National Institute of Diabetes and Digestive and Kidney Diseases

Risk Factors for Type 2 Diabetes

Your chances of developing type 2 diabetes depend on a combination of risk factors. Although you can't change risk factors related to family history, age, race, or ethnicity, you may be able to avoid some risk factors by maintaining a healthy weight and being physically active.[1]

Read about risk factors for type 2 diabetes below, and see which ones apply to you. Acting on the factors you can change may help delay or prevent type 2 diabetes.

What are the risk factors for type 2 diabetes?

Diabetes type 2 can affect people at any age.

You can develop type 2 diabetes at any age, even during childhood. You are more likely to develop type 2 diabetes if you[1]

- are overweight or have obesity.
- are age 35 or older. Children and teens can also develop type 2 diabetes, but the risk increases as a person gets older.
- have a family history of diabetes.
- are African American, American Indian, Asian American, Hispanic/Latino, or Pacific Islander.
- are not physically active, because of physical limitations, a sedentary lifestyle, or a job that requires sitting for long periods of time.
- have prediabetes.
- have a history of gestational diabetes, a type of diabetes that develops during pregnancy, or gave birth to a baby weighing 9 pounds or more.

Children and teens are also at higher risk of developing type 2 diabetes if, in addition to the previous risk factors, they were born with a low birth weight or if their parent had gestational diabetes while pregnant with the child.[1]

You are encouraged to talk with a doctor about any of the health conditions listed above that may require medical treatment. Managing health problems may help reduce your chances of developing type 2 diabetes.[2] Also, ask your doctor about any medicines you or your child take that might increase your risk. You can also take the Diabetes Risk Test to learn more about your risk for type 2 diabetes.

Does your weight put you at risk for type 2 diabetes?

If you have overweight or obesity, you may be able to prevent or delay type 2 diabetes by losing weight and being more physically active.[1]

To see if your weight may put you at risk for type 2 diabetes, learn your body mass index (BMI) and waist circumference.

Body mass index

Your BMI can help you tell if you are at a healthy weight or have overweight or obesity.

Most adults with a BMI of 25 or higher are overweight and have a higher risk of developing type 2 diabetes.[2] Asian Americans are overweight if their BMI is 23 or higher,[1] while Pacific Islanders are overweight if their BMI is 26 or higher.[3,4,5]

If you are age 20 or older, use the BMI calculator for adults NIH to learn your body mass index.

You can use a different BMI calculator for children or teens ages 2–19 years. This calculator uses BMI, sex, and age to estimate if a child or teen has overweight or obesity.

Waist circumference

Another way to estimate your risk of developing diabetes is to measure your waist circumference. Men have a higher risk of developing diabetes if their waist circumference is more than 40 inches, while women who are not pregnant have a higher risk if their waist circumference is more than 35 inches.[6,7]

Waist circumference is an indirect measurement of the amount of fat in your abdomen. Having a large waist circumference is a risk factor for diabetes and heart disease, even if you have a normal BMI.

References

[1] American Diabetes Association Professional Practice Committee. Standards of medical care in diabetes—2022. *Diabetes Care*. 2022;45(suppl 1):S17–S38. doi:10.2337/dc22-S002

[2] Knowler WC, Barrett-Connor E, Fowler SE, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *The New England Journal of Medicine*. 2002;346(6):393–403. doi:10.1056/NEJMoa012512

[3] NHLBI Obesity Education Initiative Expert Panel on the Identification, Evaluation, and Treatment of Obesity in Adults (US). *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report*. National Institutes of Health; 1998. NIH publication 98-4083. Accessed July 11, 2022. www.ncbi.nlm.nih.gov/books/NBK2003 NIH

[4] Swinburn BA, Ley SJ, Carmichael HE, Plank LD. Body size and composition in Polynesians. *International Journal of Obesity and Related Metabolic Disorders*. 1999;23(11):1178–1183. doi:10.1038/sj.ijo.0801053

[5] Jowitt LM. Ethnicity and type 2 diabetes in Pacific Island adults in New Zealand. *International Journal of Diabetes and Clinical Research*. 2014;1:014. doi:10.23937/2377-3634/1410014. Accessed July 11, 2022. https://clinmedjournals.org/articles/ijdcr/ijdcr-1-014.pdf (PDF, 372 KB)

[6] Klein S, Allison DB, Heymsfield SB, et al. Waist circumference and cardiometabolic risk: a consensus statement from Shaping America's Health: Association for Weight Management and Obesity Prevention; NAASO, the Obesity Society; the American Society for Nutrition; and the American Diabetes Association. *Diabetes Care*. 2007;30(6):1647–1652. doi:10.2337/dc07-9921

[7] Cerhan JR, Moore SC, Jacobs EJ, et al. A pooled analysis of waist circumference and mortality in 650,000 adults. *Mayo Clinic Proceedings*. 2014;89(3):335–345. doi:10.1016/j.mayocp.2013.11.011

Last Reviewed July 2022

Previous: Symptoms & Causes

Next: Preventing Type 2 Diabetes