

### Risk Factors

- Micro-tearing/degeneration of the proximal attachment of the patella tendon (inferior pole on proximal, posteromedial fibres of the tendon)
- Jumpers knee - excessive loading of knee extensor mechanism
- However, landing causes more forces on the tendon
- Rapid acceleration and deceleration
- Athletes that jump, basketball, volleyball
- Excessive foot inversion/allow deeper angles of knee flexion/foot supination
- Unilateral but can be bilateral

### Presentation

- Chronic without identifiable onset
- Can relapse and remit
- Painful during arising from seated position, squatting, jumping, stair climbing, running (downhill/downstairs)
- May have pain over tibial tuberosity (consider osgood sclatters if swelling/pain over TT on skeletally immature pt)
- Pain over inferior pole of patella
- Pain/discomfort on PROM knee flex & RROM ext
- Squat test
- Pain decreases on knee flexion (passive knee extension flexion sign + standing active quads sign)
- Assess for quadriceps and hamstring hypertonicity and weak quads
- Allows excessive knee flexion due to inadequate deceleration

### Imaging

- Not usually required unless: Hx of trauma, surgery, joint swelling, OA

### DDx

- F#
- Infection
- Neoplasm
- Articular cartilage injury
- Chondromalacia Patella
- Osgood Schlatter Disease
- Osteochondritis Dissecans
- OA
- PFPS
- Plica
- Bursitiis
- Quad tendonitis
- Sinding-Larsen Johansson syndrome
- Bipartite Patella
- Referred pain from Lx/Hip



### Management

- Transverse friction massage
- Eccentric Exercise
- US
- Ice/Ice massage
- Shockwave therapy
- Avoid complete rest
- Stretching and myofascial release of hamstring, quads, gastrosoleus, ITB, piriformis, anterior hip capsule, psoas
- EMT of ankle, knee, hip, LS
- Strengthening of Quads ( five 45 second isometric quad contractions at 75% strength)
- Eccentric training + static stretching (unilateral squats on 25 degree decline board - return to standing using unaffected leg and should not squat >60 degrees , can progress to weights 10 reps twice a day for 12 weeks
- Moderate effort with low reps - change in night pain
- Address weakness in gluts, quads, hamstring
- Arch supports
- Treadmill walking/running (less stress on quads)
- Surgical consult if : >50% tear, reoccurring



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