Musculoskeletal neoplasms are rare, and both the medical history and complaints of the patients are usually uncharacteristic and of limited information. After a clinical evaluation and biplane conventional radiography, the clinician must classify the patient as having a nonprogressive or progressive primary benign, primary malignant, or metastatic bone tumor. In the case of a probably benign, nonprogressive bone tumor, the patient has to be observed continuously or an additional biopsy should be performed. In the case of a probably malignant lesion, the patient should be referred for further staging and treatment to an orthopedic oncologist. Conventional biplane radiography, scintiscan, computed tomography scan, and magnetic resonance imaging (MRI) are indispensable in staging and treatment planning for patients with musculoskeletal tumors. For limb salvage procedures, delineation of the tumor from adjacent tissue structures is crucial. Hence, MRI of the entire anatomic structure involved, together with adjacent joints, is of the utmost importance, both in the coronal and axial planes. The significance of MRI in clinical follow-up depends on keeping the sequences and imaging planes used constant. Differentiating pseudotumors from true neoplasms still poses a challenge. The cellular pattern and matrix characteristics of a lesion cannot definitely be identified as neoplastic even with application of all imaging modalities including MRI. Information on epidemiology, clinical picture, radiology, and histology of the
lesion is necessary to draw a firm conclusion. Biopsy is still the first choice in making the diagnosis.