**More Children Have High Blood Pressure**

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*JAMA Pediatr 2019; DOI:10.1001/jamapediatrics.2019.3310*

The prevalence of childhood hypertension rose at a relative rate of 75% to 79% from 2000 to 2015 and was tied to BMI, reported Yajie Zhu, PhD, of the University of Oxford in England, and colleagues.

In 2015, childhood hypertension prevalence ranged from 4.32% at age 6 to 3.28% at age 19, peaking at 7.89% at age 14, they reported in [*JAMA Pediatrics*](https://jamanetwork.com/journals/jamapediatrics/fullarticle/2752556)*.* This study is the first review of global childhood hypertension prevalence based on blood pressure measurements from at least three separate occasions. A [previous meta-analysis](https://journals.lww.com/md-journal/fulltext/2014/12020/Prevalence_of_High_Blood_Pressure_in_122,053.40.aspx) reported the pooled prevalence of childhood hypertension at 11.2%, for example, but that analysis included studies with only one blood pressure measurement.

Because blood pressure is so variable, hypertension definitions require systolic or diastolic blood pressure to be persistently in the ≥95th percentile on three separate occasions, an approach recommended for children up to age 13 years in the most recent American Academy of Pediatrics [clinical practice guidelines](https://pediatrics.aappublications.org/content/140/3/e20171904). Adult guidelines for elevated blood pressure (120-129/<80 mm Hg) and hypertension (blood pressure >130/80 mm Hg) are used for children ages ≥13 years, but these measurements also need to be elevated persistently on three separate occasions.

This systematic review included 47 studies of children, ages 6 to 19, from 1994 to 2018 with at least three separate blood pressure measurements. Because studies included were performed before new guidelines became available, the researchers used standardized definitions of hypertension based on the fourth report from the National High Blood Pressure Education Program ([NHBPEP](https://pediatrics.aappublications.org/content/114/Supplement_2/555)) working group for children and adolescents. Cutoffs of high blood pressure accounted simultaneously for variations in age, sex, and height.

Pooled prevalence estimates in each category were:

* Hypertension: 4.00% (95% CI 3.29%-4.78%)
* Pre-hypertension: 9.67% (95% CI 7.26%-12.38%)
* Stage 1 hypertension: 4.00% (95% CI 2.10%-6.48%)
* Stage 2 hypertension: 0.95% (95% CI 0.48%-1.57%)

Hypertension had a higher prevalence when measured by aneroid (7.23%) than by mercury (4.59%) or oscillometric sphygmomanometer (2.94%). Systolic hypertension was most common in children and adolescents. Obese (15.27%, 95% CI 7.31%-25.38%) and overweight (4.99%, 95% CI 2.18%-8.81%) children had substantially higher prevalence than children with normal weight (1.90%, 95% CI 1.06%-2.97%), the authors noted.

A look at 2015 data showed hypertension prevalence was 4.32% (95% CI 2.79%-6.63%) at age 6, 7.89% (95% CI 5.75%-10.75%) at age 14, and 3.28% (95% CI 2.25%-4.77%) at age 19. "This finding is consistent with the clinical observation of adolescents with persistently high blood pressure, especially during periods of rapid growth in height, who can then have normal blood pressure later in adolescence and young adulthood," Daniels wrote. "It is important for adolescents with hypertension to be followed up over time to determine which adolescents will become healthier and which will develop persistent hypertension."

Source Reference: [Song P, et al "Global Prevalence of Hypertension in Children: A Systematic Review and Meta-analysis" JAMA Pediatr 2019; DOI:10.1001/jamapediatrics.2019.3310.](https://jamanetwork.com/journals/jamapediatrics/fullarticle/2752556)