

## **Recommendations for and Advantages of Using the World Health Organization Growth Charts in the United States Among Children Aged Birth to 2 Years**

In April 2006, the World Health Organization (WHO) released a new international growth standard for young children aged birth to 5 years. This standard describes the growth of healthy children living in well-supported environments in six countries, including the United States. The standard shows how infants and children should grow rather than simply how they do grow in a certain time and place.

Similar to the 2000 growth reference charts produced by the Centers for Disease Control and Prevention (CDC), the WHO growth standard charts describe weight-for-age, length (or stature)-for-age, weight-for-length, and BMI-for-age. The WHO standards are relevant to infants and young children in the United States because they were included in the WHO study sample, and their growth tracks along the median of the pooled international sample.<sup>1-2</sup>

### **The WHO Growth Standards Are Recommended for Use with Children Younger than Age 2 Years in the United States**

CDC and the American Academy of Pediatrics (AAP) recommend that health care providers in primary care settings

- Use the WHO growth standard charts for children aged birth to younger than 2 years, regardless of type of feeding, to monitor growth in the United States.<sup>3</sup>
- Use the 2000 CDC growth reference charts for children aged 2 to 20 years to monitor growth in the United States.<sup>3</sup>

### **Advantages of Using the WHO Growth Standard Charts to Assess the Growth of Children from Birth to Aged 2 Years**

The WHO growth standard charts establish growth of the breastfed infant as the norm for growth.

- The WHO standards bring agreement between the tools used to assess growth and the national guidelines that recommend breastfeeding as the optimal infant feeding method.<sup>4</sup>

The WHO standards are based on high-quality data collected for children younger than aged 2 years.

- The WHO growth standard charts were created with longitudinal length and weight data measured at frequent intervals.<sup>5-7</sup>
- The CDC growth reference charts were based on cross-sectional length and weight data. However, weight data were not available for infants aged birth to 2 months, and the sample sizes were small for sex and age groups during the first 6 months of age.<sup>8</sup>



## References

- <sup>1</sup>Dewey KG, Cohen RJ, Nommsen-Rivers LA, Heinig MJ; for the WHO Multicenter Growth Reference Study Group. Implementation for the WHO Multicentre Growth Reference Study in the United States. *Food Nutr Bull.* 2004;25(suppl 1):S84-S89.
- <sup>2</sup>WHO Multicentre Growth Reference Study Group. Assessment of differences in linear growth among populations in the WHO Multicentre Growth Reference Study. *Acta Paediatr.* 2006;(suppl 450):56-65.
- <sup>3</sup>Grummer-Strawn LM, Reinold C, Krebs NF; Centers for Disease Control and Prevention. Use of the World Health Organization and CDC growth charts for children aged 0-59 months in the United States. *MMWR Recomm Rep.* 2010;59(RR-9);1-15.  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5909a1.htm>. Accessed November 26, 2012.
- <sup>4</sup>American Academy of Pediatrics. Policy Statement. Breastfeeding and the use of human milk. *Pediatrics.* 2012;129(3):e827-e841.
- <sup>5</sup>de Onis M, Garza C, Vicotra CG, Onyango AW, Frongillo EA, Martines J; for the WHO Multicentre Growth Reference Study Group. The WHO Multicentre Growth Reference Study: planning, study design and methodology. *Food Nutr Bull.* 2004;25(suppl 1):S15-S26.
- <sup>6</sup>de Onis M, Onyanga AW, Van den Broeck J, Chumlea WC, Martorell R; for the WHO Multicentre Growth Reference Study Group. Measurement and standardization protocols for anthropometry used in the construction of a new international growth reference. *Food Nutr Bull.* 2004;25:S27-S36.
- <sup>7</sup>World Health Organization. *WHO Child Growth Standards: Length/Height-for-Age, Weight-for-Age, Weight-for-Length, Weight-for-Height and Body Mass Index-for-Age: Methods and Development.* Geneva, Switzerland: World Health Organization; 2006.
- <sup>8</sup>Kuczarski RJ, Ogden CL, Guo SS, Grummer-Strawn LM, Flegal KM, Mei Z, et al. 2000 CDC growth charts for the United States: methods and development. *Vital Health Stat 11.* 2002;(246):1-190.

