

90th and 95th percentiles. *The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents* outlines in detail the identification, testing, and treatment recommendations for young people with high BP ([National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents, 2004](#)). These recommendations were reiterated in the more recent Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction ([Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents; and National Heart, Lung, and Blood Institute, 2011](#)).

## **Etiology**

Most instances of hypertension in young children occur secondary to a structural abnormality or an underlying pathologic process, although this is being challenged by screening programs of relatively healthy children. The most common cause of secondary hypertension is renal disease followed by cardiovascular, endocrine, and some neurologic disorders. As a rule, the younger the child and the more severe the hypertension, the more likely it is to be secondary.

The causes of essential hypertension are undetermined, but evidence indicates that both genetic and environmental factors play a role. The incidence of hypertension has been shown to be higher in children whose parents are hypertensive. African Americans have a higher incidence of hypertension than whites, and in African Americans it develops earlier, is frequently more severe, and results in death at an earlier age. Environmental factors that contribute to the risk of developing hypertension include obesity, salt ingestion, smoking, and stress.

## **Diagnostic Evaluation**

BP assessment should be a routine part of annual assessment in healthy children older than 3 years old. BP readings should also be done in those children younger than 3 years old who have high-risk family histories or those with individual risk factors, including CHD, kidney disease, malignancy, transplant, certain neurologic problems, or systemic illnesses known to cause hypertension.