

Screening for Hypertension in Children

NEW BP GUIDELINES Released: <http://pediatrics.aappublications.org/site/misc/2009-2107.pdf>

When to record BP in children:

- EVERY well child visit ≥ 3 years *or*
- Younger if they have had a solid organ transplant, malignancy or other systemic illnesses associated with hypertension.

How to measure BP in Children:

- Auscultation with a mercury device is preferred.
- Aneroid devices are appropriate where mercury devices are not available. If an oscillometric (automatic) device must be used, always employ the same device as they may differ between brands or model numbers.
- The Cuff & Manometer should be at the level of the heart.
- Use the right size cuff: (recommended cuff sizes can be found at www.nhlbi.nih.gov/guidelines/hypertension/child_tbl.htm)
- The air bladder in the cuff must wrap at least $\frac{1}{2}$ way around arm
- The width of the Cuff must be $\frac{2}{3}$ the length between shoulder & elbow.
 - Too small a cuff will result in falsely elevated values.
 - Too large a cuff will result in falsely low readings.
- For DBP, record K4 (muffling of sounds) & K5 (disappearance of sounds). They can differ greatly in children < 8 years. Childhood K4 DBP is actually a better predictor of adult HTN
- Average multiple (3 recommended) BP recordings at each visit over 3 visits before diagnosing high BP.

How to interpret BP in Children:

- Refer to the BP guidelines (link above) or refer to the CCHMC easy BP graphs provided.
- Normal: is a BP $< 90^{\text{th}}$ percentile for gender, age and height. A child in this category should have BP checked at the next scheduled visit.
- Prehypertension: average SBP or DBP $\geq 90^{\text{th}}$ % but $< 95^{\text{th}}$ %, or for older children a BP $> 120/80$ at any age is used. These children should have BP rechecked in 6 months.
- Hypertension: Average BP $\geq 95^{\text{th}}$ % for gender, age, & height on 3 or more occasions.
 - Stage I is $>95^{\text{th}}$ to $<99^{\text{th}}$ % + 5 mmHg. It requires a Recheck in 1–2 weeks or sooner if symptomatic. If BP is still high twice, evaluate or refer in 1 mo.
 - Stage II is the $>99^{\text{th}}$ % + 5 mmHg and requires evaluation or referral within 1 wk or immediately if symptomatic.

The CCHMC Hypertension Center can:

- Evaluate for secondary hypertension including laboratory and renal ultrasound.
- Apply ambulatory BP monitoring to rule out white coat hypertension.
- Perform echocardiography to look for left ventricular hypertrophy.
- Initiate therapeutic lifestyle changes including consultation with dietitians, behavioral psychologists with expertise in therapeutic lifestyle changes and exercise physiologists.

CCHMC Hypertension Clinic Referral Number: 513-636-4287