

# Hypertension

## FAST FACTS

~**3.5%**

of children and teens have primary HTN

**3.4–24.8%**

of overweight or obese youth have HTN

**20%**

of HTN in children is caused by kidney disease

## WHEN TO REFER

- If elevated BP is associated with any of the history red flags, refer to Cincinnati Children's Emergency Department or Hypertension Clinic
- Suspected secondary HTN
- Confirmed Stage 2 HTN
- Poor BP control despite initiation of antihypertensive medications

If you have clinical questions about patients with elevated BP/HTN, email [lipid\\_HTN@cchmc.org](mailto:lipid_HTN@cchmc.org).

Hypertension (HTN) is a common problem in children and adolescents. Elevated blood pressure (BP) in children has increased over the last decade, mostly due to obesity. In most cases, HTN is asymptomatic. You can identify both primary and asymptomatic secondary HTN by measuring BP during routine well-child visits. Elevated BP in childhood increases the risk for adult hypertension.

## ASSESSMENT

In patients  $\geq 3$  years of age, perform a BP check annually. Perform a BP check at every encounter in the following patients  $\geq 3$  years of age:

- Overweight or obese
- A history of aortic arch obstruction or coarctation
- Taking medications known to increase BP
- Diabetes
- Have renal disease

You can diagnose HTN through auscultatory-confirmed BP readings  $\geq 95$ th percentile at three different encounters. If you elect to use oscillometric devices for BP screening of young patients, use only a device that has been validated for the pediatric age group. Confirm elevated BP oscillometric readings through auscultation.

Perform a standard HPE, with probing questions about perinatal, nutritional, physical activity, and psychosocial histories as well as family history. Identify potential secondary causes of HTN through physical exam. No secondary evaluation for HTN cause is needed in pediatric patients  $\geq 6$  years of age if:

- Positive family history of HTN
- HPE findings do not suggest a secondary cause for HTN
- Overweight or obese

## HPE RED FLAGS

- New onset severe headache
- Family history of chronic kidney disease
- Heart palpitations
- Tachycardia
- Chronic vomiting
- Decreased lower extremities pulse
- Blurred vision
- Heart murmur
- UTI
- Abdominal bruit
- Associated syndromes, e.g., neurofibromatosis, Williams syndrome, Turner syndrome
- Proptosis
- Family history of early onset HTN
- Abdominal mass
- Palpable kidneys

## MANAGEMENT/TREATMENT

For overweight or obese patients with HTN, perform these standard screening tests:

- Chemistry panel including serum creatinine
- Serum glucose HgA1C
- U/A
- Lipid profile
- Liver profile

Manage Stage 1 primary HTN with a combination of the DASH diet (Dietary Approach to Stop HTN) and exercise. If the patient still has HTN after 6 months of prescribed diet and exercise, OR if the patient has stage 2 HTN, treat with antihypertensive medications, including long-acting calcium channel blockers, angiotensin converting enzyme inhibitors/angiotensin receptor blockers, and thiazide diuretics.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children's.

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