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## Childhood Diabetes Screening Shown to Predict Future Diabetes-Related Complications

*New Study Highlights the Importance of Early Glycemic Screening in High-Risk Children to Prevent Long-Term Health Complications from Diabetes*

**SAN DIEGO, Ca. (June 23, 2023)** – New research from the National Institutes of Health (NIH) found that blood glucose levels obtained at childhood examinations predicted future diabetes related complications such as kidney disease (nephropathy) and eye disease (retinopathy). The findings were presented at the American Diabetes Association® (ADA) 2023 Scientific Sessions in San Diego, CA and were simultaneously published in the *Diabetes Care* journal.

This data comes at a time when the United States is experiencing a significant rise in obesity induced youth-onset type 2 diabetes (T2D). As a result, ADA has recommended risk-based screening for prediabetes and/or diabetes in asymptomatic children with overweight or obesity by pediatric health care providers. However, there is currently a lack of clinical evidence for the usefulness of this screening with respect to the long term health outcomes related to metabolic dysfunction that begins in childhood. The study sought to evaluate the association of higher levels of glycemia during childhood with future microvascular complications in American Indian children – a population that is [twice as likely to have diabetes](#) than white individuals.

“Evidence-based recommendations help drive diabetes prevention early on, and this study sheds light on how pediatric screenings are a critically important guideline. Furthermore, the findings will help inform evidence-based recommendations to ensure better care for all people with diabetes, including vulnerable communities and those at high risk,” said Dr. Robert Gabbay, chief scientific and medical officer for the ADA.

Data from a longitudinal observational study spanning more than four decades (1965-2007) within an American Indian community in the southwestern United States were utilized. The researchers examined associations of glycated hemoglobin (HbA1c) and 2-hour post-load plasma glucose (2-hr PG), obtained during childhood (ages 5-19), with future diabetes-related microvascular complications of nephropathy (albuminuria [albumin creatinine ratio (ACR)  $\geq$  30 mg/g], severe albuminuria [ACR  $\geq$  300 mg/g]), and retinopathy (at least one microaneurysm or hemorrhage or proliferative retinopathy on direct ophthalmoscopy).

Key findings revealed higher levels of glycated hemoglobin and 2-hr PG during childhood were significantly associated with increased risk of retinopathy. The risk of albuminuria, a symptom of kidney disease, including severe albuminuria, was also found to be elevated in children with T2D based on baseline HbA1c levels compared to those with prediabetes and normal glucose levels.

“These findings underscore the value of glycemic screening tests in high-risk children at a time when obesity and diabetes risk factors are disproportionately impacting at-risk communities,” said Madhumita Sinha, MD, FAAP, Assistant Clinical Investigator and Diabetes Epidemiology and Clinical Research Section Head, NIH’s National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), Phoenix Branch. “By screening with a simple blood test earlier, pediatric care providers can intervene sooner, potentially preventing adverse health outcomes down the line related to diabetes.”

The authors note future studies are necessary to evaluate if the implementation of measures such as lifestyle changes impact long-term adverse health outcomes.

### **Research presentation details:**

Trial investigators will present the findings at the following oral presentation session:

- Oral Presentations - Type 2 Diabetes in Youth:  
Glycemic Measures in Childhood as Predictors of Future Diabetes Related Microvascular Complications
- Presented on Friday, June 23, 2023 at 5:30 PM PST

### **About the ADA’s Scientific Sessions**

The ADA’s 83<sup>rd</sup> Scientific Sessions, the world’s largest scientific meeting focused on diabetes research, prevention, and care, will be held in San Diego, CA on June 23–26. More than 12,000 leading physicians, scientists, and health care professionals from around the world are expected to convene both in person and virtually to unveil cutting-edge research, treatment recommendations, and advances toward a cure for diabetes. Attendees will receive exclusive access to thousands of original research presentations and take part in provocative and engaging exchanges with leading diabetes experts. Join the Scientific Sessions conversation on social media using #ADA2023.

### **About the American Diabetes Association**

The American Diabetes Association (ADA) is the nation’s leading voluntary health organization fighting to bend the curve on the diabetes epidemic and help people living with diabetes thrive. For 82 years, the ADA has driven discovery and research to treat, manage, and prevent diabetes while working relentlessly for a cure. Through advocacy, program development, and education we aim to improve the quality of life for the over 133 million Americans living with diabetes or prediabetes. Diabetes has brought us together. What we do next will make us Connected for Life. To learn more or to get involved, visit us at [diabetes.org](https://diabetes.org) or call 1-800-DIABETES (1-800-342-2383). Join the fight with us on Facebook ([American Diabetes Association](https://www.facebook.com/AmericanDiabetesAssociation)), Spanish Facebook ([Asociación Americana de la Diabetes](https://www.facebook.com/AsociaciónAmericanaDeLaDiabetes)), LinkedIn ([American Diabetes Association](https://www.linkedin.com/company/american-diabetes-association)), Twitter ([@AmDiabetesAssn](https://twitter.com/AmDiabetesAssn)), and Instagram ([@AmDiabetesAssn](https://www.instagram.com/AmDiabetesAssn)).

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