2017 aap guidelines for childhood hypertension pdf

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Other issues included a lack of compliance with adult guidelines for older adolescents and a lack of discussion of outpatient blood pressure monitoring (ABPM). In order to update the guidance on up-to-date evidence, the Committee carried out a systematic review of the outline of predetermined topics, leading to an assessment of more than 15 000 manuscripts published since the 2004 report. The review of evidence was based on approximately 4 key issues, including (1) how hypertension should be defined in children and adolescents, (2) what is the recommended procedure for childhood hypertension, (3) what are the optimal therapeutic goals, and (4) how different treatments (lifestyle versus pharmacological) affect cardiovascular risk. The answers to these evidence-based questions led to 30 key statements on measures (and a further 27 recommendations) contained in the new guidelines for access to access agreements. The new CPG has been designed to be not only comprehensive, but also more easily implemented in a primary care environment. In addition to having accurate and comprehensive diagnostic criteria, the Committee wanted to ensure that primary care providers had the tools and information necessary to make accurate blood pressure diagnoses in children and adolescents. Compared to the fourth report, the new guidelines have simpler definitions, easier-to-use tables, and the most important static blood pressure thresholds for adolescents that comply with the new adult guidelines. The new guidelines recommend screening for BP abnormalities ≥ children as young as 3 years old on an annual preventive visit, as opposed to any health care meeting. Bp measurement methods, including the use of automated oscillometric devices to check for BP abnormalities, are explicitly described and illustrated. It also includes an algorithm that helps in detecting abnormal BP in the office. To facilitate implementation, the definition of hypertension in children under 13 years of age has not changed significantly. Blood pressure thresholds are still based on population standards of age, height and Simpler BP tables are listed in the CPG, including handy screening tables as well as complete BP percentile tables. Importantly, however, normative blood pressure tables were recalculated after the removal of overweight and obese children from the sample. The resulting tables reveal thresholds that are a few mm lower than the fourth report tables but are more accurate as actually prescriptive data. For bp classification, normal BP for children is still classified as < 90. pressures between 90.normal). Further simplification of the new guidelines is the abandonment of the 99th percentile as a threshold. Instead, grade 2 hypertension is characterized as BP > 95th percentile + 12 mm Hg. The result is a series of grade 1 hypertension, which by its very nature is 12 mm Hg wide for all children under 13 years of age (see Table 1). Table 1. New classification of blood pressure in children, adolescents and adults. (Changed from links 1 & 3) HTN classification Children aged 1-12 years (percentile based) Everyone ≥ 13 y old (mm Hg based) Normotensive < 90th percentile < 120/<80 Elevated blood pressure ≥ 90th percentile or ≥ 120/80 mm Hg (lower) to < 95th percentile 120-129/< 80 Stage 1 hypertension ≥ 95th percentile to < 95th percentile + 12 mm Hg or 130/80 to 139/89 (lower) 130-139/80-89 Stage 2 hypertension ≥ 95th percentile + 12 mm Hg or ≥ 140/90 (lower) ≥ 3 These static thresholds of 120/80 ≥, 130/80, and 140/90 mm Hg form the boundaries for normal blood pressure , elevated blood pressure, hypertension , and phase 2 hypertension regardless of adolescent age, height, or gender. The adoption of uniform definitions for the classification of blood pressure in adolescents and adults will significantly facilitate the transition of care from paediatric procedures to internal medicine or adult care (see Table 1). Although the new guidelines explicitly describe many causes of secondary hypertension, the diagnostic examination in patients with permanent hypertension is also simplified due to the increasing prevalence of primary hypertension. All paediatric patients with permanent hypertension are still undergoing examinations, including urine and blood studies, to exclude the causes of kidneys. However, recognizing the growing epidemiology of primary hypertension, much of the evaluation of secondary hypertension is relegated to optional evaluations for high-risk patients. An example of this modified approach is the recommended display during the evaluation: is proposed only in children under 6 years of age or in children with abnormal urine or kidney screening function. Probably the biggest change in the initial examination of patients with permanent hypertension is the delay in obtaining an echocardiogram. The fourth report suggested an immediate echocardiogram at diagnosis, while the new guidelines recommend postponing this expensive examination until pharmacological treatment is considered. In addition, the new guidelines focus more on blood pressure control and move away from annual echocardiograms of follow-up in children diagnosed with hypertension. Within 6 months of the publication of the