

particularly helpful in diagnosis of triangular fibrocartilage tears and nerve entrapment syndrome.²⁹ Similarly, suspected injuries of tendons and ligaments are major reasons for requests for MR imaging of the elbow and ankle.³⁰ Although clinical evaluation of most cases

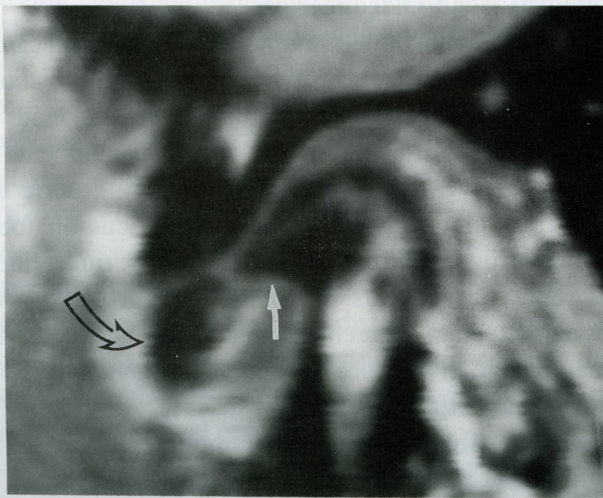


Fig. 6. Sagittal partially open mouth T1W image showing an anteriorly displaced disc (curved arrow) blocking the anterior translation of the mandibular condyle in a patient with a locked joint. The disc is deformed. There is a beak-like spur (arrow) at the mandibular condyle due to severe degeneration.

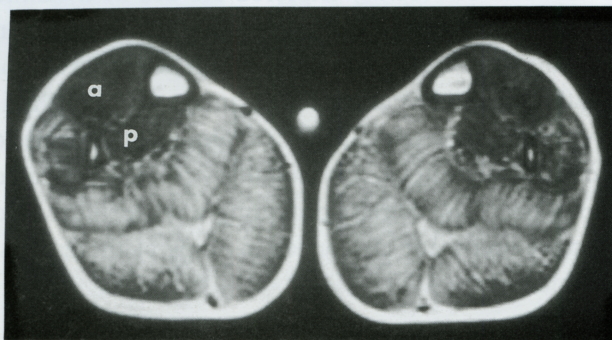


Fig. 7. Axial T1W image showing advanced fatty infiltrates symmetrically involving the bilateral posterior and lateral calf muscles in Duchenne's muscular dystrophy. The anterior (a) and posterior (p) tibialis muscles are spared.

is diagnostic, in a small number of patients, perhaps 25%, physical examination alone may be misleading. This is particular true for a partial tear versus a hematoma surrounding a torn end of a tendon producing a false impression on palpation. The author believes that clinicians familiar with the advantages of MR in evaluation of other joints will request examinations of the wrist, elbow, and ankle with increasing frequency.

THE TEMPOROMANDIBULAR JOINT

Internal Derangement

Anterior disc displacement is the most common of the temporomandibular joint (TMJ) disorders. MR imaging affords an accurate and noninvasive assessment of the disc position and morphology of the TMJ. Sagittal T1W images are essential in evaluation of an anteriorly displaced disc. According to disc morphology, Helms and colleagues³¹ have categorized anteriorly displaced discs into 2 grades of severity. A grade I joint maintains the disc normal bow-tie morphology but is displaced anteriorly. Disc plication is the preferred treatment. A grade II joint has a deformed disc that also is displaced anteriorly (Fig. 6); and disc plication may not relieve the patients symptoms. Discectomy may be required. The grading system correlates well with the severity of the disease process and duration of symptoms.

MR imaging is limited in detecting disc perforations.³² However, this drawback does not hinder clinicians because disc perforation is not a surgical indication. In particular cases, arthrography can be performed if disc perforation is really a concern for clinicians.

THE SKELETAL MUSCLES

Certainly, MR imaging is superior to other imaging modalities in delineating soft tissue structures. It provides not only localization of soft tissue abnormalities but also an assessment of changes in tissue composition and biochemical defects (Fig. 7). MR imaging of muscle usually is performed to determine the extent of