
Blood Pressure Screening

— Updated Guidelines from AAP —
2017

Definition of Hypertension

2017 American Academy of Pediatrics updated definitions for pediatric blood pressure categories

	For children aged 1 to <13 years	For children aged ≥13 years
Normal BP	Systolic and diastolic BP <90 th percentile	Systolic BP <120 and diastolic BP <80 mmHg
Elevated BP	Systolic and diastolic BP ≥90 th percentile to <95 th percentile, or 120/80 mmHg to <95 th percentile (whichever is lower)	Systolic BP 120 to 129 and diastolic BP <80 mmHg
Stage 1 HTN	Systolic and diastolic BP ≥95 th percentile to <95 th percentile+12 mmHg, or 130/80 to 139/89 mmHg (whichever is lower)	130/80 to 139/89 mmHg
Stage 2 HTN	Systolic and diastolic BP ≥95 th percentile+12 mmHg, or ≥140/90 mmHg (whichever is lower)	≥140/90 mmHg

BP: blood pressure; HTN: hypertension.

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Simplified Blood Pressure Table

Based on 90th percentile BP values for children at 5th height percentile

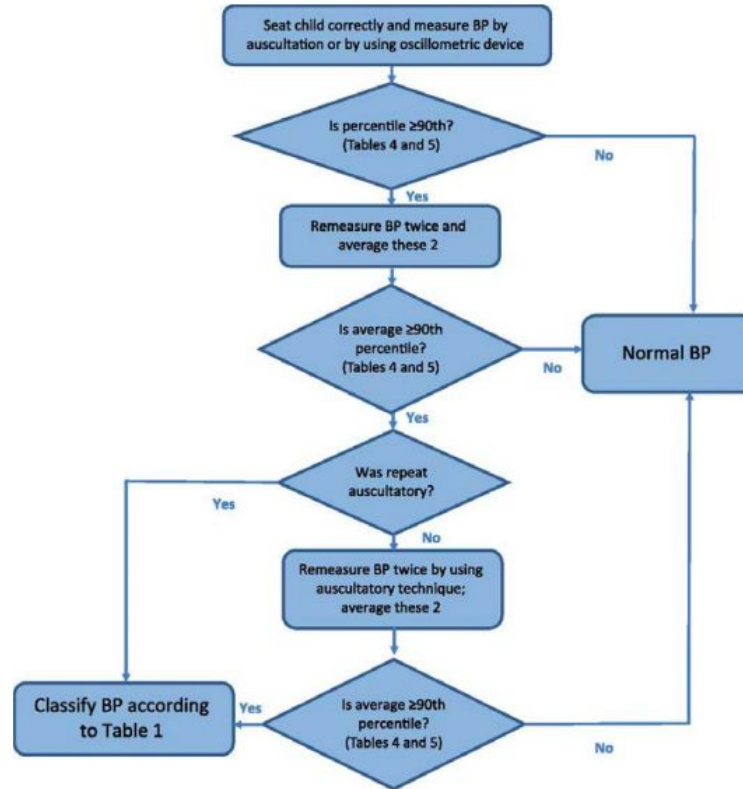
TABLE 6 Screening BP Values Requiring Further Evaluation

Age, y	BP, mm Hg			
	Boys		Girls	
	Systolic	DBP	Systolic	DBP
1	98	52	98	54
2	100	55	101	58
3	101	58	102	60
4	102	60	103	62
5	103	63	104	64
6	105	66	105	67
7	106	68	106	68
8	107	69	107	69
9	107	70	108	71
10	108	72	109	72
11	110	74	111	74
12	113	75	114	75
≥13	120	80	120	80

When to Screen?

- Blood pressure should be measured **annually** in all children and adolescents ≥ 3 years of age
- Blood pressure should be measured **at every healthcare encounter** in children and adolescents ≥ 3 yo if they are obese, have renal disease, diabetes, history of aortic dissection or coarctation, or are taking medications associated with elevated BP

Blood Pressure Measurement and Classification



Diagnosis of Hypertension

Healthcare professionals in an ambulatory setting should make a diagnosis of HTN if a child or adolescent has auscultatory confirmed BP readings \geq **95th percentile at 3 different visits**

Patient Evaluation and Management by BP Level

BP Category (see Table 3)	BP Screening Schedule	Lifestyle Counseling (Weight, Nutrition)	Check Upper and Lower Extremity BP	ABPM	Diagnostic Evaluation	Initiate Treatment	Consider Sub- specialty Referral
Normal	Annual	X					
Elevated BP	Initial measurement	X					
	Second measurement: Repeat in 6 months	X	X				
	Third measurement: Repeat in 6 months	X		X	X		X
Stage 1 HTN	Initial measurement	X					
	Second measurement: Repeat in 1-2 weeks	X	X				
	Third measurement: Repeat in 3 months	X		X	X	X	X
Stage 2 HTN	Initial measurement	X	X				
	Second measurement: Repeat/refer to specialty care within 1 week	X		X	X	X	X

Flynn JT, Kaelber DC, Baker-Smith CM, et al., and AAP Subcommittee on Screening and Management of High Blood Pressure in Children. Clinical practice guideline for screening and management of high blood pressure in children and adolescents. *Pediatrics*. 2017;140(3):e20171904

Ambulatory Blood Pressure Monitoring

- ABPM should be performed for confirmation of HTN in children with office BP measurements in the **elevated BP category for ≥ 1 year or with Stage 1 HTN over 3 clinic visits**
- In setting of suspected **white coat HTN**
- Routine performance of ABPM should be strongly considered in children and adolescents with **high-risk conditions** to assess HTN severity, which may indicate increased risk for target organ damage (CKD, DM, obesity, h/o prematurity, coarctation)

Overall Treatment Goals

A reduction in SBP and DBP to <90th percentile and <130/80 mm Hg in adolescents ≥ 13 years of age with non-pharmacologic and pharmacologic therapy
