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American Academy of Pediatrics (AAP) Updated Guidelines on Hypertension in Children and Adolescents- Salient Features

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Editorial

The American academy of Pediatrics (AAP) has released updated guidelines on screening and management of childhood hypertension (HTn) [1]. The guideline endorses early screening for HTn in healthy children starting at age of 3 years and then measuring blood pressure (BP) on yearly basis. For children who are at risk of developing hypertension, the blood pressure measurement should start earlier and follow up BP measurements should be done at every well child care visits.

Obesity is a modifiable risk factor for childhood hypertension and the prevalence of both of these conditions is increasing over the years [2]. Recent studies have shown that 17% of all children aged 2 to 19 years of age are obese [3]. Children with obesity are at increased risk of Cardiovascular Disease (CVD) as they have higher blood pressures, dyslipidaemias and insulin resistance [4]. The estimated prevalence of childhood hypertension ranges from approximately 4% to 25% in various studies. The present guidelines recommend BP measurement of obese (BMI \geq 95th centile) children at every health encounter. The BP can be measured either by oscillometric device (validated for Pediatric use) or by auscultatory device. However, for confirmation of HTn the guideline endorses the use of two auscultatory BP measurements which should then be averaged to define BP category. The following BP category has been defined:

Normal blood pressure: BP measurements $<$ 90th percentile in children aged 1-13 years and $<$ 120/80 mmHg in children \geq 13 years.

Elevated blood pressure: Earlier pre-hypertension term was used which has been replaced by the term elevated blood pressure in the recent guideline. It is defined as BP \geq 90th to $<$ 95th percentile or 120/80 mmHg to $<$ 95th percentile (whichever is lower) in children 1-13 years of age.

In children \geq 13 years elevated blood pressure is defined as BP 120/ $<$ 80 mm Hg to 129/ $<$ 80 mmHg.

Stage 1 HTn: Children aged 1-13 years: BP \geq 95th percentile to $<$ 95th percentile+12 mmHg, or 130/80 to 139/89 mm Hg (whichever is lower).

Children aged \geq 13 years BP 130/80 to 139/89 mm Hg.

Stage II HTn: Children aged 1-13 years: BP \geq 95th percentile +12 mm Hg, or \geq 140/90 mm Hg (whichever is lower).

Children aged \geq 13 years BP \geq 140/90 mm Hg.

The new guideline recommends the use of ambulatory blood pressure monitoring (ABPM) for confirmation of the HTn in children \geq 5 years of age, if they have elevated BP category through office measurements lasting for $>$ 1 year with stage I HTn over 3 clinic visits or suspected white coat or high risk conditions before starting pharmacotherapy. ABPM is precious tool in evaluation of HTn in obese children because of disparity between office BP and ambulatory blood pressure and presence of masked hypertension [1]. No extensive evaluation is needed if child is \geq 6 years has family history of obesity and no secondary cause of hypertension is suspected based on history and physical examination.

Dietary approach to stop hypertension (DASH) and exercise remains the important initial management of hypertension in children with a goal for reduction of BP $<$ 90th percentile or $<$ 130/80 whichever is lower against the previous recommendation of $<$ 95th percentile. Children who fails non-pharmacological intervention or who have symptomatic hypertension, stage 2 HTn without a clear modifiable factor such as obesity, or HTn associated with chronic kidney disease or diabetes should be treated with single dose of antihypertensive agent along with non-pharmacological measures. The dose of the antihypertensive should be titrated every 2-4 weekly and the child should be followed up in clinic every 4-6 weekly till the BP becomes normal. The preferred drug to start may be an ACE inhibitor, ARBs or thiazide diuretics based on the underlying cause of HTn [5,6].

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References

1. Flynn JT, Kaelber DC, Baker-Smith CM, Blowey D, Carroll AE, et al. (2017) Clinical practice guideline for screening and management of high blood pressure in children and adolescents. *Pediatrics*, e20171904.
2. Brady TM (2017) Obesity-related hypertension in children. *Front Pediatr* 5: 197.
3. Ogden CL, Carroll MD, Lawman HG, Fryar CD, Kruszon-Moran D, et al. (2016) Trends in obesity prevalence among children and adolescents in the United States, 1988-1994 through 2013-2014. *JAMA* 315: 2292–2299.
4. Friedemann C, Heneghan C, Mahtani K, Thompson M, Perera R, et al. (2012) Cardiovascular disease risk in healthy children and its association with body mass index: Systematic review and meta-analysis. *BMJ* 345: e4759.
5. Croxtall JD (2012) Valsartan: In children and adolescents with hypertension. *Pediatr Drugs* 14: 201–207.
6. Menon S, Berezny KY, Kilaru R, Benjamin DK, Kay JD, et al. (2006) Racial differences are seen in blood pressure response to foscipril in hypertensive children. *Am Heart J* 152: 394–399.