Role of MRI in the management of patients with nephroblastoma.

Magnetic resonance imaging (MRI) presents the main diagnostic tool for differentiation and staging of renal tumors in childhood. Nephroblastoma is the most common malignant tumor in children. Radiological findings play an important role in therapy study trials of SIOP (International Society of Pediatric Oncology), especially for indicating preoperative chemotherapy. In the past few years MRI has gained great importance in imaging of nephroblastoma and has replaced computed tomography (CT). The aim of this review is to present the diagnostic possibilities of MRI in relation to the requirements of therapy studies. For nephroblastoma, MRI provides important information about tumor extent and distant metastasis. A special focus of MRI in distant staging is venous extent of the tumor into the inferior vena cava. In addition, MRI has an important role in monitoring chemotherapy and in preoperative planning by volume rendering and three-dimensional postprocessing.