solid tumors may occur in children. Wilms tumor, rhabdomyosarcoma, and retinoblastoma are unique in that they tend to be diagnosed early, typically before 5 years old. Wilms tumor and retinoblastoma are also unusual in that they are among the few types of cancer that may occur in both hereditary and nonhereditary forms.

Wilms Tumor

Wilms tumor, or nephroblastoma, is the most common kidney tumor of childhood (Davidoff, 2012). Its frequency is estimated to be 8 cases per 1 million children younger than 15 years old, with approximately 650 new cases per year (Davidoff, 2012). Seventy-five percent of patients with Wilms tumor are diagnosed when they are younger than 5 years old, and it has a peak incidence between 2 and 3 years old (Davidoff, 2012). About 5% of Wilms tumors are familial (Davidoff, 2012).

Clinical Manifestations

The most common presenting sign is painless swelling or mass within the abdomen. The mass is characteristically firm, nontender, confined to one side, and deep within the flank. If it is on the right side, it may be difficult to distinguish from the liver, although, unlike that organ, it does not move with respiration. Parents usually discover the mass during routine bathing or dressing of the child.

Other clinical manifestations are the result of compression from the tumor mass, metabolic alterations secondary to the tumor, or metastasis. Hematuria occurs in less than one fourth of children with Wilms tumor. Anemia, usually secondary to hemorrhage within the tumor, results in pallor, anorexia, and lethargy. Hypertension, caused by secretion of excess amounts of renin by the tumor, occurs occasionally. Other effects of malignancy include weight loss and fever. If metastasis has occurred, symptoms of lung involvement (such as dyspnea, cough, shortness of breath, and pain in the chest) may be evident.

Diagnostic Evaluation

In a child suspected of having Wilms tumor, special emphasis is