



# DIABETES AND YOUR BODY

**A Guide to How Type 2 Diabetes May Affect Your Body and What You Can Do to Help Prevent Potential Problems**

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*It is important to remember that diabetes increases your risk for many serious health problems. But, you can make a difference. By working with your healthcare team to focus on living well, eating right, staying active, and taking medication when needed, you can help your body stay healthy.<sup>1-3</sup>*

*On the next few pages, we'll explore how diabetes may affect your body from head to toe.*

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## Brain and Heart

Having diabetes means that you are at least twice as likely to have heart disease or to suffer a stroke.<sup>4</sup>

### Why this may happen

When your blood sugar (glucose) level stays too high for too long, over time it may damage your nerves and blood vessels.<sup>4</sup> As someone with diabetes, you may also have issues keeping your blood pressure and cholesterol within a healthy range.<sup>4-6</sup> Together, these related issues may cause your blood vessels to become narrowed or clogged by fatty deposits that may block oxygen and other needed materials from reaching your heart and brain. This can lead to a heart attack or stroke.<sup>7</sup>

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*Work with your healthcare team to keep track of your blood sugar, your blood pressure, and your cholesterol.*

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### Your Role:

To stay healthy, it's important that you work with your healthcare team to keep track of your blood sugar, blood pressure, and cholesterol. Also, if you are a smoker, it's important that you think about quitting. Smoking has been linked to raising cholesterol and blood pressure.<sup>8</sup> If you are prescribed medication, it's very important to take it as your doctor has directed. Remember that different medications work in different ways to help keep your blood sugar in a healthy range.<sup>2,3</sup>

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## Eyes

Diabetes is the leading cause of new cases of blindness among adults aged 20 to 74.<sup>9</sup> People with diabetes are also more likely to suffer from other vision-related conditions such as glaucoma.<sup>10</sup>

### Why this may happen<sup>10</sup>

High blood sugar levels may damage the small blood vessels in your eye's retina. This may lead to a condition known as diabetic retinopathy. This may affect how you see. You may not notice any changes in your vision at first, or experience any pain. If this condition isn't treated, you may lose some or all of your eyesight permanently.



### Your Role:

As well as working with your healthcare team to keep your blood sugar and blood pressure within a healthy range, regular eye checkups may help detect any potential problems early.<sup>10</sup> Remember to have your eyes checked at least once a year, even if your vision seems ok.<sup>10</sup> If you notice a change, let your healthcare team know right away. If you smoke, quitting may lower your risk of damaging the blood vessels in your eyes.<sup>8</sup>

## Teeth and Gums

High blood sugar levels may lead to problems in your teeth and gums.<sup>11</sup> People with diabetes have a higher risk of developing gum disease that may lead to tooth decay.<sup>11</sup>

### Why this may happen

If blood sugars aren't kept in check, they may help harmful plaque germs grow in your mouth. These germs may lead to tooth decay, cavities, and gum disease.<sup>11,12</sup>

### Your Role:

As well as avoiding smoking, remember to care for your teeth by brushing and flossing every day and by seeing your dentist every 6 months to have your teeth cleaned and checked.<sup>11</sup> If you wear dentures, remember to remove and clean them every day.<sup>11</sup>



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## Kidneys

Your kidneys have an important job in your body. The tiny blood vessels inside them act as filters to remove waste products from your blood.<sup>13</sup> It's very important that your kidneys stay healthy, as diabetes has been shown to be the leading cause of kidney failure.<sup>14</sup>

### Why this may happen

High levels of blood sugar may overwork your kidneys, and, over time, this stress can cause them to leak useful protein into the urine.<sup>13,14</sup> This condition may become very serious and require you to use a machine to filter your blood (dialysis) or to get a kidney transplant.<sup>13</sup>



### Your Role:

By working with your healthcare team to manage your blood sugar, you can help keep your kidneys in good health. You should also work with your healthcare team to watch your blood pressure. High blood pressure has been found to be the number 2 cause of kidney failure.<sup>14</sup> Be wary of smoking, as it may raise your blood pressure, and consider quitting if you do smoke.<sup>8</sup>

## Genitals

Diabetes may have an effect on the sex life of both men and women with the condition. This may lead to challenges maintaining physical intimacy.<sup>15-18</sup> These problems often lead to depression and anxiety that may lower your desire for sex.<sup>18</sup>

### Why this may happen

High blood sugar may sometimes damage blood vessels and nerves found in the genitals. For men, this may lead to erectile dysfunction. This means they may no longer have or keep an erection.<sup>17</sup> Women with diabetes may experience pain during intercourse because of vaginal dryness.<sup>18</sup>

