

Anterior Femoral Glide Syndrome

I am not a chiropractic philosophy writer, but once a year my editor cuts me a little slack. If I am a good chiropractor, it's because of my failures. I learn the most from the patients that I couldn't help initially, the tough cases, the ones that I racked my brain to figure out what I am missing.

These tough cases, the ones where you have to think out of the box, are the ones that push you, if you are willing. It's easy to just keep adjusting them, work out the same trigger points, and convince yourself that one more or ten more treatments will solve the problem, but that doesn't usually work. A recent study published at Chiropractic and Osteopathy, an outcome study, tells us that we can predict by the second visitⁱ which patients will respond best, at least in lower back pain. The study implies, at least to me, that when the patient is not improving quickly, you have to look with new eyes. What I would suggest is you have to do is go back, re-examine them, and think of the whole kinetic chain, and maybe even the biochemistry and underlying emotional pieces.

At the bare minimum, I believe we need to be experts not only at manipulation, but also at addressing soft tissue and rehabilitation. If the goal is to restore more normal motion, thus improving function, and reducing pain, all three of these pieces are necessary.

An accurate musculo-skeletal diagnosis includes not only what joint is not moving, but what joint is moving too much, what tissues are the pain generators, what movement or lack of movement is stressing the pain generator. Shirley Sahrman statesⁱⁱ “a joint develops a directional susceptibility to movement, which then becomes the “weak link” and most often the cause of pain.”

We have to become more evidence based. At the same time, we shouldn't become handcuffed to what is absolutely certain. Musculo-skeletal research is difficult to do, and its particularly difficult to look at the big picture, the integration of the multiple factors that can contribute to ongoing or recurrent pain syndromes. As Craig Liebenson statesⁱⁱⁱ, “Lack of evidence of effectiveness is not the same as evidence of ineffectiveness. According to Lewit we work at the level of acceptable uncertainty.”

Anterior Femoral Glide Syndrome

Many of you have followed my interest in the hip joint. I am grateful for the contribution of Lucy Whyte Ferguson, DC. Even using trigger point work, and manipulation of the hip with the wishbone maneuver, as outlined by Dr. Whyte Ferguson^{iv}, I found too many patients' hip problems recurring, and too many on whom I could not consistently restore normal motion.

I was introduced to a model from Shirley Sahrman that made sense of the two patterns that I have seen in the hip. She calls it the Anterior Femoral Glide Syndrome, and mentions an internally rotated version and an externally rotated version.

Sahrmann's model talks about what accessory movements are dysfunctional. In the Anterior Femoral Glide Syndrome, during hip flexion, the proximal femur moves improperly. Instead of gliding posterior to provide room for the flexion, it glides anterior, jamming into the anterior hip capsule, and causing pain and limitation of flexion. What causes this? Sahrmann talks about familiar muscular imbalances. The hamstrings are too tight, and are not balanced by the gluteus maximus. During hip extension, the hamstrings create a bowstring effect, pushing the femoral head forward. The posterior structures around the hip are too tight, contributing to the anterior motion. The psoas is weak and long, allowing the forward motion, and not stabilizing the hip up into its socket. This view of the psoas is consistent with Sean Gibbon's point of view. He sees the psoas as a local and global stabilizer, likely to be inhibited.

Sahrmann looks at two versions of this hip joint problem. In the first, which she describes as more common, the femur tends to be medially rotated. This tends to occur more in females, and goes with genu valgum, and pronation, and anteversion of the hip. In this pattern, there is a clear dominance of the TFL over the gluteus medius, thus pulling the hip into medial rotation. The hip external rotators are likely to be weak. The medial hamstrings are dominant over the lateral hamstrings. When the patient stands on the affected leg, the hip is internally rotated. The hip rotates more easily into internal rotation, than external rotation. If you have the patient step up onto a step, you'll see a sudden medial rotation motion at the knee on the involved side.

The second version is the one I am more familiar with, perhaps because it is my own pattern. It involves an externally rotated femur, which lacks medial rotation. Its more of a male problem, and is consistent with a more rigid overall structure, which may include a supinated foot. Sahrmann states that the groin pain is more medially located in these patients. These are the patients that the wishbone maneuver, a mobilization with eccentric muscular activity^v, seems to be most effective for.

In both of these anterior femur problems, the pain is likely to start in the groin, and then spread to the whole hip. These patterns can be the missing link in lumbar and sacro-iliac conditions, as well as lower extremity problems.

Psoas, psoas, psoas

Weakness of the psoas is an important factor in these anterior hip patterns. Sahrmann talks about this, but her book is 7 years old now, and there is new research, and new methods to rehab the psoas. I recommend you read Sean Gibbons long article on the psoas^{vi}. I used to think of the psoas as an overactive hip flexor. I now think of the psoas as an inhibited lumbar spine and hip stabilizer. If the psoas is not able to contract in a timely manner, the femoral head will drop anterior and lateral, jamming into the hip capsule. Psoas weakness also plays into lumbar instability patterns. Gibbons model for testing the psoas involves testing lumbar stability, and seeing if psoas contraction can change the palpatory feel of lumbar hypermobility. I suspect that we can test the psoas in a different way, testing the effects of psoas weakness on the insertion rather than the origin.

