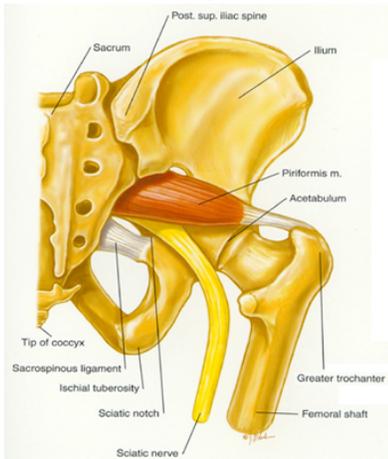
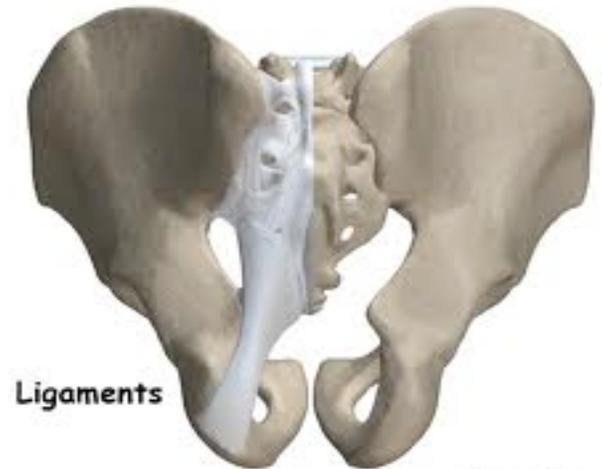


Balancing Hip and Pelvis Rotation Patterns

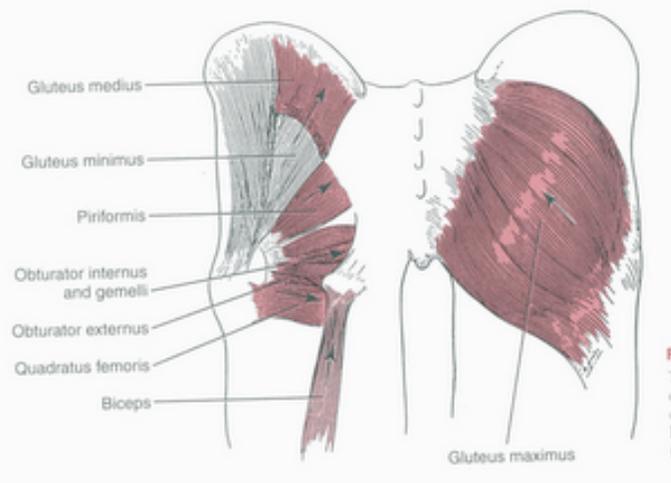
With some patients it is common for them to have reduced hip or thigh internal rotation, which may be only on one side or less commonly on both sides. This can be found when attempting to rotate not just the foot but the whole leg inwardly and comparing one to the other side. In some instances the whole pelvis can be rotated and you may find that on one side one leg cannot easily turn in and on the other side the leg does not easily turn out. With ballet dancers or patients with chronic pelvis or sacroiliac joint instability you may find that both legs do not adequately have good turn in.

The sacroiliac joints are unusual because they are two joints with one bone in the middle, represented by the sacrum connecting to the right and left ilium (or iliacs). Most joints of our body have only two separate bones and that is why with one bone in two joints, one side of the sacroiliac joint can commonly affect the other side. The back (posterior) portion of the sacroiliac joint supports the whole weight of the body from above which includes the weight of the head, arms, ribs, organs, and circulatory fluids. That is why this joint has the strongest ligaments in the body of any joint and is supposed to be both structurally sound and stable.



With some patients if their sacroiliac joint is unstable muscles such as the piriformis or gluteal muscles will contract to help support the front and back of the joint. When a joint is unstable the body will often recruit muscles to help with the support. However in order to be supportive the muscles will sacrifice their flexibility and strength to some degree. When the muscle maintains its contraction for a long period of time the connective tissue and fascia (tough thin fibrous covering of muscles) will shorten to match how the body is arranged. This type of pattern will then commonly restrict inward rotation of one (most commonly) or both hip joints and legs.

The inside of the sacroiliac joint can be supported by contraction of the piriformis muscle whereas the gluteal muscle group when contracted can support the back portion of the sacroiliac joint. When these muscles contract it causes the thigh and leg to turn outward on that side. Sometimes it is possible that the outward thigh rotation can be caused by a foot, leg, knee or thigh injury, causing this pattern of imbalance to spiral upward to the hip and sacroiliac joint instead of spiraling downwards.

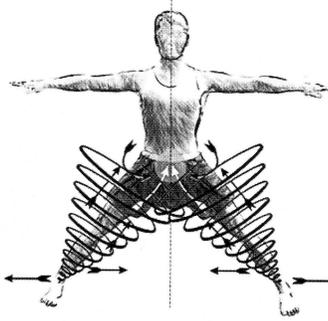


Balancing Hip and Pelvis Rotation Patterns (Continued)



Ideally what we prefer for the body, its hips, thighs and legs, is balanced inward and outer movements. But to understand how we need to stretch or rehabilitate a leg with restricted inward rotation we need to understand that the covering of our muscles, the fascia, does not connect from one bone to the other in straight lines but instead in spirals. For instance, the fascia of the thigh and leg spirals similarly to what we see with the historical representation of a barber pole

When we look at the body we want the legs and thighs to have symmetry in inward and outward rotation.



Inward Spiral



Outward Spiral

One easy type of stretch is the beginning position of the mermaid pose in Pilates method of exercise. The goal is to attempt to have inner rotation of the hip, thigh and leg on the side that is restricted and increase outer rotation on the opposite side. The exercise starts with the side with good inner rotation brought with the heel toward the groin (*in the picture below this is the right leg*), the patient then leans towards that right side and brings the leg that has restricted inward rotation (*in the picture below this is the left leg*) backwards with the foot flexed and not pointing downward.

At this point the patient slowly and gently attempts to sit up straight on their “sit bones” or pelvis. With severe hip restriction on the left side, as shown in this picture, sometimes sitting up straight will not be possible. It is important not to force yourself to sit up and to not continue if you start getting pain on the inside of the knee on the side that you bring backward (*such as the left side in this picture*). Once you can find some comfort then you can sit in this position for as long as you can possibly which can be 15 minutes or more. While you are in this position it can help to massage parts of the hip or muscles that feel tight or painful.



It is important if you have restricted inner rotation on only one side that you do this exercise only on that one side only. If you have restricted inner rotation on both sides then you will need to do this on both sides. **CAUTION: Do not continue this exercise if you have ongoing inner knee pain or your hip becomes more painful.** Call Dr. Blum at any time if you have any questions or concerns. 310-392-9795.