guidelines, some negatively commented on increased dependence on ABPM in the diagnostic evaluation of elevated blood pressure in the office. Although the guidelines will stop defining hypertension based on ABPM, assessing 24-hour pressures is the first step in analyzing permanently elevated office pressures. It is true that ABPM has a much more significant role to play in evaluating children and adolescents with abnormal office blood pressure, as appropriate given the flood of clinical evidence. The emphasis on confirming hypertension with out-of-office reading is based on multiple resulting studies in children, adolescents, and even adults. The guidelines cite many pediatric studies that have emerged since the publication of the fourth report, which emphasize the usefulness of ABPM both in confirming elevated blood pressure in the office and in monitoring the response to treatment. The presence of white coat (hypertensive BP in the office, but normal ABPM) or masked hypertension (normal BP in the office, but hypertensive ABPM) is diagnosed only by taking out-of-office measures, as happens in ABPM. The goals of treating childhood hypertension have also been adjusted in the new guidelines. Although previous guidelines recommended treatment < 95 < percentile for children with uncomplicated primary hypertension, there was evidence that markers of hypertensive damage to target organs can be found in children with BP > 90. As such, the current CPG recommended treatment target is now < 90 percentile in most children and even lower in special populations such as children with chronic kidney disease. Lifestyle change, including dietary changes and increased physical activity, remains the cornerstone of initial treatment and should be attempted for at least 6 months. If these modalities cannot control BP, first-line pharmacological substances for blood pressure control in children and adolescents have been clarified, including renin-angiotensin-aldosterone (RAAS) blockers as angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers, long-acting calcium channel blockers or thiazide diuretics. Other antihypertensive drugs should be reserved for children who do not achieve sufficient BP control with 2 or more of these preferred substances. The new AAP CPG describes the justification for evaluation and treatment in several specific populations, including children with chronic kidney disease, diabetes, solid organ transplantation and coactive aorta. Comorbidities such as dyslipidemia or cognitive impairment are also discussed. At the population level, blood pressure can rise in childhood. The new AAP guidelines provide an evidence-based approach to diagnosing, evaluating and managing abnormal blood pressure levels in children and adolescents. Although there is an increased emphasis on confirming bp high values by means of out-of-office measurements using ABPM, the basic provisions of the CPG are designed for easy identification and management in a primary care environment. The authors do not report any specific funding in connection with this manuscript and do not disclose any conflicts of interest. Although Dr Samuels served on the AAP committee that wrote the clinical practice guidelines, this manuscript represents his views and not those of AAP or the CPG. 1Flynn JT, Kaelber DC, Baker-Smith CM, et al. Guidelines for clinical practice for screening and management of high blood pressure in children and adolescents. Pediatrics. 2017; 140: e20171904. 2 National High Blood Pressure Training Program Working Group on High Blood Pressure in Children and Adolescents. Fourth report on the diagnosis, evaluation and treatment of high blood pressure in children and adolescents. Pediatrics. 2004; 114: 555- 576. 3Whelton PK, Carey RM, Aronow WS, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APHA/ASH/ ASPC/NMA/PCNA guidelines for the prevention, detection, evaluation and management of high blood pressure in adults: American College of Cardiology/American Heart Association Task Force report on clinical guidelines. J Am Coll Cardiol. 2017; 1- 481. Tuji Bedry, Henok Tadele, Pattern and Outcome of Childhood Traumatic Brain Injury at Hawassa University Comprehensive Specialized Hospital, Southern Ethiopia: Observational Cross-Sectional Study, Emergency Medicine International, 10.1155/2020/1965231, 2020, (1-9), (2020). Ignatius H. Sirikyi, Sebastian Eliason, Frank N. Ghartey, Evans Ekenam, Kingsley K. A. Pereko, Emmanuel Okai, Felix Yiridong, Oheneba C. K. Hagan, Paul Nsiah, Anthropometric Indices and Cardiometabolic Risk Factors in ghanaian adolescent population, Journal of Pediatric Endocrinology and Metabolism, 10.1515/jpem-2020-0273, 0, 0, (2020). Eliza Blanchette, Joseph T. Flynn, Implications of guidelines for clinical practice AAP 2017 for the management of hypertension in

children and adolescents: reviews, current reports on hypertension, 10.1007/s11906-019-0943-x, 21, 5, (2019). Julie Spicer, Gerald F. Giesbrecht, Sally Aboelela, Seonjoo Lee, Grace Liu, Catherine Monk, Outpatient trajectory of blood pressure and perceived stress in relation to birth outcomes in healthy pregnant adolescents, psychosomatic medicine, 10.1097/PSY.00000000000000698, 81, (464-476), (2019). The full text of this article hosted iucr.org is not available due to technical issues. Difficulties.