Screening for Type 2 Diabetes in Children and Adolescents

The US Preventive Services Task Force (USPSTF) has recently published recommendations on screening for type 2 diabetes in children and adolescents.

What Is Diabetes?

Diabetes refers to a range of disorders characterized by high blood glucose (sugar). In type 2 diabetes, cells in the body do not respond properly to the hormone insulin, and this insulin resistance results in high blood glucose levels. Prediabetes refers to when blood glucose levels are above normal but not high enough to be in the diabetes range.

The rate of type 2 diabetes is increasing in young people, most commonly around the onset of puberty. The most important risk factor for type 2 diabetes is obesity. Symptoms of diabetes can include feeling very thirsty and urinating frequently. Young people with type 2 diabetes have an increased risk of high blood pressure, high cholesterol levels, and nonalcoholic fatty liver disease.

Over time, particularly if not treated, diabetes can lead to bad health outcomes, including heart attacks, strokes, kidney disease and kidney failure, and blindness.

What Tests Are Used to Screen for Type 2 Diabetes in Children and Adolescents?

Screening for diabetes is typically done with a blood test, to measure either fasting blood glucose or glycated hemoglobin (HbA1c). Fasting blood glucose is a blood glucose level that is checked after at least 8 hours of not eating or drinking any food or liquids with calories. Hemoglobin A1c provides information about an individual’s average blood glucose over the past several months and can be checked without fasting.

A fasting blood glucose level of 126 mg/dL or greater or an HbA1c measurement of 6.5% or greater suggests diabetes.

An oral glucose tolerance test can also be used to diagnose diabetes. After an overnight fast, patients drink a liquid containing 75 g of glucose and blood is drawn 2 hours later. A blood glucose level of 200 mg/dL or higher suggests diabetes.

What Is the Population Under Consideration for Screening for Type 2 Diabetes in Children and Adolescents?

This recommendation applies to children and adolescents who are not pregnant and who are younger than 18 years without known diabetes or prediabetes and without symptoms of diabetes or prediabetes.

How Does This Differ From Prior USPSTF Recommendations?

The USPSTF has not previously released a recommendation on this topic.

What Are the Potential Benefits and Harms of Screening for Type 2 Diabetes in Children and Adolescents?

The goal of screening for type 2 diabetes in young people is to diagnose and treat it early to prevent development of bad health outcomes. However, no studies have looked at the link between screening for type 2 diabetes in children and adolescents and bad health outcomes. Studies about the effect of type 2 diabetes treatment on health outcomes in children and adolescents have not had enough patients with bad outcomes to draw any meaningful conclusions.

No studies have looked at harms of screening for type 2 diabetes in young people. Potential harms may include side effects from medications used to treat diabetes, such as low blood glucose, nausea, or vomiting.

How Strong Is the Recommendation to Screen for Diabetes in Children and Adolescents?

Based on current evidence, the USPSTF concludes that there is a lack of evidence on the effect of screening and early detection and treatment of type 2 diabetes on health outcomes in youths, and the balance of benefits and harms cannot be determined.

FOR MORE INFORMATION

US Preventive Services Task Force

Conflict of Interest Disclosures: None reported.

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