Study: Use CDC BMI charts when screening children with Down syndrome for obesity
by Melissa Jenco, News Content Editor

Pediatricians screening adolescents with Down syndrome for excess body fat should use the Centers for Disease Control and Prevention's (CDC's) standard body mass index (BMI) charts, according to a new study.

For all other growth measures and ages, the authors recommend Down syndrome (DS) charts released last year.

"While the DS-specific charts are still an excellent method to compare patients with DS to their DS peers, the CDC BMI charts should be the preferred method for the early identification of overweight and obese status in children with DS," authors wrote in the study "Body composition and BMI growth charts in children with Down syndrome" (Hatch-Stein JA, et al. Pediatrics. Sept. 14, 2016, http://dx.doi.org/10.1542/peds.2016-0541).

Last year, the Children's Hospital of Philadelphia (CHOP) and CDC developed growth charts for children with Down syndrome that included weight, length, height, weight-for-length, BMI and head circumference that replaced charts dating back to 1988.

Several of the same researchers from CHOP were part of the follow-up study that aimed to determine whether those charts were ideal for identifying children ages 10-20 years who have overweight and obesity.

On the standard charts, being at or above the 85th percentile for BMI indicates overweight and being at or above the 95th percentile indicates obesity. However, children with Down syndrome tend to have shorter arms and legs and more excess fat than typically developing children, according to co-author Babette S. Zemel, Ph.D., who worked on both studies.

The team found that in many cases, the 50th percentile for adolescents with Down syndrome correlates with the 85th percentile on the standard CDC charts. But asking pediatricians screening for obesity to look for different percentiles for children with Down syndrome seemed problematic.
"I felt that that really might be confusing for pediatricians who are so used to thinking about the 85th and 95th percentile as important cutoffs," said Dr. Zemel, director of the Nutrition and Growth Laboratory at CHOP.

Therefore, the team recommends using the CDC charts for BMI in children ages 10 and above with Down syndrome. The Down syndrome-specific charts should be used for all other measurements and ages. Dr. Zemel said she considers this interim guidance as she and other researchers are continuing to study cardiometabolic risks in children with Down syndrome.

Dr. Bull The Academy hasn’t taken an official stance on the Down syndrome charts. However, Marilyn J. Bull, M.D., FAAP, author of the Academy’s 2011 clinical report on health supervision for children with Down syndrome, said she is "extremely impressed at the accuracy and help those Down syndrome charts for height, weight and head circumference provide."

Dr. Bull, Morris Green professor of pediatrics at Riley Hospital for Children at Indiana University Health, also agrees with the authors’ new recommendation to use standard CDC charts for BMI and she encourages pediatricians to advocate for inclusion of the proper charts in electronic health records.

"One of the major challenges in providing optimal care for children and adolescents with Down syndrome is establishing healthy weight and healthy lifestyle," Dr. Bull said. "This report … will ensure we have optimal guidelines for monitoring and counseling families and helping establish those parameters."

Resources

- AAP News story "New Down syndrome growth charts released"
- CDC BMI charts
- National Down Syndrome Congress
- National Down Syndrome Society