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## **Patellafemoral Pain Syndrome: An Associated Disorder or Medical Problem?**

By Joseph D. Kurnik, DC

There is no clear consensus in the literature concerning the terminology, aetiology and treatment for pain in the anterior part of the knee. The term 'anterior knee pain' is suggested to encompass all pain-related problems. By excluding anterior knee pain due to intra-articular pathology, peripatellar tendinitis or bursitis, plica syndromes, Sinding Larsen's disease, Osgood Schlatter's disease, neuromas and other rarely occurring pathologies, it is suggested that remaining patients with a clinical presentation of anterior knee pain could be diagnosed with patellofemoral pain syndrome (PFPS). Three major contributing factors of PFPS are discussed: (1) malalignment of the lower extremity and/or the patella: (2) muscular imbalance of the lower extremity: and (3) overactivity.

The above excerpt was the opening statement of a review article in *Sports Medicine*, October 28(4): 245-262, authored by Roland Thomee, Jesper Augustsson and Jon Karlsson.

The article identified the pathologies that can generate anterior knee pain:

- cartilage damage;
- menisci, ligament and capsular damage;
- sequelae after patellar fracture, dislocation or subluxation;
- sequelae after knee surgery;
- quadriceps tendinitis;
- iliotibial band friction syndrome;

- pre-and infrapatellar bursitis; and
- pesanserinus bursitis.

The authors made it clear that medical science does not have an answer as to the causes of anterior knee compartment syndrome not arising from the preceding pathologies. They do speculate nonpathologic causes as being related to lower extremity misalignment, muscular imbalance of the lower extremity, and overactivity.

With regard to misalignment, it is well known that foot pronation or supination will change patella stress and possibly position. With regard to muscle imbalance, it is known that hypertonic quadriceps status will cause increased tension at the pre and infra patellar regions, as well as increasing patellar compression against the underlying articular cartilage. Overactivity in conjunction with patellar subluxation, stress or compression will naturally lead to increased potential for anterior knee complaints -this is common sense.

A few interesting questions or issues arise within this milieu of statements:

1. How does the position of chiropractic compare with that of medicine in identifying causes and treatment of PFPS?
2. Are pathologies previously identified isolated pathologies, or are they the result of the stresses of muscle imbalance and patellar misalignment?

With regard to the first issue, there is a monumental difference in understanding and potential for treatment. This past statement may sound dramatic and sensational, although it is not intended to be so. In the field of traditional medicine, what will be done to remedy muscle imbalance and patellar subluxation? Ultrasound, exercise, stretching, electrotherapy, splinting, etc.? These will help to improve muscle imbalance, but to what extent and for how long? In the field of chiropractic, there exists the same therapeutic approaches. Both professions, therefore, incorporate therapies, exercise, and sophisticated rehab techniques. It seems, however, that PFPS has not been treated and rehabilitated with significant success by either profession. I can only suggest that approaches to treat PFPS are more similar than dissimilar by both professions (excluding exceptional therapies like applied kinesiology and other unique and non-traditional approaches).

It is my observation that chiropractic is missing a unique opportunity to move ahead of this stalemate and therapeutic position, by viewing PFPS as a spinal and sacroiliac-associated disorder rather than as an isolated extremity disorder.

In previous articles for DC, I have tried to present some facts, premises, ideas, and hypotheses concerning the following relationships:

1. Relationships between the spine and sacroiliac functioning:

1. that occiput and spinal dysfunction can and *do* cause SI adaptation dysfunctions:

- i.) AS ilium fixations (sacral counter-nutation).
- ii.) PI ilium fixations (sacral nutation).

2. With AS ilium fixations, muscle imbalances do occur:

- 1. gluteal hypertonicity and irritation
- 2. *hip flexor hypertonicity and irritation*
  - i.) proximal flexors-iliopsoas
  - ii.) *distal flexors-rectus femoris, gracilis, adductor magnus*
- 3. *knee extensors-rectus femoris*

*These muscle groups, because of their hypertonicity, have become contracted and shortened; thus pulling at origin and insertion points.*

3. *These hypertonic muscles can cause:*

- 1. *hip complaints - hip is compressed between flexors and extensors*
- 2. *groin complaints - strain at hip flexor origin and insertion*
- 3. *ischial complaints - hamstring origin tension*
- 4. *quadriцеп, hamstring, hip flexor, gluteal complaints - hypertonic, contracted, and strained status*

5. *knee complaints, anterior and posterior - hip flexor/leg extensor tension and shortening*

6. *ankle/foot complaints*

4. *Properly correcting the SI disorders can spontaneously correct and clear the associated complaints listed above. These are in the form of AS ilium fixations, which are most often reactions to lumbar and thoracic disorders.*

5. *If spinal/sacroiliac abnormalities and their associated disorders exist long enough, the correction of the spine/SI malfunctioning may not be possible. However, they set up the need of for more complete and longer-lasting resolution of associated disorders through other therapeutic approaches. (stretching, rehab. techniques, electrotherapy, myofascial release, ultrasound etc.).*

6. *I am advocating a more thorough consideration of viewing certain nonspinal problems, like PFPS, as associated disorders. That is, disorders such as PFPS can have an origin in spinal and sacroiliac dysfunction. The treatment for such associated disorders must include, primarily, correction of the spinal and sacroiliac dysfunctions.*

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