

Why Blood Sugar Matters

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In the past 15 years, the number of adults with diabetes in Kentucky has jumped from 198,052 to 424,670 (1 in 8 adults). What's even more scary is that almost 140,000 Kentuckians have diabetes and they don't even know it. It is important to understand what diabetes is and how to prevent it, because it is the seventh leading cause of death in Kentucky. Also, adults with diabetes are two to four times more likely to die from heart disease, which is the 2nd leading cause of death in Kentucky.



What is diabetes?

Diabetes is a disease. It is not like the flu or a cold—you can't catch it from just being around your friends or family. It usually occurs when people have too much sugar in their blood and they cannot control their blood sugar level. People without diabetes usually have a blood sugar level below 100mg/dl several hours after eating, but people with diabetes will have blood sugar levels over 126mg/dl. If blood sugar levels are too high, it can be harmful to all

parts of our bodies and keep us from doing the things we enjoy in life.

Everyone has to eat to live. The body needs a variety of nutrients to work efficiently and allow you to feel good and perform your best. One of these nutrients is carbohydrates which include sugars and starches. Carbohydrates are found naturally in grains, fruits, starchy vegetables, and dairy products and are also added to processed foods like cookies, cakes, and candies. Everyone

uses carbohydrates in their blood for energy. Most carbohydrates are broken down into simple sugars called glucose and fructose and used by cells for energy. However, people with diabetes often struggle to eat right, because every single time they eat they have to think about how food will change their blood sugar levels. Simply put, people with diabetes can have a very hard time keeping blood sugar levels healthy and this can cause them to feel sick.

What is actually happening in your body if you have diabetes?

The body works like a well-oiled machine. One of the ways it gets our organs the nutrients they need is by producing insulin. Insulin is produced by the pancreas. Since insulin is a hormone, insulin acts like a key—opening the door for sugar to move from our blood into other organs. When we do not have enough insulin or if the insulin stops opening the door, our blood sugar levels will rise.

Are there different types of diabetes?

There are different reasons why people develop diabetes. Depending on the cause for high blood sugar (hyperglycemia), people may have different types of diabetes.

Type 1

Type 1 diabetes cannot be prevented. People with Type 1 diabetes are unable to make enough insulin. To maintain healthy blood sugar levels, some individuals take insulin each day, either through a shot or an insulin pump. Children and young adults usually have Type 1 diabetes. It is a condition they will have to manage their entire lives. About 5% of people with diabetes have Type 1 diabetes.

Type 2

Before, Type 2 diabetes was considered the adult-version of diabetes. However, some children and teens are now being diagnosed with this type of diabetes, so doctors now call it “Type 2.” People with Type 2 diabetes can make insulin in their bodies, but it doesn’t work as well so blood sugar levels stay high. This type of diabetes is also different from Type 1 because sometimes it can be prevented or delayed. Having Type 2 diabetes is linked to old-age, being overweight or obese and being physically inactive. Approximately 90 percent to 95 percent of people with diabetes have Type 2 diabetes.

Prediabetes

Prediabetes is when a person has high blood sugar levels, but the levels aren’t high enough to

be diagnosed with diabetes by a doctor. People with prediabetes are 15-30% more likely to develop diabetes within five years. There are no symptoms for the 1 in 3 adults in the United States living with prediabetes. Losing 5-7% of body weight will drastically reduce the risk of developing Type 2 diabetes. For example, a 200-pound person would need to lose 10-14 pounds to reduce their risk of developing Type 2 diabetes.

People who have been diagnosed with either Type 1 or Type 2 diabetes should check their blood sugar levels multiple times a day for healthy numbers. If the numbers are too low, they may need some juice or a piece of candy to raise their blood sugar to the recommended range. If the number is too high, they may need to take more insulin so that their body will start to



use the extra sugar as energy or get more physical activity. If the number is in the recommended range, the person doesn't have to do anything!

Gestational Diabetes

Gestational diabetes is a type of diabetes that occurs only in pregnant women who did not have any type of diabetes before pregnancy. After the baby is born, this type of diabetes will usually disappear. Women who had gestational diabetes during pregnancy should work with their doctor after the baby is born to watch for other signs of diabetes.

How will someone know if they have diabetes?

