

Orthopaedic Observations

A Matter of Medicine...

TM Pending

Clinical Tips in Orthopedics: “Thinking Outside the Box”

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Patellofemoral Pain and Associated Treatment:



More often than not, the first thing that comes to the treating clinician's mind when treating a patient with patellofemoral pain is strengthening of the vastus medialis and stretching the lateral retinacular tissue. What I have found over years of practice is to truly examine the arthokinematics of the tibiofemoral joint and how it

plays a role in positioning of the patella. I have found most often, especially in females, is that there is an improper positioning of the tibia in relation to the femur anteriorly. Improper positioning can occur in other planes although anterior tibial displacement appears to be the most common. This poor positioning is related to the weakness of the hamstrings as compared to the quadriceps. With this weakness, the hamstrings are unable to dynamically stabilize the tibia with a posterior force allowing the tibia to be positioned anteriorly in relation to the femur causing malalignment of the patella now altering the arthokinetics and osteokinematics of the patellofemoral joint causing pain. This coincides with the Mulligan Concept of “Positional Fault.”



Treatment (in proper order as listed) that can be utilized in this case is simple and has worked more often than not with immediate results:

1. **Posterior Tibial Glide:** Sustained at around 15-20 degrees of flexion with bolster under knee.
2. **Posterior Tibial Glide MWM (Mulligan Concept):** This can be performed using a variety of different techniques. Most importantly is that it is performed pain-free. I prefer to set up the technique with the patient supine in approximately 15-20 degrees of knee flexion with bolster under knee. A sustained posterior tibial glide is performed while the patient actively performs a quad set attempting to compress bolster. A 5-10 sec. hold is usually an accepted time frame. Repeat 5 times as tolerated.

3. **Unilateral Bridging - Preferably 10” x 10.** (Hamstrings reinforcing tibial position).
4. **Manually Resisted Knee Flexion (Prone) - 3 x Failure**
5. **Therapeutic Exercise -** Avoidance of quadriceps dominant exercise. (Preferably free-standing squats and lunges are these are most beneficial and functional).

Upper Trapezius Spasm / Increased Tone and Associated Treatment:

First and foremost with any pathology, according to Dr. James Cyriax, treatment must be directed at and must reach the source or root of the problematic tissue. Treatment poorly directed will yield poor results and prolong the rehabilitative process.



In the case of a patient presenting with increasing tone/spasm of the upper trapezius with associated pain the treating clinician may commonly perform effleurage / petrissage, myofascial release, or trigger point release to the upper trapezius.

I do believe that for the most part that the upper trapezius itself is very seldom injured and that the increased tone/spasm and associated pain are secondary to another pathology being either cervical and/or the glenohumeral joint and scapulothoracic articulation. I believe that there is a better way of treatment in regards to tone/spasm. When is spasm the upper trapezius can be extremely sensitive even to light touch. Trigger point release in my opinion is a poor choice and will more often than not cause further pain especially if cervical pathology is present because of the upper trapezius attachment on the nuchal ligament of the spinous processes of the cervical spine and occiput. In the case where a conservative approach of petrissage/effleurage and myofascial release are not tolerated secondary to pain another treatment technique may be utilized.

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Typical Treatment and Rationale:



A typical treatment technique that can be utilized that will immediately cause a decrease in tone of the upper trapezius is a simple anterior to posterior glide of the sternoclavicular joint. The clinician will stand at the head of the table with the patient supine. This posterior clavicular head mobilization is performed for 15 seconds and repeated 4 times. Only a grade I or II is needed with particular attention to the integrity of the anterior/posterior sternoclavicular ligament and the interclavicular ligament.

The rationale is basic. The upper trapezius and sternoclavicular joint arise from from the same embryological derivation, that of C4. When the sternoclavicular joint is compressed or hypomobile secondary to the commonly seen “rounded shoulder” posturing there will be an increased tone of the upper trapezius. When proper mobilization of this joint is performed the sternoclavicular joint will respond immediately with increased mobility and the tone of the upper trapezius will in-turn decrease. Obviously, other treatment for the underlying pathology is also warranted.

As a multiple academic award recipient, William J. Coon graduated from Central Connecticut State University with a degree in Athletic Training/Sports Medicine in 2001. He is a Licensed Athletic Trainer, Licensed Physical Therapist Assistant, Certified Strength and Conditioning Specialist, and Licensed Emergency Medical Technician. He also serves as a Certified Examiner for the NATA Board of Certification and is a Clinical Instructor for Athletic Training/Sports Medicine students. William is a member of the American Physical Therapy Association, National Athletic Trainer's Association, American College of Sports Medicine, and the Phi Theta Kappa International Honor Society. He has specialty training in the Mulligan, Cyriax, and Kaltenborn Concept of joint mobilization/treatment techniques. He published two articles in 2007 with emphasis on the Mulligan Approach in treatment of the tibiofemoral joint and cervical spine.