

What Is Prediabetes?

Prediabetes is a condition in which blood glucose levels are high but lower than in type 2 diabetes.

How Common Is Prediabetes and What Are the Symptoms?

Prediabetes affects approximately 1 in 3 US adults and about 720 million individuals worldwide. People with prediabetes often have no symptoms, so most people with prediabetes do not know they have it.

Risk Factors for Prediabetes

Risk factors for prediabetes include

- Being older than 45 years
- Being overweight or obese
- Being physically active less than 3 times a week
- Eating an unhealthy diet
- Having a parent or sibling with type 2 diabetes
- Having a history of diabetes during pregnancy (gestational diabetes) or giving birth to an infant weighing more than 9 pounds
- Having polycystic ovary syndrome

How Is Prediabetes Diagnosed?

Prediabetes is diagnosed by a blood test that checks a person's blood glucose level, typically with either a fasting glucose measurement or a hemoglobin A_{1c} (HbA_{1c} or "A_{1c}") measurement.

Who Should Be Screened for Prediabetes?

The US Preventive Services Task Force (USPSTF) recommends that adults aged 35 to 70 years who are overweight or obese should be screened for prediabetes with blood testing every 3 years.

Potential Consequences of Prediabetes

In the US, about 10% of people with prediabetes develop diabetes each year. Prediabetes is also linked to an increased risk of heart attack, congestive heart failure, stroke, kidney disease, peripheral nerve damage (often causing numbness and pain in the feet), and problems with vision.

What Lifestyle Changes Are Recommended?

Prediabetes can be improved in some individuals who make serious long-term changes to their lifestyle. Recommended lifestyle changes include being more physically active each day (aim for 30 minutes of exercise 5 days a week); eating healthier food (vegetables, fruits, whole grains); monitoring portion sizes; and finding support for overcoming psychological, social, and motivational obstacles.

People with prediabetes who lose at least 5% to 7% of their body weight decrease their chance of developing type 2 diabetes. The Centers for Disease Control and Prevention (CDC) has a

Prediabetes is blood glucose levels that are higher than normal but lower than in type 2 diabetes. Most people with prediabetes do not have symptoms.

People with prediabetes are at risk of developing type 2 diabetes.

Prediabetes is also linked to an increased risk of

- Heart attack
- Vision problems
- Peripheral nerve damage
- Stroke
- Kidney disease
- Congestive heart failure

Recommended lifestyle changes can prevent, delay, or resolve prediabetes.

Aim for 30 minutes of exercise 5 days a week



Eat more vegetables, fruits, and whole grains



Monitor portion sizes



Find support for overcoming obstacles



People with prediabetes who have obesity or excess weight who lose at least 5% to 7% of their body weight decrease their risk of developing type 2 diabetes.

National Diabetes Prevention Program that offers group support, a lifestyle coach, and a weekly lifestyle curriculum developed by the CDC.

Are There Medications for Prediabetes?

Although no medication is currently approved by the US Food and Drug Administration (FDA) for treatment of prediabetes, some people with prediabetes who have other health conditions such as high blood pressure or obesity may benefit from medications such as metformin or glucagon-like peptide 1 (GLP-1) receptor agonists. It is important to note that the lifestyle changes outlined above appear to be more effective in reversing prediabetes and preventing progression to diabetes than medications alone.

FOR MORE INFORMATION

Centers for Disease Control and Prevention
www.cdc.gov/diabetes/basics/prediabetes.html and
www.cdc.gov/diabetes/prevention/index.html

Author: Jill Jin, MD, MPH

Published Online: December 1, 2023. doi:10.1001/jama.2023.17846

Author Affiliation: Associate Editor, JAMA.

Conflict of Interest Disclosures: None reported.

The JAMA Patient Page is a public service of JAMA. The information and recommendations appearing on this page are appropriate in most instances, but they are not a substitute for medical diagnosis. For specific information concerning your personal medical condition, JAMA suggests that you consult your physician. This page may be downloaded or photocopied noncommercially by physicians and other health care professionals to share with patients. To purchase bulk reprints, email reprints@jamanetwork.com.