Some individuals may have no symptoms. But the most common symptoms of diabetes may include:

- Feeling tired all of the time
- Feeling thirsty
- Feeling hungry
- Having to pee often
- Having blurry vision
- If you are overweight or obese or physically inactive, it is important to check your blood sugar often. Your physician or healthcare provider can assist with a referral for the correct test.

Are certain people more likely to be diagnosed with diabetes than others?

Researchers are still working to figure out what makes some people more likely to develop Type 1 diabetes than others.

For Type 2 diabetes, there are risk factors that we can and can't control. It is important we know what these are so we can make healthy lifestyle choices to reduce the risk of developing the disease. People who are obese or physically inactive are more likely to be diagnosed with diabetes.

Can't control:

- Over 45 years old
- Have a close family member diagnosed

- Certain races/ethnicities
 - African-American
 - Hispanic/Latino Americans
 - American Indians

Can control:

- Overweight or obese
- Diet high in unhealthy fats and sugar, such as drinking lots of sugar-sweetened beverages
- Lack of exercise
- Activities where you sit still for a long time

How is diabetes harmful to the body?

Blood flows through the entire body. When blood sugar is too high, it begins to coat different parts of the body with sugar and this causes health problems. Table 1 lists areas of the body that diabetes can negatively affect.

Eyes	Blurred vision and in the worst cases, blindness
Kidneys	The kidneys have trouble filtering out the waste from our bodies and may stop functioning properly
Nerves	Difficult for nerves to send signals to different parts of our body, especially our arms and legs
Feet	Poor blood flow and damaged nerves cause poor foot health
Mouth	More likely to have problems with teeth and gums
Immune System	Difficult for people to overcome illnesses like a cold or the flu or for wounds/cuts to heal
Heart	In people with diabetes, the most common problem is poor heart health, which includes damage to blood vessels, increased fats in our blood and heart disease

What can you do to prevent Type 2 diabetes?

Type 2 diabetes is preventable. It is important to know that making small choices daily can add up to either prevent or delay the onset of Type 2 diabetes. Here are a few tips for reducing your risk of developing diabetes:

Move. Youth ages 6-17 years old are encouraged to be physically active at least 60 minutes each day. Being physically active tells your body to use the extra blood sugar as energy or helps your organs to take it up and store it for future use. Moving also helps reduce your risk of heart disease or nerve problems. A few different types of physical activity include aerobic exercise where your heart is pumping fast, strength-training with weights, or stretching your muscles.

Limit unhealthy foods. So many decisions we make each day involve food. It is important to know what foods to avoid if you want to prevent diabetes. The following foods quickly raise blood sugar levels above the recommended limit or contribute to weight gain and should be avoided, if possible:

- Fried and fatty foods
- Whole milk products

- Sweets, including cakes and cookies, and sugar-sweetened beverages

Eat healthy foods. It may seem like there are a lot of foods you can't eat if you want to prevent Type 2 diabetes, but really there are so many delicious foods that you can eat. Focus on eating the following foods:

- Brightly colored vegetables
- Whole fruits
- 100% whole grains (examples: brown rice, whole grain bread)
- Foods high in fiber (examples: oatmeal, beans, nuts)

Hold it right there. Maintaining a healthy weight is very important in the prevention of Type 2 diabetes. Being physically active and making healthy food choices will help you stay at the best weight for you.

Avoid overeating. Pay attention to when you are hungry and when you are full. Don't eat when you're not hungry (mindless eating) and try not to skip meals.

If my family member has diabetes, how can I help them keep healthy blood sugar levels?

- Remind them to check their blood sugar levels each day.
- Managing diabetes requires a team effort. Be sure they are seeing all of their doctors regularly. This could be a regular doctor, foot doctor (podiatrist or orthopedist), eye doctor (ophthalmologist), registered dietitian (RDN), and/or diabetes educator.



- Ask for help. If you and your family are unsure what blood sugar or other clinical values or certain words mean when talking to a doctor or healthcare provider, ask for an explanation. It can also be helpful to write questions down before you see the doctor so you don't forget to ask during your visit.
- Explore community programs that teach about nutrition, physical activity, and healthy lifestyles. The county Extension office, health department, fitness centers, or local hospitals could offer free programs.

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