Short Stature (Infants and Children)

Definition/ cut-off value

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*.

* 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 Adjusted for Low Birth Weight and Very Low Birth Weight Infants."

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.

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 resources are diverted from linear growth. Short stature is related to the lack of total dietary energy and to a poor quality of diet, namely, a diet 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 rte 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).

Clarifications/ Guidelines

If the measurements cannot be plotted on a specific percentile line, but it is obvious that the measurements would plot below the 5th percentile line, the CA should use professional judgment when assigning this risk code. The CA should provide documentation to explain why the risk code was assigned.

References

1. Institute of Medicine: WIC Nutrition Risk Criteria: A Scientific Assessment. Washington (DC): National Academy Press;1996; pp. 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.