

Short Stature or At Risk of Short Stature (Infants and Children)

Definition/ cut-off value

Short Stature

Birth to 2 years: Less than or equal to 5th percentile length-for-age*.
2 – 5 years: Less than or equal to 5th percentile stature-for-age*.

At Risk of Short Stature

Birth to 2 years: 6th through 10th percentile length-for-age*.
2 - 5 years: 6th through 10th percentile stature-for-age*.

*Based on National Center for Health Statistics/Centers for Disease Control and Prevention age/sex specific growth charts (2000).

Note: For premature infants and children (with a history of prematurity) up to 2 years of age, assignment of this risk criterion will be based on adjusted gestational age. For information about adjusting for gestational age see: “Guidelines for Growth Charts and Gestational Age Adjustment for Low Birth Weight and Very Low Birth Weight Infants” (FNS Policy Memorandum 98-9, Revision 7, April 2004).

Participant category and priority level

Category

Priority

Infants

I

Children

III

Justification

The Centers for Disease Control and Prevention (CDC) uses the 5th percentile as the cut-off to define short stature in its Pediatric Nutrition Surveillance System. Due to the health risk prevention emphasis in the WIC Program, the 10th percentile cut-off is also used.

Abnormal short stature in infants and children is widely recognized as a response to a limited nutrient supply at the cellular level. The maintenance of basic metabolic functions takes precedence, and thus resources are diverted from linear growth. Short stature is related to a lack of total dietary energy and to poor dietary quality that provides inadequate protein, particularly animal protein, and inadequate amounts of such micronutrients as zinc, vitamin A, iron, copper, iodine, calcium, and phosphorus. (1)

Demonstrable differences in stature exist among children of different ethnic and racial groups. However, racial and ethnic differences are relatively minor compared with environmental factors (1).

Growth patterns of children of racial groups whose short stature has traditionally been attributed to genetics have been observed to increase in rate and in final height under conditions of improved nutrition (2,3).

Short stature may also result from disease conditions such as endocrine disturbances, inborn errors of metabolism, intrinsic bone diseases, chromosomal defects, fetal alcohol syndrome, and chronic systemic diseases.

Participation in WIC has been associated with improved growth in both weight and height in children (4)

References

1. Institute of Medicine. WIC nutrition risk criteria a scientific assessment. Washington (DC): National Academy Press; 1996. p. 104-109.
2. Pipes PL, Trahms CM. Nutrition in infancy and childhood, 6th edition. Seattle (WA): WCB/McGraw-Hill; 1997. p. 2.
3. **Berhane R, Dietz WH. Clinical assessment of growth. In: Kessler DB, Dawson P., editors. Failure to thrive and pediatric undernutrition: A transdisciplinary approach. Baltimore (MD): Paul H. Brooks Publishing Company, Inc.; 1999. p. 199.**
4. Disbrow DD. The costs and benefits of nutrition services: a literature review. J Am Diet Assoc. 1989;89:S3-66.