

## 22. Anterior Knee Pain in Competitive Cyclists

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**Introduction:** Competitive cycling is a popular sport in Ireland. Knee pain occurs in 33 % of elite cyclists. Consequently, knee pain is a common diagnostic and management dilemma for physiotherapists, family physicians and orthopaedic surgeons. The aetiology of anterior knee pain remains unclear. Abnormal patellar tracking, vastus medialis obliquus (VMO) weakness, patellar chondromalacia and quadriceps/hamstring inflexibility are proposed mechanisms of injury.

**Aim:** To correlate anterior knee pain with: lower limb pedal kinematics, patellar chondromalacia, VMO size, bike set up, quadriceps strength and hamstrings flexibility.

**Methods:** 18 cyclists with and without anterior knee pain were recruited. All held amateur cycling licences with Cycling Ireland and cycled at least 200 kilometres per week. Lower limb kinematics were recorded using a Motion Analysis Corporation™6 Camera (Eagle) 240 Hz Motion Analysis System with EVaRT software. Standard MRI protocol determined the presence of patellar chondromalacia and VMO size. A Con Trex dynamometer measured quadriceps strength. Straight leg raising and angle at the hip using an inclinometer determined hamstring flexibility.

**Results:** Patellar chondromalacia was seen in 2 cyclists experiencing pain. Asymmetrical cycle patterns were also detected.

**Conclusion:** Anterior knee pain is a common problem for cyclists. Asymmetrical cycle patterns and patellar chondromalacia were seen in our cyclists experiencing pain.