

## Hypertension: Child and Adolescent

### CLINICAL PRACTICE GUIDELINE HYPERTENSION CHILD AND ADOLESCENT

#### INTRODUCTION

Considerable advances have been made in detection, evaluation, and management of high blood pressure (BP), or hypertension, in children and adolescents. Because of the development of a large national database on normative BP levels throughout childhood, the ability to identify children who have abnormally elevated BP has improved. On the basis of developing evidence, it is now apparent that primary hypertension is detectable in the young and occurs commonly. The long-term health risks for hypertensive children and adolescents can be substantial; therefore, it is important that clinical measures be taken to reduce these risks and optimize health outcomes.

This report includes the following information:

- New data from the 1999–2000 National Health and Nutrition Examination Survey (NHANES) have been added to the childhood BP database, and the BP data have been reexamined. The revised BP tables now include the 50th, 90th, 95th, and 99th percentiles by gender, age, and height.
- Hypertension in children and adolescents continues to be defined as systolic BP (SBP) and/or diastolic BP (DBP), that is, on repeated measurement,  $\geq 95$ th percentile. BP between the 90th and 95th percentile in childhood had been designated “high normal.” To be consistent with the Seventh Report of the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7), this level of BP will now be termed “prehypertensive” and is an indication for lifestyle modifications.
- The evidence of early target-organ damage in children and adolescents with hypertension is evaluated, and the rationale for early identification and treatment is provided.
- Based on recent studies, revised recommendations for use of antihypertensive drug therapy are provided.
- Treatment recommendations include updated evaluation of nonpharmacologic therapies to reduce additional cardiovascular risk factors.
- Information is included on the identification of hypertensive children who need additional evaluation for sleep disorders.

#### REFERENCES

The Fourth Report on Diagnosis, Evaluation and Treatment of High Blood Pressure in Children and Adolescents, August 2004; 114 (Suppl2) 1-22

[http://pediatrics.aappublications.org/content/114/Supplement\\_2/555.full](http://pediatrics.aappublications.org/content/114/Supplement_2/555.full)

**TABLE 5**

**Classification of Hypertension in Children and Adolescents,  
With Measurement Frequency and Therapy Recommendations**

	SBP or DBP Percentile*	Frequency of BP Measurement	Therapeutic Lifestyle Changes	Pharmacologic Therapy
Normal	<90th	Recheck at next scheduled physical examination.	Encourage healthy diet, sleep, and physical activity.	—
Prehypertension	90th to <95th or if BP exceeds 120/80 mmHg even if below 90th percentile up to <95th percentile†	Recheck in 6 months.	Weight-management counseling if overweight, introduce physical activity and diet management.‡	None unless compelling indications such as CKD, diabetes mellitus, heart failure, or LVH exist
Stage 1 hypertension	95th percentile to the 99th percentile plus 5 mmHg	Recheck in 1–2 weeks or sooner if the patient is symptomatic; if persistently elevated on two additional occasions, evaluate or refer to source of care within 1 month.	Weight-management counseling if overweight, introduce physical activity and diet management.‡	Initiate therapy based on indications in Table 6 or if compelling indications as above.
Stage 2 hypertension	>99th percentile plus 5 mmHg	Evaluate or refer to source of care within 1 week or immediately if the patient is symptomatic.	Weight-management counseling if overweight, introduce physical activity and diet management.‡	Initiate therapy.§

BP, blood pressure; CKD, chronic kidney disease; DBP, diastolic blood pressure; LVH, left ventricular hypertrophy; SBP, systolic blood pressure

\* For sex, age, and height measured on at least three separate occasions; if systolic and diastolic categories are different, categorize by the higher value.

† This occurs typically at 12 years old for SBP and at 16 years old for DBP.

‡ Parents and children trying to modify the eating plan to the Dietary Approaches to Stop Hypertension (DASH) eating plan could benefit from consultation with a registered or licensed nutritionist to get them started.

§ More than one drug may be required.

All member care and related decisions are the sole responsibility of the provider. This information does not dictate nor control your clinical decisions regarding the appropriate care of members. Guidelines are subject to state regulations and benefits.