

Overweight and obese children face high risk of hypertension

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High body weight in children and adolescents is strongly associated with the likelihood of hypertension, according to a Kaiser Permanente Southern California study published today in *The Journal of Clinical Hypertension*.

Researchers found that young people who are overweight are twice as likely as their normal-weight peers to have hypertension; moderately obese youths have four times higher risk; and extremely obese [children](#) and adolescents are 10 times more likely to have hypertension. The study also found 10 percent of youths who are extremely obese have hypertension and nearly half have occasional blood pressure measurements in the hypertensive range. Earlier studies showed that between 1 to 5 percent of youth have hypertension.

"This study's findings suggest that pediatricians need to be particularly vigilant about screening overweight and [obese children](#) for hypertension because [high blood pressure](#) can be asymptomatic for many years," said Corinna Koebnick, PhD, lead author and researcher at Kaiser Permanente Southern California's Department of Research & Evaluation.

Researchers examined the electronic health records of nearly 250,000 children aged 6 to 17 years who were enrolled in Kaiser Permanente in Southern California between January 1, 2007 and December 31, 2009. The study used the first four consecutive blood pressures measured routinely as a part of clinical care during the 36-month time period.

"High blood pressure in children is a serious health condition that can lead to heart and kidney disease," said researcher David Cuan, MD, Department of Pediatrics, Kaiser Permanente Riverside Medical Center. "While it is generally recommended that pediatricians measure [blood pressure](#) in children three years and older at every

health care visit, this study shows the importance of screening overweight and obese young people in particular as they have an increased likelihood of hypertension."

The present results also suggest that the currently used classifications for overweight and obesity in children may be an effective tool for identifying children at high risk for hypertension. For this study, researchers used sex-specific BMI-for-age growth charts developed by the Centers for Disease Control and Prevention combined with the World Health Organization definitions for overweight and obesity in adults. Being above the threshold for overweight was an indicator for prehypertension, while being above the threshold for obesity was an indicator for hypertension.

"This study highlights a great use of existing high-quality data for addressing important scientific questions, in this case, the challenge of screening asymptomatic children for [hypertension](#)," said Matthew F. Daley, MD, a pediatrician and a researcher at the Institute for Health Research, Kaiser Permanente Colorado. "The findings of this study suggest that we should focus our limited resources on the children who need the most timely follow up."

Kaiser Permanente can conduct transformational health research like this in part because it has the largest private patient-centered electronic health record system in the world. The organization's electronic health record system, Kaiser Permanente HealthConnect®, securely connects 9.1 million patients to 17,000 physicians in 611 medical offices and 37 hospitals. It also connects Kaiser Permanente's research scientists to one of the most extensive collections of longitudinal medical data available, facilitating studies and important medical discoveries that shape the future of health care delivery for patients and the medical community.

Provided by Kaiser Permanente

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