

# 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, overweight, obesity and elevated blood pressure should receive the appropriate intervention, education, referral and ongoing monitoring as clinically indicated.

### 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) provides further evaluation, referral, diagnosis, and treatment as medically appropriate based on the patient's measurements, patterns, and related history and findings.

### 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.

Plot growth information on standardized [growth charts \(www.cdc.gov\)](http://www.cdc.gov). Use charts based on data from the World Health Organization for ages birth through 24 months and use charts from the Centers for Disease Control and Prevention for ages two years and older.

For documentation examples, refer to the [C&TC Documentation Forms for Providers and Clinics \(www.dhs.state.mn.us\)](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 \(https://depts.washington.edu\)](https://depts.washington.edu)
- [Auscultatory measurement of blood pressure in toddlers \(www.youtube.com\)](http://www.youtube.com)

Refer to the [Pediatric Elevated Blood Pressure \(www.aap.org\)](http://www.aap.org) 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). Normative blood pressure tables based on gender, age and height can be found at [Blood Pressure Level for Boys and Girls by Age and Height Percentiles \(www.nhlbi.nih.gov\)](http://www.nhlbi.nih.gov).

## 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.

Obesity in children and adolescents is associated with morbidity such as mental health and psychological issues, asthma, obstructive sleep apnea, orthopedic problems, and adverse cardiovascular and metabolic outcomes. Children and adolescents may also experience teasing and bullying behaviors based on their weight (US Preventive Services Task Force, 2017).

Measuring BP at routine well-child visits enables the early detection of primary HTN as well as the detection of asymptomatic HTN secondary to another underlying disorder. Early detection of HTN is vital given the greater relative prevalence of secondary causes of HTN in children compared with adults (Flynn, 2017).

## Professional Recommendations

### American Academy of Pediatrics

[Recommendations for Pediatric Preventive Health Care \(www.aap.org\)](http://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

## Resources

[Women, Infants and Children \(WIC\) Program \(www.health.state.mn.us\)](http://www.health.state.mn.us) for children ages birth to five years.

[Supplemental Nutrition Assistance Program \(SNAP\) \(www.mn.gov/dhs\)](http://www.mn.gov/dhs) provides food and nutrition resources to families.

## Minnesota Department of Human Services

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

## Minnesota Department of Health

- [Child and Teen Checkups \(C&TC\) \(www.health.state.mn.us\)](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

- Flynn, J. K.-S. (2017). Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents. *Pediatrics*, 140(3), 1-72.
- 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.
- US Preventive Services Task Force. (2017). Screening for Obesity in Children and Adolescents. *JAMA*, 317(23), 2417-2426.

## 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](mailto:health.childteencheckups@state.mn.us).

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