

Patellofemoral Pain Syndrome

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There is a lack of clear classification of PFPS. The term is a wastebasket term, which comprises several different entities. Therefore it seems appropriate to subdivide this broad group of patients into different groups with specific rehabilitation goals. The term anterior knee pain refers to pain within the anterior aspect of the knee including chondromalacia patellae, intra-articular patellar chondropathy, patellar arthralgia, jumper's knee, runner's knee, nerve entrapment or tight retinaculum. You can diagnosis PFPS if you exclude intra-articular pathology, tendinopathies, bursitis, plica syndrome, Sinding Larsen Johanson and Osgood Schlatter's lesions, Hoffa's disease, and other pathologies. Syndrome is an appropriate classification due to the group of symptoms and signs that characterize the abnormality.

Etiology of Anterior Knee Pain

The function of the PF joint can be characterized by a load/frequency distribution that defines a range of painless loading that is compatible with homeostasis of joint tissues. If too little or much loading occurs you may have loss of tissue homeostasis resulting in pain. Therefore the goal of treatment is to restore homestasis of the joint.

Evaluation

Restoring the correct postural alignment or movement is a prerequisite for a successful long-term non-operative treatment. Thus, it is evident that a dysfunction observed in malalignment needs to be treated first. Only after successful management of this dysfunction, other aspects of rehabilitation process like muscular strengthening seem advisable.

Patellar glide, medio-lateral tilt, antero-posterior tilt and rotation need to be examined. Find out if the malalignment is from a muscular or static structure.

Muscular dysfunction

Quadriceps atrophy has be found in many patients with PFPS. In several retrospective studies a loss of quadriceps strength has also been identified. SPecific, this has been noticed during eccentric contraction. The one legged hop test is a good functional test for this type of evaluation. When attempting to target the VMO for rehab, many studies have looked at this. Terminal extension exercises have not been shown to target the VMO. Studies have been unable to identify any exercises that specifically target the VMO. The only way to selectively target the VMO is through EMS at 30 degrees of knee flexion. Most

studies used 18 s stim with 25 s rest for 20 min 2 X per day at least 8 weeks to maintain a hypertrophic effect. Eccentric exercises should be incorporated to help with control of tracking as most often the lack of control occurs during this period.

Neuromuscular timing

It has been hypothesized that in PFPS patients the VL contracts before the VMO, contributing to a laterally directed force on the patella. In some patients a marked delay in VMO contraction can be palpated. Patellar taping has been found to help with the timing. The patient should engage in motor learning contraction at least 200 times a day.