

Pediatrician creates easier way to identify kids' high BP

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Pediatricians now have a new and simple way to diagnose a serious problem facing our nation's children - thanks to David Kaelber, M.D., Ph.D., M.P.H., MetroHealth System pediatrician, internist, and chief medical informatics officer and Case Western Reserve University School of Medicine researcher and faculty member. Nearly 75% of cases of hypertension and 90% of cases of prehypertension in children and adolescents go undiagnosed.

These troubling statistics were documented in previously published research by Dr. Kaelber. From this research, Dr. Kaelber and fellow researchers felt that one of the main reasons for the under-diagnosis may be due to the complex chart currently used to help physicians and medical personnel identify high [blood pressure](#) in [children](#). So Dr. Kaelber's team simplified the chart - focusing solely on a child's age and gender - eliminating the need for a height percentile and reducing the number of values in the blood pressure table from 476 to just 64. The revised chart and accompanying description are published in the June issue of the journal *Pediatrics*.

The American Academy of Pediatrics and the American Heart Association recommend that blood pressure checks be done at all pediatric visits for health care (including dental and optometric appointments) for children ages 3 to 18. The current standard chart used by healthcare providers to evaluate pediatric blood pressure is from the National Heart, Lung, and Blood Institute and includes hundreds of normal and abnormal blood pressure values. In order to differentiate

between normal and abnormal readings, providers need to, not only remember the variety of blood pressure ranges, but also know the child's height percentile - which can be difficult to verify, especially in non-primary care settings.

In re-designing the chart, Dr. Kaelber's team reduced the systolic and diastolic blood pressure cutoff values to one value for girls and one value for boys for each year of life from ages 3 to 18 plus. Researchers used the lower limit of height (5th percentile) in the abnormal blood pressure range for a given gender and age. While they note this may incorrectly flag some taller children as being in the abnormal blood pressure range, the researchers predict this number will be small compared to the number of children with prehypertension and hypertension who are identified. Any reading at or above the listed numbers in the chart will indicate a child who needs further evaluation by a physician.

"We know that children with high blood pressure often become adults with heart disease and other serious medical conditions," says Dr. Kaelber. "Anything that helps health care providers in identifying this life-threatening condition early is essential. The long-term solution will no doubt involve electronic medical records and other electronic tools, but until that is available in all healthcare settings, this simplified table should be a helpful screening tool."

Source: Case Western Reserve University ([news](#) : [web](#))

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