

Standards For Selected Anthropometric Measurements in Prader-Willi Syndrome

Butler and Meaney present anthropometric measurements for children between the ages of 0 to 24 years with the Prader-Willi syndrome (PWS). Seventy-one white subjects who met the clinical criteria for the diagnosis of PWS (infantile hypotonia, hypogonadism, delayed psychomotor development and/or mental deficiency, early-childhood obesity, small hands and feet, and short stature) were included. High-resolution chromosomal analysis demonstrated that 52% of these individuals had an apparent deletion of the proximal long arm of chromosome 15. Anthropometric measurements included weight, length, sitting height, head circumference, head breadth, head length, total hand length, middle finger length, palm length, hand breadth, total foot length, foot breadth, triceps skin-fold thickness, and subcapsular skin-fold thickness. Children below 2 years of age had length measured in the supine position; measurements after this age were made with a balance beam scale and anthropometer. Longitudinal data on several individuals were collected for up to 6 years. Subjects were grouped at either 3- or 4-year age intervals (eg, 0 to 4 years, 4 to 8 years, 8 to 12 years, 12 to 16 years, 16 to 20 years, and 20 to 24 years) and criteria of a sample size of 5 or more subjects per age group were utilized.

The results for height of males and females are presented in the figure. Sitting height was decreased proportionate to total height.

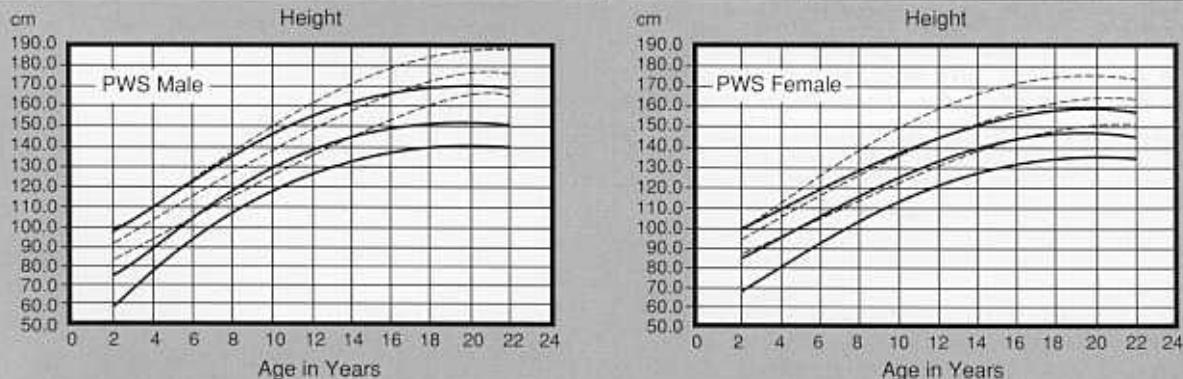
50th percentile head circumference and head length for PWS males and females during childhood were on approximately the 25th percentile for normal male children until approximately 20-22 years of age when the final measurements fell on the 5th percentile for normal males. Of all measurements taken, only those of the skin folds (triceps and subcapsular) were greater than the data reported for normals. The 50th percentile for skin folds in PWS approximates the 95th percentile of normal females and is above the 95th percentile of normal males and reflects the obesity characteristic of these patients.

Butler MG, Meaney FJ. *Pediatr* 1991;88:853.

Editor's comment: This is a very detailed anthropometric study of 14 variables in a group of children who are seen frequently in pediatric endocrinology and/or genetics clinics. The incidence of PWS is estimated to be 1 in 16,000 live births, and it is a common form of dysmorphic obesity. The growth curves for height, weight, and other parameters that have been produced for all these variables (see original text) should be useful to clinicians interested in evaluating growth in individuals with this syndrome.

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Figure 1
Standardized Curves for Height of Prader-Willi Syndrome



Standardized curves for height of Prader-Willi syndrome (PWS) male and female patients (solid line) and healthy individuals (broken line).

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