auscultatory readings, and therefore this is currently the preferred method of assessment. These charts take into account differences in body height but not weight or BMI. It is therefore important to note that a child who is large for his or her age may normally have a higher BP than a child of average size. Before a diagnosis is made, BP should be measured on at least three separate occasions. An ambulatory BP monitor may be ordered if "white-coat hypertension" is suspected. These are useful in that they provide BP readings over a 24-hour period. There are different normative values for ambulatory BP readings (Urbina, Alpert, Flynn, et al, 2008).

A careful medical history and family history should be obtained to screen for other relatives with hypertension or other cardiovascular risk factors. In children with suspected hypertension, initial laboratory data include a urinalysis, renal function studies (such as creatinine and blood urea nitrogen), a lipid profile, complete blood count, and electrolytes. Depending on the severity of hypertension, additional testing may be indicated. Testing may include a retinal examination, renal ultrasonography to measure kidney size and Doppler flow to detect the likelihood of a renal etiology. In addition, an ECG and an echocardiogram help to evaluate the presence of end-organ involvement, such as left ventricular hypertrophy. Further testing for a secondary cause of hypertension may be indicated in children with significant hypertension and normal initial screening test findings.

Oral contraceptives can be a cause of hypertension because of their pressor effects. A trial off of oral contraceptives may be indicated; however, other options of contraceptives should be discussed before this decision is made (see Chapter 16).

Therapeutic Management

Therapy for secondary hypertension involves diagnosis and treatment of the underlying cause. Children and adolescents with consistently elevated BP readings from no known cause or those with secondary hypertension not amenable to surgical correction may be treated with a combination of lifestyle and pharmacologic interventions. Dietary practices and lifestyle changes are important in the control of hypertension both for children and for adults. Nonpharmacologic measures, such as weight control in overweight