

## CLINICAL ASPECTS OF TENDON DISORDERS

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This presentation will review biomechanical aspects and imaging appearances of the most common tendon disorders in clinical practice. The aetiology of supraspinatus tendinopathy and tears is multifactorial. A combination of genetic, intrinsic and extrinsic factors contribute. Fat suppressed MR imaging in the tilted coronal plane are most commonly used to assess the tendon with sagittal and axial images supportive. Disorders of the infraspinatus tendon are less common. They are more commonly encountered in throwing sports as a consequence of impingement and/or neural compression.

Injuries to the common tendon origins at the elbow are usually due to misuse. Various factors including but not limited to training and technical aspects in sports may underlie these conditions. Magnetic resonance imaging plays an important role in their assessment. Coronal fat suppressed images are the most important with axial images helping to locate the precise component of common tendon involvement. Ultrasound is an important imaging technique useful to guide therapy.

Tendon injuries at the wrist and hand are most commonly due to direct trauma, either as a consequence of penetrating injury or by tendon abrasion against an irregular bone or joint surface such as might be encountered with an inflammatory arthropathy. In this case, the systemic disorder also causes intrinsic damage to the tendon itself. Traumatic injuries to the tendon support structures including pulleys and retinacula can also occur.

In the lower limb, the quadriceps and hamstring tendons are the most commonly injured acutely. Muscle units that traverse two joints, which are multipennate and have predominantly fast twitch fibres are particularly susceptible. Overuse injuries of the patellar tendon, may be associated with patellofemoral dysplasia or occur secondary to impingement against the lower pole of the patella. Biomechanical factors also have a strong influence on Achilles tendinopathy where hyperpronation coupled with the naturally helical arrangement of tendon fibres leads to overuse tendinopathy. Sagittal and axial images are used for diagnosis and help differentiate insertional from non-insertional types which have a different aetiology.

Tibialis posterior tendinopathy is most commonly seen in middle-aged females. Factors including obesity, diabetes, renal and rheumatological diseases predispose to these injuries as they do tendon disease elsewhere. Occasionally drugs are implicated. Failure of the spring ligament may increase mechanical stress on tibialis posterior and vice versa. Factors which predisposed to peroneal tendon disease include accessory tendons, a low myotendinous junction and enlargement of the peroneal tubercle. Abnormal movement of the tendons secondary to peroneal retinacula disease

increases the likelihood of injury. Flexor hallucis longus disease may occur in association with enlargement of os trigonum