

Knee Pain

For information on all types of injuries visit:
<http://www.cssphysio.com.au/Doctors/fordocctors.html>



Knee Extensor Mechanism – Injury & Dysfunction

An article in the 2011 BJSM reviewed knee extensor mechanism injuries. This article gives a good overview of soft-tissue, joint & bony conditions which can arise in & around the extensor mechanism of the knee. It also describes some of the normal variants which can be present. These are not discussed below. If you are interested, the article shows detailed imaging for each condition.

Patellar tendinopathy or ‘jumpers knee’ – a common overuse condition in young people who jump, kick and run. The spectrum of pathology can range from chronic degeneration to partial tearing. Tenderness will be palpated on the inferior pole of the patella. Focal thickening can be demonstrated on T2 – weighted MRI as high signal intensity in the proximal 1/3 of the tendon.

Patellar tendon rupture: a rare injury – but normally occurs at the inferior pole, after a violent quadriceps contraction with the knee flexed. Radiographs will demonstrate a superiorly placed patella and infrapatellar swelling. MRI will image the torn and often buckled tendon.

Osgood-Schlatter disease or tibial tubercle apophyseal injury, is common in adolescents. Repeated traction leads to inflammation, avulsion fractures and excess bone growth. The diagnosis is a clinical one. If XRays are obtained to rule out other pathologies, there may be some bony irregularity, however this can be a normal variant.

Sindig-Larsen-Johansson syndrome – apophysitis at the proximal attachment of the patellar tendon. MRI can be used to distinguish this condition from patellar tendinopathy, by the presence of bone marrow oedema in the distal patella.

Quadriceps tendinopathy: Less frequent than patellar tendinopathy but probably more common than diagnosis suggests (in my opinion). MRI will demonstrate similar findings to patella tendinopathy, but in the quadriceps tendon. Predisposing factors may be diabetes, gout or RA.

Quadriceps tendon rupture: More common in patients older than 40 years. There is often underlying disease including renal failure, diabetes, RA, gout and obesity. Most ruptures occur on attempting to regain balance after a fall. It is readily apparent on MRI.

Patellar fractures – usually through blunt trauma or forced quadriceps contractions, especially when osteoporosis is present. CT is the image of choice.

Patellar dislocation: Most dislocations, which are in a lateral direction, have relocated by the time the patient presents for examination, leading to an unclear clinical picture. MRI will demonstrate bone marrow contusion or fracture on the medial patellar facet or lateral femoral condyle, tearing of the medial retinaculum and possible loose body due to osteo-chondral fracture.

Patello-femoral pain: This is a broad definition and includes chondromalacia patellae, where there is degradation of the patellar hyaline cartilage. This can be seen on MRI, but the gold standard for diagnosis of chondromalacia is arthroscopy. Most cases of patello-femoral pain are not associated with chondromalacia.

Pre patellar bursitis or ‘housemaids knee’, can occur due to trauma, chronic friction or repeated minor injuries (like kneeling), inflammation, gout or infection. MRI may demonstrate fluids as well as thickening and soft tissue irregularity, however the diagnosis is normally made clinically.

***Ref: Tuong, B et al (2011): Get a kick out of this:
The spectrum of knee extensor mechanism injuries.
British Journal of sports Medicine, 45, 2,140-146.***

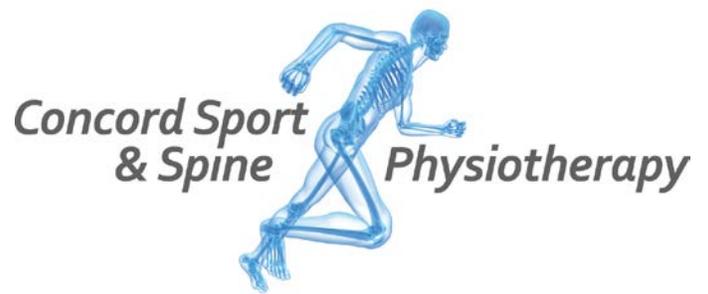
Please contact us if you would like a printable copy of this document.

For information for doctors on physiotherapy management of all types of injuries visit:

<http://www.cssphysio.com.au/Doctors/forDoctors.html>

Information for patients is at:

<http://www.cssphysio.com.au/forpatients.html>



Concord Sport & Spine Physiotherapy
202 Concord Road
Concord West, NSW 2138
Sydney, Australia.

Ph (02) 9736 1092

Email: info@cssphysio.com.au

Web: www.cssphysio.com.au

Copyright © 2012 Paul Monaro. All Rights Reserved