Here is my hypothesis about another way to test the psoas. If the patient has a hard time flexing the involved hip, teach them to contract the psoas, ideally both supine and sidelying. Have them fire the psoas for a few repetitions, correcting for substitution, and not overfiring. Local stability exercises often feel so mild that the patient wants to work too hard. To understand this model of how to rehab the psoas, see my description below, see Gibbons article, and/or print the handout from (http://www.marchellerdc.com/pro_resources/Articles/#Ex)

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First the patient has to understand the exercise, and be able to do it at least close to correctly. Then have them hold this mild psoas contraction supine, and simultaneously flex the hip, either passively or actively. If this makes the hip easier to flex, with less of a groin pinch, it shows that the psoas is dysfunctional, and needs rehab. I love to show my patient's exercises that make an immediate difference in their symptoms or signs. It's the best rehab motivator I know.

The basic exercises to retrain or recruit the psoas are deceptively simple. Suck the hip gently up into the socket, using primarily the psoas. The doctor should initially provide a gentle traction down the long axis of the hip, to increase proprioception. Here's the tricky part. You have to suck the femur up into its socket, without hiking the hip; which indicates overactivity of the iliocostalis lumborum and/or quadratus lumborum. You have to activate the psoas without overactivating the TFL and/or rectus femoris. While lying supine, raising the upper body up onto the elbows may help take out the hip hikers. Externally rotating the thigh may help take out the TFL and/or rectus femoris. It's OK initially to fire the rest of the inner core while activating this, using the pelvic floor (kegel), the lower abs, and the multifidi. The local stabilizers are all going to inherently co-contract. The goal, ideally, is to isolate the psoas as much as possible. Another good position for psoas rehab is side lying, drawing the hip into the socket. In this position the key is to control pelvic rotation. Personally, I found these exercises both somewhat difficult to learn and rewarding. Once you have the basic motion down, you can integrate it into more global hip flexion.

Another Hip Mobilization Method

One aspect of this problem is that, as the distal part of the femur flexes, the proximal part, the convex femur head in the concave acetabulum, has to rotate and glide in an inferior direction. If this doesn't happen, you get that feeling of jamming in the groin. One way to correct this is via the Mulligan concept^{vii}. Mulligan's model basically says, find a direction of passive pressure (applied by either the doctor or the patient) that allows more joint motion, and repeat that "assisted" motion over and over, to reset the neuro-muscular system. In this case, a superior to inferior pressure on the proximal hip

usually allows easier hip flexion. You can provide this with manual pressure; you can use a wide belt to pull the proximal hip inferior. You can follow this with a home self mobilization. The patient can use the heel of their own hands, pressing inferior while they lift the leg. The patient can use a belt, strapped from the involved groin down to the opposite foot, to provide the same superior to inferior pressure while flexing the hip. These simple techniques often have dramatic benefit. Try them.

We've explored the Anterior Femoral Glide Syndrome, briefly looking at Shirley Sahrman's view of the imbalanced musculature. We've referenced the wishbone maneuver, Lucy Whyte Ferguson's mobilization for these hip problems. We've attempted to give you a different picture of the psoas, not as a tight hip flexor, but as a weak or inhibited hip and spinal stabilizer. We've outlined how to rehab the psoas. We've introduced a Mulligan style method of mobilizing the hip to free up hip flexion. Have fun integrating these, your patients will thank you.

Marc Heller, DC

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The Nordic back pain subpopulation program: predicting outcome among chiropractic patients in Finland

Stefan Malmqvist , Charlotte Leboeuf-Yde , Tuomo Ahola , Olli Andersson , Kristian Ekstrom , Markku Turpeinen , Harri Pekkarinen  and Niels Wedderkopp 

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ⁱⁱ Sahrman, Shirley A., *Diagnosis and Treatment of Movement Impairment Syndromes*, Mosby, 2002

ⁱⁱⁱ Liebenson, Craig, 10-30-08, comments on Spinedoc web discussion group

^{iv} Whyte Ferguson L. Knee Pain, Addressing the interrelationship between muscle and joint dysfunction in the hip and pelvis and the lower extremity. *Journal of Bodywork and Movement Therapies*, 2006;10:287-296.

^v Heller, Marc, "The Hip Joint: Myofascial and Joint Patterns."

Dynamic Chiropractic, May 7, 2007. www.chiroweb.com/archives/25/10/11.html.

^{vi} <http://www.kineticcontrol.com/documents/others/FunctionofPsoasMajor.pdf>

^{vii} <http://www.bmulligan.com>