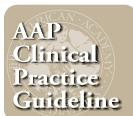




New AAP guideline advises on managing type 2 diabetes in youths

by **Lori O'Keefe** • Correspondent

A new AAP clinical practice guideline recommends that 10- to 18-year-olds with type 2 diabetes begin metformin therapy at diagnosis rather than waiting to see if lifestyle changes are effective.



This is one of six key action statements in *Management of Newly Diagnosed Type 2 Diabetes Mellitus (T2DM) in Children and Adolescents* (*Pediatrics*. 2013;131:364-382; <http://pediatrics.aappublications.org/cgi/doi/10.1542/peds.2012-3494>), which is accompanied by the technical report, *Management of Type 2 Diabetes Mellitus in Children and Adolescents* (*Pediatrics*. 2013;131: e648-e664; <http://pediatrics.aappublications.org/cgi/doi/10.1542/peds.2012-3496>). Both documents were written in collaboration with the American Diabetes Association, the Pediatric Endocrine Society, the American Academy of Family Physicians and the Academy of Nutrition and Dietetics.

The clinical practice guideline also recommends starting patients on insulin when it is difficult to distinguish between type 1 and type 2 diabetes and when patients have a blood glucose concentration of 250 or higher, a hemoglobin A1c (HbA1c) above 9%, or ketosis or diabetic ketoacidosis. In addition, clinicians should monitor HbA1c every three months; advise patients to monitor their blood glucose with regular finger sticks and engage in at least 60 minutes of exercise per day; and refer to the Academy of Nutrition and Dietetics' *Pediatric Weight Management Evidence-Based Nutrition Practice Guideline* for information on dietary and nutrition counseling of patients (see resources, page 4).

Grappling with the rising incidence

Approximately one in three new diagnoses of diabetes in U.S. youths under the age of 18 is type 2, which occurs most frequently among 10- to 19-year-olds, according to the guideline. Typically an adult disease, type 2 diabetes has increased significantly in children and adolescents over the last three decades. It is expected that approximately 366 million people worldwide will have diabetes by 2030.

Type 2 diabetes most often is diagnosed in children who are overweight or obese, have a family history of type 2 diabetes, have normal or elevated insulin and C-peptide concentrations, a gradual onset of the disease, insulin resistance and negative test results for diabetic autoantibodies.

"The rate of obesity in our country over the last two decades has been incredibly alarming, and the consequence of the obesity epi-

dem is the emergence of type 2 diabetes in youth," said Kenneth C. Copeland, M.D., FAAP, co-chair of the AAP Subcommittee on Management of Type 2 Diabetes Mellitus in Children and Adolescents and co-author of the reports. "These youth can be expected to live many years with diabetic complications. So when type 2 diabetes develops, it needs to be diagnosed early and treated properly and aggressively in order to reduce some of the burden from complications."

Comorbidities associated with type 2 diabetes include cardiovascular disease, chronic kidney disease, hypertension, dyslipidemia, retinopathy, microalbuminuria and depression.

Dr. Copeland said it is important that pediatricians and other practitioners caring for children become knowledgeable about managing type 2 diabetes appropriately due to the shortage of pediatric endocrinologists. In 2011, three states had no pediatric endocrinologists, and 22 states had fewer than 10.

"I think, in general, pediatricians can manage lifestyle changes and treatment with metformin as well as a pediatric endocrinologist, but they should feel comfortable with treatment and can consult with a pediatric endocrinologist if it helps to make them feel more comfortable," said Janet Silverstein, M.D., FAAP, co-chair of the subcommittee and co-author of the documents. "However, I think it might be best to get a pediatric endocrinologist involved once a patient is put on insulin."

Telemedicine with co-management by a pediatrician is an option for patients who have limited access to pediatric endocrinologists, according to the technical report.

Importance of lifestyle, family support

Although the new recommendation is to start metformin at diagnosis, type 2 patients should be instructed to modify their diet with the assistance of a registered dietitian; participate in moderate to vigorous exercise at least 60 minutes a day; and limit nonacademic screen time to less than two hours a day.

Patients who have family support usually are the most successful at managing their type 2 diabetes, Dr. Silverstein noted. In fact, she cites one patient whose HbA1c dropped from 9.3% at diagnosis to 7% at a follow-up visit because the entire family changed their diet and started exercising together.



Dr. Copeland



Dr. Silverstein

Dr. Copeland noted that type 2 diabetes occurs more frequently in racial and ethnic minority populations in which family structure is less solid and there are fewer healthy food choices.

“It costs more to eat healthy,” he added. “Junk food is plentiful, inexpensive and high in calories.”

Some ethnic foods are high in calories as well, so Dr. Copeland said families should be advised to check the nutritional values of foods and try to substitute ingredients in their recipes for those with less fat content.

Convincing adolescents to make lifestyle modifications can be challenging, too.

“We need to make adolescents our partners when dealing with diabetes and involve them in decision-making,” Dr. Silverstein said. “If they come up with an idea, they are more likely to follow it.”

Some patients may believe that if they had only eaten healthier or exercised more, they could have prevented their type 2 diabetes. However, Dr. Silverstein said that even though it helps to maintain

a healthy weight, some youths are more prone to obesity due to genetic predisposition to issues such as increased insulin resistance and decreased resting energy expenditure. Therefore, they may gain excessive weight even though they eat less than many of their thin counterparts. Treating physicians need to keep this in mind when caring for these youths, she said.

RESOURCES

- National Diabetes Education Program, www.yourdiabetesinfo.org and <http://ndep.nih.gov/teens/index.aspx>
- *Pediatric Weight Management Evidence-Based Nutrition Practice Guideline* from the Academy of Nutrition and Dietetics, <http://andevidencelibrary.com/topic.cfm?cat=2721>