



## An Essential Understanding of the Psoas Muscles

### Upgrading the Approach to Tight Psoas Muscles

© 2010 Lawrence Gold  
1/25/2010 1:47 PM



**T**o begin, let's say that an essential understanding of the psoas muscles means a basic understanding of their function. **Basic**, in this sense, means easy to understand, and **function**, in this sense, means more than what *they* do; it means what they enable *you* to do. So, this piece presents a simple, easy understanding of what your psoas muscles enable you to do and how tight psoas muscles interfere with your overall movement. It also points you to an effective way to free your psoas muscles.

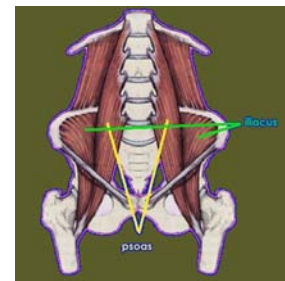
What your psoas muscles enable you to do is maintain your uprightness in sitting, your spinal alignment and balanced equilibrium when standing, and your efficiency of movement walking and running.

That understanding simplifies our understanding of what goes wrong when the psoas muscles go wrong and improves our approach to setting things right.

Having made such a statement, I will, of course support it. But first, I have to lay some groundwork.

#### "PSOAS" OR "ILIOPSOAS"?

Sometimes, one name is used, and sometimes, the other. The psoas muscles share a common tendon and end-point with the iliacus muscles, which line the inside of the pelvis, so the combination is called, the "iliopsoas" muscle. For brevity, I use the term, "psoas muscle".



#### ECONOMICAL MOVEMENT

"Economical", in this sense means, "getting the intended (not the most) result with the least effort." Where tension and movement are concerned, more is not necessarily better; *more efficient* is better.

The word, "graceful", applies, here. Graceful movement is economical movement; awkward movement is uneconomical or ungainly movement. Graceful movement conserves effort; ungainly movement wastes effort.

For movement to be economical, it must be well-balanced and well-coordinated.

The psoas muscles, being most centrally located as the deepest muscles in the body, help control the shape of the spine. By controlling the shape of the spine, they control our balance -- how the centers of gravity of our major segments – head, thorax (or chest), abdomen and legs – line up.

To the degree that our movements cause these centers of gravity to line up vertically (when standing), to that degree, we have balance. To the degree that we have balance and precise responsiveness (accurate movement and good timing), we have economical movement. Tight psoas muscles distort the spinal curves, shorten the spine, and cause ungainly (chunky, heavy, labored, awkward) movement. To the degree that the spinal curves are distorted, our alignment is distorted and to that degree, we are out of balance and our movement is un-economical/wasteful of effort.

#### ACTIVITY AND REST: MUSCLE TONE

The term, “tone”, refers to the level of muscle tension: complete rest means zero muscle tone; complete activation means maximum muscle tone. Some people believe that the higher the tone, the better. As you will see, where tone is concerned, more is not necessarily better; better controlled is better.

The psoas muscles help regulate our changes of position as we move from rest into activity and from activity into rest by changes in their tone. They help maintain our balance and stability in those positions. That means they are central to movements from lying to sitting, from sitting to standing, and from standing to walking and running. If their tone is too high, they interfere with balance and stability as we move into different positions; their tone is almost never too low, and if so, usually indicates either neurological damage or a need to learn basic control.

With changes of position, the activity level of your psoas muscles changes, as follows.

- From Lying to Sitting

At rest or in repose, your psoas muscles have no job to do and should be at rest.

Your psoas muscles connect your legs to your trunk. When you move from lying to sitting, your psoas muscles help hold and move your legs as counterbalances, plus they help provide a sufficiently stable core as you move to the upright position.

Overly tight psoas muscles create groin pain or deep low back (lumbopelvic) pain when changing position from lying to sitting. You may have the experience of a groin pull or of muscles seizing up in your pelvis or low back.

- **When Sitting**  
Your psoas muscles connect your groin to your pelvis and low back and stabilize your balance in the front-to-back direction; your brain adjusts their tone for the right amount of front-to-back stability under the pull of gravity.

Overly tight psoas muscles that create too deep a fold at your groin and too much back arch contribute to groin pain and back muscle fatigue and soreness.

- **From Sitting to Standing**  
As you move from sitting to upright standing, your psoas muscles must relax and lengthen to permit movement to a larger angle between legs and trunk.

Overly tight psoas muscles, which connect your groin to your spine, prevent you from coming to a fully erect, balanced stand. They hold you in a subtle crouch at less than your full stature, but you may not recognize it because you're used to it – except that you hurt!

- **When Standing**  
Your psoas muscles' well-regulated tone helps your back muscles to erect your spine to its full stature so you stand tall, with minimal lumbar curve. Through your psoas muscles, your brain adjusts your spinal curves (and balance) as you lean forward or back, side-to-side, and as you twist and turn.
- Overly tight psoas muscles don't lengthen enough as you stand straight; they pull from your groin to your low back, causing lumbopelvic or lumbosacral pain, a "pubes back" position, and excessive lower back curve. Your butt sticks out.
- **From Standing to Walking**  
As you start to walk, you shift your weight onto one foot; the psoas muscles on that side relax and your psoas muscles on the other side tighten to help you step forward. A more detailed description exists <http://ezinearticles.com/?The-Psoas-Muscles-and-Abdominal-Exercises-For-Back-Pain&id=102447> here. Your psoas muscles should freely alternate, side-to-side, between higher and lower tone as you walk or run.

