Conference
Submitted in 2024 for the 2025 American College of Sports Medicine Annual Meeting

Title
Knee Injury: Weight Training

Authors
Gaurav Majmudar, Neel Patel, Jordan Wickstrom, Samuel T. Dona

History
A 31-year-old male noted persistent right knee pain during descent on compound lower extremity movements while participating in CrossFit workouts. Pain was localized to the anterior knee and described as sharp without radiation or associated mechanical symptoms. After three months of minimal relief despite physical therapy, adjunct trial of patellar tendon strap or oral NSAIDs, the patient was referred to sports medicine physiatry.

Physical Examination
Focused examination of the right knee demonstrated normal alignment without obvious effusion or deformity. There was mild tenderness over the proximal patellar tendon and compression of Hoffa's fat pad. Patellar grind test was mildly positive. All other special testing was negative. Range of motion, strength, reflexes, sensation and pulses were normal throughout the bilateral lower limbs.

Differential Diagnosis
1. Proximal patellar tendinosis
2. Infrapatellar fat pad impingement
3. Patellofemoral pain syndrome

Test and Results
1. Bilateral knee radiographs: No fracture lucency, dislocation or acute osseous abnormality
2. MRI of right knee without contrast: Mild patellar tendinosis at patellar attachment, with cystic and fibrotic changes of the fat pad

Final Working Diagnosis
Proximal patellar tendinosis with infrapatellar fat pad impingement and concomitant patellofemoral pain syndrome.

Treatment and Outcomes
1. Administered high-volume ultrasound-guided patellar tendon scraping technique followed by gentle percutaneous needle tenotomy to the proximal patellar tendon and subsequent intratendinous PRP injection. A second ultrasound-guided PRP

injection was then administered to target the patellofemoral compartment in a single combination treatment.
2. 1 week cessation from NSAIDs and activity modification to avoid strenuous activity.
3. Physical therapy with focus on eccentric tendon loading 1 week post-procedure and gradual return to sport-specific movement progressed over the course of 4-6 weeks.
4. Follow-up at 6-week intervals over 6 months to ensure return to pain-free compound lower extremity movements with CrossFit training.