

SURGERY Introduction

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Imaging is an integral part of musculoskeletal diagnosis. Image-guided, minimally invasive techniques also play a major role in treatment. In broad terms, radiographs are the best method of looking for bony lesions or injuries, MRI shows bone marrow disease, muscle, tendon and soft-tissue disorders and ultrasound has better resolution than MRI for small structures, with the added advantage of showing dynamic changes. CT enables visualisation of the fine detail of bony structures, clarifying abnormalities seen on plain radiographs. There are occasions when a combination of techniques will be important, and due consideration should be given to reducing the ionising radiation burden to the patient, using ultrasound and MRI as primary investigations whenever appropriate. [Summary box 8.8 Imaging in musculoskeletal conditions](#)

Radiographs are the best first-line test for bone lesions and fractures MRI is good for diagnosing bone marrow disease, occult fractures and tendon and soft-tissue disorders CT enables visualisation of the fine detail of bony structures CT gives the best three-dimensional information on fractures Ultrasound has better resolution in accessible soft tissues and can be used dynamically Ultrasound is the best method of distinguishing solid from cystic lesions Ultrasound is the only method for locating non-metallic foreign bodies Ultrasound is the best method for detecting muscle hernias

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