

# Research shows importance of second pediatric blood-pressure screening

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Nearly one-quarter of children and teens who had their blood pressure screened at a primary care appointment showed a reading in the hypertensive range, but less than half of those readings could be confirmed after the blood pressure was repeated, according to a new Kaiser Permanente study released today in *The Journal of Clinical Hypertension*. The research shows the importance of taking a second blood pressure reading for those ages 3 to 17 years when the first reading is elevated.

"Pediatricians don't diagnose hypertension in [children](#) very often, but if it is there, we want to find it," said Robert James Riewerts, MD, regional chief of Pediatrics for the Southern California Permanente Medical Group. "This study is important because it demonstrates the best path to accurately diagnose hypertension in a child or teen. Taking a second blood [pressure](#) reading is something all clinicians must consider when the initial reading is elevated.

Blood pressure in youth varies considerably and can be affected by factors such as a child's anxiety. Also, determining [high blood pressure](#) in children or teens is more difficult to do than in adults because what is considered high varies based on age, gender and height.

Since this study was conducted, Kaiser Permanente in Southern California has put alerts on its electronic health records to alert clinicians when a second blood pressure reading is recommended. Also, decision-support tools were added to help clinicians determine when further

evaluation is recommended.

Researchers found that for patients ages 3 to 17 years:

- 24.7 percent had at least one blood pressure reading in the hypertensive range.
- Fewer than half of the children who had their blood pressure screened would be correctly classified based solely on their first blood pressure reading of the appointment.
- 2.3 percent of youth have sustained hypertension over time.

"Because an elevated first blood pressure in youth is common, correct identification of truly elevated blood pressure may be a first step to improve the recognition of hypertension in pediatric care," said Corinna Koebnick, PhD, MSc, of the Kaiser Permanente Southern California Department of Research & Evaluation. "If hypertension is missed, children and teens may not receive the counseling they need for lifestyle changes or medication."

This study is based on the Kaiser Permanente Southern California Children's Health Study, which includes all children and adolescents ages 2 to 19 years in Southern California who are Kaiser Permanente members. The cohort follow-up was conducted through passive surveillance of clinical care information using the electronic health record system.

The final cohort of 755,795 youth was followed during a 4-year study period, January 2012 through December 2015.

Dr. Koebnick suggested that instead of calculating the average of blood pressure readings, using the lower blood pressure reading may be more efficient for most clinicians.

This study adds to previous Kaiser Permanente research aimed at improving [hypertension](#) care, including a study that found children who have a first elevated blood pressure at the doctor's office are not likely to receive the recommended follow-up [blood-pressure readings](#). Another study found that expanding [blood](#) pressure screenings to non-primary care settings can help identify more adult patients with high [blood pressure](#).

Provided by Kaiser Permanente

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