

Patellofemoral Joint Pain

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Latest Research

The latest research on patellofemoral joint pain (PFP) was presented at the Sports Medicine Australia Conference in Melbourne. Some of the more relevant information is provided below.

Causes of PFP: patients with PFP are not a homogeneous group. It appears there are several potential causes including: biomechanical & / or neuromuscular dysfunction (usually hip kinematics or subtalar joint control); anatomical (e.g. patellar shape &/or position; knee or hip varus / valgus); muscle or fascial tightness (particularly quadriceps or hamstrings, ITB); muscle weakness; hamstring timing dysfunction (between medial & lateral hamstrings – e.g. after hamstring ACL graft surgery); insufficient trunk (core) strength.

Role of VMO: traditionally the vastus medialis obliquus has been thought to selectively atrophy in patients with PFP. This has been found not to be the case. The quadriceps group atrophy as a whole when there is knee dysfunction or reduced mobility. However, there is some evidence that generalized atrophy alters VMO pennation angle, and this may affect patellar tracking. There is also inconsistent evidence that VMO 'timing' may be altered. In one study the VMO was found to fire late relative to vastus lateralis when subjects with PFP were descending stairs.

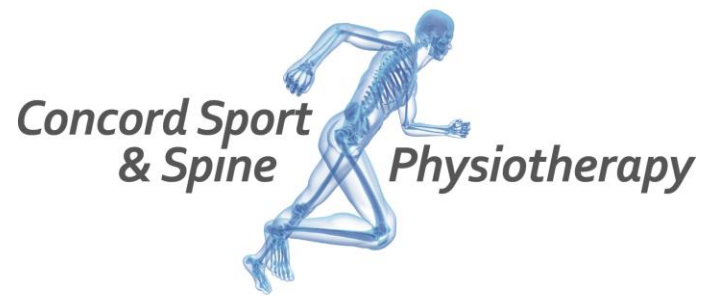
Role in knee OA: Up to 50% of patients with PFP develop persistent pain. It is possible that a significant proportion of these will develop degenerative changes over time. It is increasingly

recognized that the patellofemoral joint is a common source of symptoms in patients with generalized knee OA. While significant joint changes are often present with minimal symptoms in the tibio-femoral joints, this is much less common in the PFJ, where osteophytes are significantly associated with pain.

Management: the latest information on management of PFP is contained in the 2016 patellofemoral pain consensus statement from the 4th International Patellofemoral Pain Research Retreat, BJSM. The consensus is:

- Exercise is the gold standard treatment. Pain, other symptoms, and function all improved in the short, medium & long-term in those undertaking targeted exercise compared to those using other interventions. Research has shown that a combination of hip and knee strengthening is more effective than either treatment alone. Treatment 3 or more times per week was significantly more effective than less than 3 times per week.
- Taping. This has been shown to be a useful adjunct to treatment. As a stand-alone treatment the results are equivocal.
- Combined interventions of exercise, manual therapy and taping were more effective than any single intervention
- Foot orthotics were effective in the short-term but did not give medium to long term benefit.
- There was no demonstrable benefit for the use of electrophysical agents for PFP.

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