

Physical Growth and Measurements

CHILD AND TEEN CHECKUPS (C&TC) FACT SHEET FOR PRIMARY CARE PROVIDERS

C&TC Requirements

General

Physical measurements are required at all C&TC visits, to identify and prevent complex medical issues.

- Measure head circumference from birth through two years of age (or at any age on a child who appears to have a deviation from the norm).
- At all ages, measure the child's height or length and weight.
- At each visit for infants up to two years of age, calculate the weight for length percentile for age and gender.
- Beginning at two years of age, calculate and document body mass index (BMI) percentile for age and gender.
- Measure and document blood pressure starting at three years of age.

Children or adolescents who have nutritional risks must be referred as appropriate for further clinical assessment and nutritional counseling, or be referred to a nutritional program such as [Women, Infants and Children \(WIC\) \(www.health.state.mn.us\)](http://www.health.state.mn.us), [Supplemental Nutrition Assistance Program \(SNAP\) \(www.dhs.state.mn.us\)](http://www.dhs.state.mn.us).

Personnel

Measurements may be obtained by health staff (e.g. nursing assistant, medical assistant, nurse) who have completed adequate training.

A licensed health professional (physician, nurse practitioner, physician assistant, registered nurse with adequate training) must review and interpret measurements and growth patterns, and respond as medically appropriate.

Documentation

Record numerical values for height or length, weight, head circumference, weight for length percentile or BMI percentile, and blood pressure in the child's health record, as appropriate for the child's age.

Plot growth information on standardized [growth charts \(https://www.cdc.gov\)](https://www.cdc.gov) based on data from the World Health Organization for ages birth through two years, and Centers for Disease Control and Prevention for ages two years and older.

For documentation examples, refer to the [C&TC Provider Documentation Forms \(www.dhs.state.mn.us\)](http://www.dhs.state.mn.us).

Procedure

For accurate measurements of head circumference, height, and weight, refer to these online training modules:

- [CDC Growth Chart Training \(www.cdc.gov\)](http://www.cdc.gov).
- [HRSA Training Module: Accurately Weighing and Measuring Technique \(www.depts.washington.edu\)](http://www.depts.washington.edu).

Blood pressure is measured by auscultation with an appropriately sized and positioned cuff on the arm of a relaxed and seated child. Use [blood pressure tables \(www.nhlbi.nih.gov\)](http://www.nhlbi.nih.gov) based on gender, age and height to evaluate results.

Provide further evaluation, diagnosis, and treatment as medically appropriate based on the patient's measurements, growth pattern, and related history and findings.

Importance of Measurements

Accurate and reliable physical measures are used to monitor the growth of an individual, detect growth abnormalities, monitor nutritional status and track the effects of medical or nutritional intervention.

Childhood obesity has immediate and long term health consequences that increase the likelihood of medical complications, issues in mental health, and body image. (Kelsey, Zaepfel, Bjornstad, & Nadeau, 2013). Assess children for obesity risks to improve early intervention for elevated BMI, cardiovascular risk, unhealthy eating and physical activity patterns (Lowenstein, et al., 2013).

Refer to [5210 Let's Go! Health Care Toolkit \(www.lets-go.org\)](http://www.lets-go.org) or other evidence-based clinical tools to support goal-setting and progress toward healthy weight.

Professional Recommendations

American Academy of Pediatrics

[Recommendations for Pediatric Preventive Health Care \(https://www.aap.org\)](https://www.aap.org) for each pediatric preventive visit include:

- Measure height/length and weight.
- Measure head circumference from birth through 24 months.
- Assess weight for length percentile by age and gender and plot on a standardized growth grid from birth through 23 months of age.
- Calculate BMI percentile for age and gender and plot on the CDC growth charts beginning at 24 months of age. Integrate the classification with growth patterns, familial obesity, and medical risk factors to assess the child's risk of obesity. Provide anticipatory guidance, further assessment and referral as indicated.
- Measure blood pressure at each visit beginning at three years of age, or more often if medically indicated.

Resources

Minnesota Department of Human Services

- [Minnesota Health Care Programs Provider Manual C&TC Section \(www.dhs.state.mn.us\)](http://www.dhs.state.mn.us)

Minnesota Department of Health

- [Women, Infants, and Children \(www.health.state.mn.us\)](http://www.health.state.mn.us).
- [Child and Teen Checkups \(www.health.state.mn.us\)](http://www.health.state.mn.us)

Centers for Disease Control and Prevention

- [About BMI for Children and Teens \(https://www.cdc.gov\)](https://www.cdc.gov)

References

- Kelsey, M., Zaepfel, A., Bjornstad, P., & Nadeau, K. (2013). Age-Related Consequences of Childhood Obesity. *Gerontology, 60*(3), 222-228.
- Lowenstein, L., et al (2013). Primary Care Providers' Self-Efficacy and Outcome Expectations for Childhood Obesity Counseling. *Childhood Obesity, 9*(3), 208-215.
- Nutrition, Physical Activity, and Obesity*. (2015). Retrieved from Healthy People 2020: www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Nutrition-Physical-Activity-and-Obesity
- The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents. *Pediatrics* 2004 Aug; 114(Suppl 2): 555-576

For More Information

The Child and Teen Checkups (C&TC) program is administered through a partnership between the Minnesota Department of Human Services and the Minnesota Department of Health.

For questions about this fact sheet or to obtain this information in a different format, call 651-201-3760 email health.childteencheckups@state.mn.us.

Revised 09/2017