behaviors. Parental modeling of eating and physical activity and food availability in the home are predictors of excess weight gain during childhood and adolescence (Tandon, Zhou, Sallis, et al, 2012).

Diagnostic Evaluation

A careful history is obtained regarding the development of obesity, and a physical examination is performed to differentiate simple obesity from increased fat that results from organic causes. A family history of obesity, diabetes, coronary heart disease, and dyslipidemia should be obtained for all children who are overweight or at risk for overweight. Specific information from the patient and family about the effects of obesity on daily functioning —for example, problems with nighttime breathing and sleep, daytime sleepiness, joint pain, ability to keep up with family activities and peers at school—is helpful. The physical examination should focus on identifying comorbid conditions and identifiable causes of obesity. For some, psychological assessment, by interviews and standardized personality tests, may provide insight into the personality and emotional problems that contribute to obesity and that might interfere with therapy.

It is useful to estimate the degree of obesity to determine the component of body weight that can be modified. All of the following methods have been used to assess obesity: BMI, body weight, weight–height ratios, weight–age ratios, hydrostatic weight, dual-energy x-ray absorptiometry (DXA), skinfold measurements, bioelectrical analysis, computed tomography (CT), magnetic resonance imaging (MRI), and neutron activation. Each of these methods has advantages and disadvantages. Hydrostatic weighing provides the most accurate measurement of lean body weight.

BMI is currently considered the best method to assess weight in children and adolescents. The calculation is based on the individual's height and weight. In adults, BMI definitions are fixed measures without regard for sex and age. The BMI in children and adolescents varies to accommodate age- and gender-specific changes in growth. The formula for BMI calculation is weight in kilograms divided by height in meters squared—weight (kg) ÷ (height [m]^2). BMI measures in children and adolescents are plotted on growth charts that enable health care professionals to determine