What is diabetes?

If you or someone you know has diabetes, you’re not alone. Millions of people have diabetes. Diabetes cannot yet be cured. But it can be managed.

The most common types of diabetes are type 1 and type 2

Type 1
In type 1 diabetes, the body makes little or no insulin, due to an overactive autoimmune system. So people with type 1 diabetes must take insulin every day. Type 1 diabetes usually occurs in children and young adults, but it can also appear in older adults. (An autoimmune disease means that the body attacks its own cells by mistake.)

Type 2
In type 2 diabetes, your body prevents the insulin it does make from working right, or it may not make enough insulin. Most people with diabetes have type 2. Some risk factors for this kind of diabetes include older age, being overweight or obese, family history, and having certain ethnic backgrounds.

The information below focuses on type 2 diabetes. For more information about type 1 diabetes, visit Cornerstones4Care.com.

What happens in diabetes?

Diabetes is a condition in which the body doesn’t make or use insulin correctly. The image below shows, in a simple way, what happens normally when you eat.

In people without diabetes:

- When you eat, some of your food is broken down into sugar (also called glucose). Sugar travels in your blood to all your body’s cells. Your cells need sugar for energy. Sugar from food makes your blood sugar level go up.
- In response to increased sugar, beta cells in the pancreas release a hormone called insulin. Insulin is like a key that unlocks the doors of your cells so that sugar can get into the cells, where it is used as a source of energy.
- There are other hormones that play important roles in how the body uses sugar. For example, amylin and GLP-1 help reduce the amount of sugar made by the liver and slow the emptying of food from the stomach. Another hormone called glucagon tells the liver to release stored sugar if your blood sugar gets too low or if you have not eaten for many hours, such as overnight.
What is diabetes?

In people with diabetes:
- Your pancreas makes little or no insulin, or
- Your body prevents the insulin you do make from working right. This is called insulin resistance.

Knowing your A1C

The A1C test measures your estimated average blood sugar level over approximately 3 months. It’s like a “memory” of your blood sugar levels. It shows how well you’re controlling your blood sugar levels over time.

Two other blood sugar measurements contribute to your A1C:
- FPG is your fasting plasma glucose. This is your blood sugar number when you have been fasting (not eating) for at least 8 hours.
- PPG is your postprandial plasma glucose. This is your after-meal blood sugar level, which you check about 1 to 2 hours after you start eating. It measures the blood sugar spikes that happen after you eat.

Both your FPG and your PPG should be at their targets in order for your A1C to be at target.

Your A1C and your blood sugar can go up and down together. Here is how A1C relates to the estimated average blood sugar level:

<table>
<thead>
<tr>
<th>A1C levels</th>
<th>Average blood sugar</th>
</tr>
</thead>
<tbody>
<tr>
<td>6%</td>
<td>126 mg/dL</td>
</tr>
<tr>
<td>7%</td>
<td>154 mg/dL</td>
</tr>
<tr>
<td>8%</td>
<td>183 mg/dL</td>
</tr>
<tr>
<td>9%</td>
<td>212 mg/dL</td>
</tr>
<tr>
<td>10%</td>
<td>240 mg/dL</td>
</tr>
<tr>
<td>11%</td>
<td>269 mg/dL</td>
</tr>
<tr>
<td>12%</td>
<td>298 mg/dL</td>
</tr>
</tbody>
</table>

It is recommended that you get an A1C test:

- At least 2 times a year if your blood sugar is under good control
- 4 times a year if you’re not meeting your goals or if your treatment has changed

According to the American Diabetes Association, lowering your A1C to below 7% may reduce your risk of some diabetes-related problems, like problems with your nerves, eyes, and kidneys. Your health care provider will tell you what your personal A1C goal should be.

Talk with your diabetes care team about your A1C goal and write it here: __________

**When to check your blood sugar**

You and your diabetes care team will decide when and how often you should check your blood sugar. Here are some times when you may want to check:

- At bedtime and when you wake up, to see if your blood sugar is staying under control while you’re asleep
- Before meals or large snacks, to know what your blood sugar is before you eat
- 1 to 2 hours after starting a meal, to see how the food you eat affects your blood sugar
- Before and within minutes after physical activity, to see how being active affects your blood sugar
- Anytime you think your blood sugar might be low

Depending on the medicine you’re taking, your health care professional may want you to check your blood sugar more or less often. Talk with him or her about how often and when you should be checking.

**How to check your blood sugar and keep track of your numbers**

Many different kinds of blood sugar meters are available today. Your diabetes care team can help you choose a meter and show you how to use it.

It’s important to write down your blood sugar levels so that you can keep track of what makes them go up or down. Some meters also keep a log of your past blood sugar levels. You can also ask your diabetes care team for a copy of the Cornerstones4Care® booklet Staying on Track. Or go to Cornerstones4Care.com for an online tracker.
What is diabetes?

Managing type 2 diabetes

As part of your diabetes care plan, your care team may start by asking you to take different diabetes medicines such as pills or other non-insulin medicines.

Your diabetes care team will help you develop a diabetes care plan that is right for you. In addition to taking medicine, you should aim for a balanced and healthy eating plan, making physical activity a regular part of your daily routine, getting to and staying at your target weight, and tracking your blood sugar numbers.

It is now clear that type 2 diabetes will continue to change over time:

- The beta cells may stop working. Research suggests that many people with type 2 diabetes may already have lost about 50% to 80% of their beta cell function by the time their diabetes is diagnosed.

- As the number or function of beta cells goes down, the pancreas may make less and less insulin. As a result, your treatment may also need to change over time.

To avoid problems related to diabetes, it is important to keep your blood sugar as close to your target as possible. You can learn more at Cornerstones4Care.com. Or ask your diabetes care team for more information. And talk with them about which diabetes treatment is right for you.


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