Overly tight psoas muscles shorten your stride and require your hamstrings and gluteus medius muscles to work harder to bring your "standing" leg back as you step forward. You end up with tight hamstrings and tight gluteus medius muscles (hip pain in back). In other words, your brain has learned to hold your psoas muscles at a level of tension that's connected to the tension of other muscles. You can't change one without changing the other because it's the pattern that your brain is maintaining; to change one, you have to change your entire pattern, or at least enough of it that you change your sense of movement. That kind of change doesn't occur "by deciding to move differently"; when you're

walking, you can't conveniently put that kind of attention into your movements; you have to make it automatic, and there's a process for that, mentioned below.

In actuality, most people never experience complete rest or complete activation; they're stuck with elevated muscle tone somewhere in between, stuck with limitations of movement and posture, stuck with ungainly movement (taken as normal "individual differences"), stuck with some degree of muscle fatigue (often mistaken for weakness).

The reason: muscle memory.

## MUSCLE MEMORY

People may attribute consistent tight psoas muscles to muscle memory.

But neither the psoas muscles nor any other muscle in the body has a memory. Muscles have no control of their own. Memory resides in the nervous system as a whole; the nervous system controls the muscles to coordinate movement and maintain balance, something no muscle can do on its own. No muscle controls any other muscle; the nervous system does that. To do that, it remembers (or we remember, at a subconscious level) what movement and balance feel like and it coordinates (we coordinate) our movements to recreate and maintain those familiar sensations of movement and balance.

## COORDINATION

Muscles never work alone; they always work in concert with other muscles. What any muscle does affects our entire balance. Other muscles have to compensate for those effects on balance by tightening or relaxing.

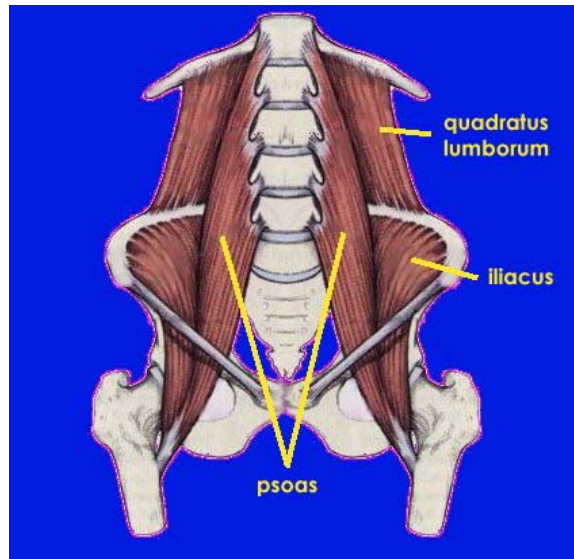
Your brain controls these entire patterns of movement and compensation with memories of movement ("muscle memory"). To be more accurate, the term, "muscle memory" should be "movement memory".

Because your nervous system and muscular system cooperate as a whole, to try to change the movement and tension behavior of tight psoas muscles without changing the larger movement pattern of which they are a part is to work against the rest of the system and its (our) memory of how movements go and feel.

That's why methods of muscle manipulation (e.g., massage, myofascial release, stretching) produce changes that are either temporary or slow in coming – and why psoas release by manipulation is painful: it works directly on sore, contracted psoas muscles against the conditioning of the entire movement system.

## CORE

When people speak of the “core”, they usually mean the muscles of the abdominal wall. But how is that the “core”? The core of anything, such as the Earth or an apple, is its centermost part. The psoas is a core muscle (as are the diaphragm, quadratus lumborum, iliacus and other muscles closest to bone); the abdominal muscles are “sleeve”, to use a term used by rolfers (no one else seems to have recognized the distinctions).



Your brain coordinates the movements and tone of your psoas muscles closely with those of your other muscles and its tone changes as theirs changes. That's what's meant by “supple.” Supple psoas muscles have the sensation of spaciousness and freedom at your body core. The term rolfers use is, “open core.” When psoas muscles do their job of stabilizing the spine, they relieve the abdominal wall muscles of some of that task; your abdominal muscles have the sensation of relaxation and free breathing. The term rolfers use is, “free sleeve.”

Healthy psoas functioning gives the experience of “open core, free sleeve.” Open core/free sleeve is the feeling of trunk/spine length, flexibility and stability.

## SUMMARY

So, having gone through all of these aspects of psoas muscle functioning, we can see that efforts to free the psoas muscles without also improving their coordination with the rest of the musculature are grounded in, let's say, a partial understanding of how they function.

What's needed, of course, is to learn economical movement from rest to sitting, from sitting to standing, from standing to walking (and by extension, to running); and economical equilibrium sitting and standing. It's economical movement and economical equilibrium that free tight psoas muscles into suppleness. Such learning involves changing the brain's sense of what the tone of one muscle should be in relation to the tone of other muscles with which it coordinates. It's a retraining process – and one quite beyond the scope of an article, but which can be introduced by [http://somatics.com/psoas\\_muscle\\_pain\\_treatment.htm](http://somatics.com/psoas_muscle_pain_treatment.htm)

That means that “psoas release” techniques, “psoas stretches”, and psoas strengthening approaches need movement education (known as “somatic education,” which involves brain-muscle training) to produce the result they seek – a stable change of psoas movement and regulation of tone.

Somatic education is, in most cases, sufficient by itself to free tight psoas muscles and end groin pain; in people working with a physical therapist, somatic education complements soft-tissue manipulation, reduces the pain of therapy, and speeds progress.

Finally, this article doesn’t address the origins of psoas muscle tightness in injury and stress conditioning. For that, read **Freeing Tight Psoas Muscles | The Well-Tempered Psoas | The Inner Psoas**. (If you are viewing this article on a computer, click the bold words to view the next article. Otherwise, it’s at [lawrencegoldsomatics.blogspot.com/2010/01/inner-psoas-well-tempered-psoas-freeing.html](http://lawrencegoldsomatics.blogspot.com/2010/01/inner-psoas-well-tempered-psoas-freeing.html)).