



- **FACT SHEET No. 21**

Patellofemoral Joint Pain

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One of the most long-lasting and troublesome knee conditions among adolescents and adults is patellofemoral pain (PFP). The prevalence of PFP among adolescents is 7 percent, and on average 9 percent of young adults will develop PFP during a two-year period.[1, 2] It is thus one of the most common knee conditions in both adolescents and adults and may account for up to 17 percent of all knee-related complaints seen in primary care settings.[3]

Diagnosis

Diffuse anterior knee pain that is aggravated by activities such as stair walking, jumping, running, and prolonged flexion during sitting is considered clinically to be PFP.[4] Patellofemoral pain is typically insidious in onset but might also present after an acute traumatic episode, such as falling directly on the knee.

“Patellofemoral pain” is an umbrella term used to embrace all peripatellar or retropatellar pain in the absence of other pathologies (e.g., meniscal injuries, tendinopathy, bursitis, and apophysitis),[5] and as such is a “diagnosis of exclusion.”

Treatment

The mainstay of treatment is exercise therapy, which is more efficacious than wait-and-see or placebo treatment.[3] Exercise therapy is often used in combination with adjunct treatments such as patient education, foot orthoses, or patella taping. The latest Cochrane review on treatment of PFP concludes that exercise **therapy** results in a clinically important reduction in pain and improvement in functional ability, as well as enhancing long-term recovery. [3]



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Prognosis

Patellofemoral pain should be considered more than a simple and self-limiting knee condition, because 40 percent will have an unfavorable recovery after 12 months,[6] despite treatment. This is true for both adolescents and adults.[1, 6] Patients with high pain severity, long pain duration, and low quality of life seem to have the worst prognosis, irrespective of treatment. This suggests that early referral to exercise therapy may improve the prognosis.

Importantly, clinicians ought to consider managing those with persistent severe PFP with low quality of life as they would a patient with any other persistent pain condition. Because unfavorable recovery and persistent PFP occurs in a significant proportion of patients, it is imperative to study how to identify and treat those at risk of poor outcomes. The best available evidence suggests that PFP and patellofemoral osteoarthritis may exist along a continuum. Patients' retrospective recall of PFP is associated with radiographic and MRI features of patellofemoral osteoarthritis,[7] but this requires further testing through prospective studies.

Psychosocial Factors

Patients with PFP have a different psychological profile than pain-free controls. More specifically, patients with PFP often report greater depression, anxiety, hostility, passive attitude and aggression/hostility, stress symptoms, low quality of life, and pain catastrophizing. These psychosocial factors are often overlooked, and current evidence-based treatments may not adequately target these psychosocial factors. Research into the psychosocial factors might elucidate reasons for persistent PFP and lead to improved treatments.

“Pain” in Patellofemoral Pain

Local mechanical hyperalgesia around the patella has recently been demonstrated in adolescent and adult females with PFP,[8, 9] while widespread mechanical hyperalgesia has so far only been found in young female adults.[8, 10] A recent study demonstrated that young female adults with long-standing PFP were characterized by impaired conditioned pain modulation (CPM) but not facilitated temporal summation of pain compared to pain free controls.[10]. An important finding from this study was the highly variable CPM mechanism. Some female adults with PFP had an efficient CPM system similar to pain-free controls, while others had a severely impaired CPM. This might suggest that central pain mechanisms may be a factor we need to consider among a subgroup of patients with PFP.

This area of research is still very much in its infancy, but the findings from patients with long-standing patellofemoral pain seem to resemble findings from other long-standing joint pain conditions such as knee osteoarthritis.



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