

## Consider home blood pressure monitoring when in-person visits not possible

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While telehealth has enabled physicians to continue providing well-child and chronic care during the pandemic, some elements of the physical exam cannot be conducted over the video screen, including manual blood pressure (BP) measurement.

Home blood pressure monitoring (HBPM) allows pediatricians and pediatric subspecialists to monitor blood pressure control when routine in-person care cannot be conducted safely. However, home monitoring should not be used to screen for hypertension for reasons outlined below.

Frequent assessment of BP is critical in screening for and monitoring hypertension. A recent study demonstrated that approximately half of children with an initial diagnosis of white coat hypertension will progress to elevated blood pressure or hypertension within one year (Miyashita Y, et al. *Hypertension*. 2020;76:A5).

For children with chronic kidney disease, uncontrolled hypertension measured through annual assessment was associated more strongly with an increased risk of progressive chronic kidney disease than initial blood pressure measurement (Reynolds BC, et al. *JAMA Netw Open*. 2020;3:e1921213).

Therefore, is it concerning that the diagnosis of pediatric hypertension or need to further optimize BP control may go unrecognized when annual BP assessment during a well-child visit is missed.

The AAP has acknowledged the importance of maintaining in-person well-child care whenever possible during the pandemic and urges providers to re-establish timely, in-person visits when able to complete preventive pediatric health care (<https://bit.ly/3eetRim>).

HBPM may serve as a temporary means to monitor a previously diagnosed hypertensive child's blood pressure until in-person evaluation can be resumed. The AAP *Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents* concludes that HBPM "may be a useful adjunct to office and ambulatory BP measurement after HTN has been diagnosed" (*Pediatrics*.2017;140:e20171904).

Some studies indicate HBPM measurements are reproducible and may correlate with ambulatory blood pressure monitoring measurements (ABPM). Additionally, HBPM correlates more strongly with preclinical organ damage than office measurements (Stergiou GS, et al. *Hypertens Res*. 2018;41:662-668).

However, pediatric studies are limited, and only a few automated devices are validated in pediatrics. Therefore, consensus has not been achieved on the frequency of measurements needed in pediatric practice.

During a pandemic, HBPM is more accessible, feasible and safer than in-clinic measurements or ABPM. For patients with known hypertension whose families are wary of coronavirus exposure associated with office settings, HBPM can be used to ensure that the child's BP is within the prescribed target range. Cuffs should be appropriately sized to the arm, and patients should use validated semi-automated or automated oscillometric devices. A list of validated devices is available at <https://www.validatebp.org/>.

European guidelines suggest measurements be performed twice daily for three to six days, with two measurements recorded in each sitting. Providers should base clinical decisions on the average of all measurements, less the first recorded measurement of each day (Lurbe, et al. *J Hypertens*. 2016;34:1887-1920).

Reporting blood pressures also can facilitate a dialogue between the patient and provider, guiding further lifestyle modifications and medical management. This continued conversation can be more effective than usual care (Uhlrig K, et al. *Ann Intern Med*. 2013;159:185-194).

Current Procedural Terminology code 99473 supports one-time claims for training, patient education and device calibration of HBPM. Monthly review of HBPM for ongoing treatment decisions also is billable (99474) (<http://bit.ly/2KhszXy>).

While HBPM has yet to undergo rigorous evaluation within pediatrics, it is a useful adjunct during the pandemic when telehealth visits are common. Measurement guidelines and billing codes can facilitate integration within practice.

*Drs. Reardon and Feig are members of the AAP Section on Nephrology Executive Committee.*

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