

## Convenient blood test not as effective for diagnosing diabetes in children

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Doctors are increasingly using a convenient blood glucose test for diagnosing diabetes and pre-diabetes, but a study by the University of Michigan's C.S. Mott Children's Hospital shows it's not the best way to diagnose diabetes in children.

The hemoglobin A1c test has become the preferred way to diagnose [diabetes](#) among the millions of Americans who have diabetes but show no symptoms. The simple test measures longer-term [blood sugar levels](#) -- without requiring patients to fast overnight.

But U-M researchers say more study is needed before doctors can safely rely on using hemoglobin A1c for children.

"We found that hemoglobin A1c is not as reliable a test for identifying children with diabetes and pre-diabetes compared with adults," says study lead author Joyce M. Lee, M.D.,M.P.H., a pediatric endocrinologist at Mott Children's Hospital. "Using this test in children may lead to missed cases."

The study was published online ahead of print in [Journal of Pediatrics](#) and provides new insight on effectively diagnosing diabetes in children.

In 2010, the American Diabetes Association released guidelines recommending HbA1c be exclusively used for diagnosing diabetes in children and adults.

For the study, Mott researchers evaluated the testing results of 1,156 obese and overweight [adolescents](#), ages 12-18. The ADA recommends screening only obese and overweight kids because their weight puts them at higher risk for developing diabetes.

According to the guidelines, individuals without symptoms would be classified as having diabetes if HbA1c values reach 6.5 percent and as having pre-diabetes if HbA1c values reached between 6 and 6.4 percent on two separate tests.

The U-M authors suggest that the cut-off point may need to be lower for kids.

Until more definitive studies are available, it's premature to use HbA1c for children, authors say. Other tests such as the fasting plasma glucose and 2-hour [plasma glucose](#) measurements have long been relied on by doctors to diagnose diabetes among adults and children, but, as HbA1c emerged, they were expected to be phased out of use.

Mott pediatricians say they still play an important role in diabetes care.

"Based on the study findings, a fasting blood glucose test should still be used for diagnosing diabetes in children," says Lee, a member of the Child Health Evaluation and Research (CHEAR) Unit in the U-M Division of General Pediatrics.

**More information:** "Diagnosis of diabetes using Hemoglobin A1c: Should recommendations in adults be extrapolated to adolescents?," *Journal of Pediatrics*.

Provided by University of Michigan Health System

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