### Your Role:

Be honest with your healthcare team about any intimacy problems you may be having and your feelings. If you are thinking of having a baby, start working with your healthcare team before you become pregnant. It is very important that you work closely with your healthcare team to maintain your health and your baby's.<sup>19</sup>

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## Nerves, Legs, and Feet

Diabetes has been associated with a type of nerve damage known as neuropathy.<sup>20</sup> There are different types of neuropathy. A very common one that may affect your feet is peripheral neuropathy.<sup>20,21</sup> Another potential concern that happens with diabetes is known as peripheral arterial disease (also called PAD). This affects your legs but may also raise your risk of heart attack and stroke.<sup>22</sup> PAD is estimated to affect as many as 33% of people with diabetes over the age of 50.<sup>22</sup>

### Why this may happen

Over time, high blood sugar may injure the walls of the tiny blood vessels that nourish your nerves (neuropathy), especially in your legs.<sup>20</sup> Neuropathy may hurt, or it may also lower your ability to feel pain, heat, and cold.<sup>21</sup> PAD happens when blood vessels in the leg are narrowed or blocked by fatty deposits that hinder the blood flow to your legs and feet.<sup>22</sup> PAD may also lead to leg pain, numbness, and tingling. In addition, it may result in sores or infections on your feet or legs that do not heal normally.<sup>22</sup>



### Your Role:

Work with your healthcare team to keep your blood sugar and blood pressure within a healthy range. Remember to always wear protective footwear and wash and check your bare feet every day for red spots, cuts, swelling, and blisters. You can also take steps to keep the blood flowing to your feet during the day. Put your feet up when you sit down and try not to keep your legs crossed for long periods of time.<sup>23</sup> If you smoke, consider quitting.

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## Skin

As many as 33% of patients with diabetes will have a skin problem caused or affected by diabetes at some point.<sup>24</sup> Sometimes, skin problems are even the first sign of diabetes.<sup>24</sup> These include bacterial and fungal infections and itching. Other diabetes-related skin conditions may happen. These include diabetic dermopathy (often mistaken for age spots); diabetic blisters; and tight, thick, waxy skin on the back of the hands and sometimes the toes and forehead.<sup>25</sup>

### Why this may happen

People with diabetes tend to have dry skin and are easier targets for harmful bacteria. Both of these problems raise the risk of infection.<sup>24</sup>



### Your Role:

In addition to working with your healthcare team to manage your diabetes, you can practice good skin care by keeping your skin clean and dry. Also avoid very hot showers and baths, and treat any cuts right away. You may also want to ask your healthcare team about seeing a skin doctor (dermatologist).<sup>24</sup>

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## Total Body Health Concerns— Managing Depression and Stress

It's important to remember that other factors, such as depression and stress, can impact your health.<sup>26,27</sup> People with diabetes are at a greater risk for depression, and poor diabetes control may often cause symptoms that are mistaken for depression.<sup>26</sup>

Stress may impact your health since it may cause your body to try and make more stored energy (glucose and fat) available.<sup>27</sup> For people with diabetes, the sugar created by stress can be harder for the body to process.<sup>27</sup>

### Why this may happen

You may be feeling alone or set apart from your friends and family because you are stressed about your daily diabetes management.<sup>26</sup> Depression can become a bad pattern that impacts good diabetes care.<sup>26</sup>

Depression may reduce your energy level, making you feel overwhelmed by regular blood sugar testing.<sup>26</sup> Depression may also cause you to feel anxious, making it harder to keep up with a good diet.<sup>26</sup>



### Your Role:

It's perfectly normal to feel down sometimes. But, if you feel a sadness that does not go away, remember that you aren't the only one who cares about your health.

If you feel as though things that used to bring you pleasure no longer matter, feel unmotivated, have little energy, or feel sad for more than 2 weeks, it's important to reach out.<sup>26</sup> Often, long-term sources of stress are linked to mental concerns rather than physical ones.<sup>27</sup> Be open and honest with your healthcare team about your feelings. They can help you find ways to lower your stress level while still focusing on staying healthy.<sup>27</sup>

Managing your diabetes may be a team effort, but you are the most important member of the team!

# STAYING IN CONTROL



## Taking Your Medications<sup>28</sup>

By following your medication treatment plan, you may be able to help manage your diabetes and the other health problems that may occur if your blood sugar stays too high. If you need help remembering to take your medication:

- Keep a list of all your medications, both prescription and over the counter
- Track your medications throughout the day (you can also use a pillbox)
- Talk to your healthcare team about any issues you may have with your medications

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