



## Healthy Eating Initiative: Combatting Insulin Resistance and Type 2 Diabetes

Prediabetes is a chronic condition that is identified by higher-than-normal elevations in blood sugar levels. Blood sugar, also called glucose, spikes because the body is unable to effectively use insulin. Insulin is a hormone that helps the body process and use glucose for energy. When the body shows signs of prediabetes, it becomes less sensitive to insulin and becomes insulin-resistant. Insulin resistance allows glucose to stay in the blood. As a result, it is not used to burn for energy, but instead calories are stored as fat. This can lead to Type 2 diabetes and several other health conditions such as cardiovascular disease, chronic kidney disease, heart attack, stroke, and kidney damage.

What are the symptoms of prediabetes?

As prediabetes usually does not have easily distinguished symptoms, many people may not know they have it unless their blood glucose levels are regularly monitored. The most common symptoms of prediabetes include:

- **Excessive thirst**
- **Excessive hunger**
- **Dark, velvety, spots on your skin, or skin tags, especially on your neck, groin, armpits, knees, elbows, and knuckles**
- **Fatigue or tiredness (especially after eating a high-carb meal)**
- **Numbness or tingling in your hands and feet**
- **Slow healing wounds**
- **Frequent urination**

If you have any of these symptoms, please consult with your doctor or health care provider to ensure you do not have prediabetes or diabetes!

Here are seven evidence-based ways to naturally lower your blood sugar levels.

1. **Exercise regularly.** **Muscles will burn the stored sugar first** as its source of energy. Research shows that even a 5% reduction in body weight can improve your blood sugar regulation and reduce the need for diabetes medication.
2. **Manage your carb intake.** **Prioritizing whole grains** over processed grains and refined carbs provide greater nutritional value while helping decrease blood sugar levels.
3. **Eat more fiber.** Fiber **slows carb digestion and sugar absorption**, thereby promoting a more gradual rise in blood sugar levels.
4. **Drink more water.** In addition to preventing dehydration, it helps your kidneys **flush out any excess sugar** through urine.

For additional information, email the DCPAS Work-Life Branch at:

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5. **Choose foods with a low glycemic index (GI).**

The glycemic index measures how quickly carbs break down during digestion and how rapidly your body absorbs them. This **affects how quickly your blood sugar levels rise**. When choosing fruits, stick to berries (strawberries, raspberries, blueberries and blackberries) as they have a very low GI. Other foods with a low to moderate GI include barley, beans, lentils, legumes, and non-starchy vegetables.

6. **Eat foods rich in chromium and magnesium.** High blood sugar levels and diabetes have been linked to **micronutrient deficiencies**. Chromium-rich foods include whole grains, fruit, vegetables, and nuts. Low magnesium levels may lead to insulin resistance and decreased glucose tolerance. Magnesium-rich foods include dark leafy greens, squash, pumpkin seeds, tuna, whole grains, bananas, avocados, and beans.

7. **Consider adding specific** supplements to **your diet**. Many plants are known to have medicinal properties and can supplement your diet. **Apple cider vinegar, cinnamon, berberine, and fenugreek seeds** may reduce blood sugar levels by delaying the emptying of your stomach after a meal, enhancing insulin sensitivity, and slowing the breakdown of carbs in your digestive tract.

Remember to consult with a doctor before making changes to your diet and exercise routine but have fun trying these healthy eating initiatives for combatting insulin resistance!

### **Additional Resources:**

- Mayo Clinic: <https://www.mayoclinic.org/diseases-conditions/diabetes/in-depth/diabetes-diet/art-20044295>
- Very Well Health: <https://www.verywellhealth.com/how-to-lower-morning-blood-sugar-without-medication-5115958>
- Healthline: <https://www.healthline.com/nutrition/foods-to-lower-blood-sugar>
- Eating Well: <https://www.eatingwell.com/article/7775696/plant-based-diet-for-beginners-your-guide-to-getting-started/>

