

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 risks and prevent complex medical issues.

- Measure head circumference from birth through 24 months 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 length or height 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), or [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 head circumference, weight, length or height, 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

Refer to these online training modules for accurate measurement of head circumference, length or height, weight, and blood pressure:

- [CDC Growth Chart Training \(www.cdc.gov\)](http://www.cdc.gov)
- [HRSA training module - Accurately Weighing and Measuring: Technique \(http://depts.washington.edu\)](http://depts.washington.edu)
- [AAP Blood Pressure Measurement in Children \(www.youtube.com\)](http://www.youtube.com)

Refer to the new pediatric hypertension guideline published by the American Academy of Pediatrics (Subcommittee on Screening and Management of High Blood Pressure in Children, 2017). It includes a simplified screening table for identifying blood pressures needing further evaluation (Table 6) and new normative blood pressure tables to diagnose elevated blood pressure or hypertension based on gender, age and height (Tables 4, 5).

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

Routine, accurate and reliable physical measures help 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 family and youth 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 measurements at each visit include:

- Weight
- Length or height
- Head circumference from birth through 24 months of age
- Weight for length percentile from birth through 23 months of age
- BMI percentile at 2 years and older
- Blood pressure beginning at 3 years of age

Plot each measurement on a standardized growth chart, compared to norms for age and gender, and address the results in a clinically appropriate manner.

Resources

Minnesota Department of Human Services

- [C&TC Schedule of Age-Related Screening Standards \(https://edocs.dhs.state.mn.us\)](https://edocs.dhs.state.mn.us)
- [Minnesota Health Care Programs Provider Manual C&TC Section \(www.dhs.state.mn.us\)](http://www.dhs.state.mn.us)

Minnesota Department of Health

- [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 \(www.cdc.gov\)](http://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., Perrin, E., Campbell, M., Campbell, D., Jianwen, C., & Ammerman, A. (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
- Subcommittee on Screening and Management of High Blood Pressure in Children. (2017). Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents. *Pediatrics*, e20171904.

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 or email health.childteencheckups@state.mn.us.

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