wide range of computerized diabetes devices are available to help people better manage their blood sugar levels while research toward a cure for diabetes marches forward,” Saenz says. Advances in technology include continuous glucose monitors, smart insulin pens, combination CGM-insulin pumps, and even mobile apps. RELATED: How to get free diabetic supplies But it’s still important to use the technology correctly and remain compliant with the diabetes care plan that your healthcare team helps you develop. The complications from diabetes are very real, but tight management of your blood sugar levels can help you avoid them longer. About 2% of people have these other types of diabetes. These include different types of monogenic diabetes, cystic fibrosis-related diabetes, and diabetes caused by rare syndromes. Certain medications such as steroids and antipsychotics could lead to other types of diabetes, as well as surgery or hormonal imbalances. Unfortunately, many of these people are misdiagnosed leading to delays in getting the right treatment. We’re proud of the research we have supported to ensure better diagnosis and treatments for all types of diabetes, and it’s taught us a lot about the condition. You can find out more information on the different types of diabetes below: Type 1 diabetes Type 1 diabetes is where your blood glucose (sugar) level is too high because your body can’t make a hormone called insulin. This happens because your body attacks the cells in your pancreas that make the insulin, meaning you can’t produce any at all. We all need insulin to live. It does an essential job. It allows the glucose in our blood to enter our cells and fuel our bodies. When you have type 1 diabetes, your body still breaks down the carbohydrate from food and drink and turns it into glucose. But when the glucose enters your bloodstream, there’s no insulin to allow it into your body’s cells. More and more glucose then builds up in your bloodstream, leading to high blood sugar levels. Find out more about type 1 diabetes Type 2 diabetes With type 2 diabetes the insulin your pancreas makes can’t work properly, or your pancreas can’t make enough insulin. This means your blood glucose (sugar) levels keep rising. Around 90% of people with diabetes in the UK have type 2. It is serious condition and can be lifelong. Having type 2