



effective techniques for your clients' hip joint & pelvis are essential to your practice.

stretching the hip

Two main focuses exist for most disciplines/professions in the world of physical bodywork. The first is to strengthen weak musculature. This is certainly the major focus of athletic trainers, Pilates instructors, and many physical therapists, chiropractors and yoga instructors. The second focus is to relax, stretch and lengthen taut soft tissues. This is the main focus for many massage therapists.

When assessing which taut tissues of a client need to be stretched, it's wise to pay special attention to the musculature and other soft tissues of the hip joint. While the hip joint is often recognized as the locus of motion of the femur, its greater functional importance lies in the effect it has on pelvic posture and function and, indirectly, spinal posture and function.

Tight and taut sagittal plane hip joint tissues that lock a pelvis into anterior tilt result in a *hyperlordotic* lumbar spine, while those that lock a pelvis into posterior tilt result in a *hypolordotic* lumbar spine. Neither extreme is healthy. When frontal plane soft tissues of the hip joint create a postural distortion, a compensatory spinal scoliosis usually results. Similarly, imbalances of transverse plane medial and lateral rotation musculature at the hip joint can produce a posturally rotated pelvis that can

lead to rotational distortions in the spine. (See the box on page 172 for a link to more information about this.)

Clearly, the pelvis and spine are inextricably linked. For this reason, effective techniques for the hip joint and pelvis are essential to your practice. This article presents a set of stretches of the hip joint that can be employed with clients experiencing pelvic and lower back restrictions. Of course, as with any modality that is directly or indirectly applied to the spine, be sure that the client does not have any pathologic conditions such as advanced degenerative arthritis or disc problems that may contraindicate therapy.

Lateral line stretches

A lateral line stretch works all soft tissues that run on the lateral side of the hip joint, which include the gluteus medius and minimus, tensor fasciae latae, sartorius, upper fibers of the gluteus maximus, and the outer fibers of the hip joint capsule and ligaments.

Figure 1 illustrates a side-lying lateral line stretch in which the therapist's right hand is moving the client's right thigh into adduction. This stretches all abductor musculature of the client's hip joint, as well as its lateral

capsular fibers and ligaments. Just as crucial to an effective stretch is the placement of the therapist's stabilization hand. It's placed on the iliac crest, pinning the pelvis so that the effect of the stretch is applied only to the tissues between the two hands. If the stabilization hand is moved up onto the client's lower ribcage (Figure 1b), the stretch will include the lateral tissues of the abdominal/lumbar region. Figure 1c shows the stabilization hand at the top of the client's trunk. This expands the stretch to include all lateral line tissues of the hip joint, lumbar spine and thoracic spinal regions.

When performing a side-lying lateral line stretch, it's extremely important that the client's hips are stacked one on top of the other (Figure 1). Unstacked hips will result in a torque being placed upon the lumbar spine, which could be injurious to the low back.

Figure 2 illustrates an alternative position for the lateral line stretch. Here the client is supine with the lower extremity to be stretched placed under the other lower extremity. The therapist holds the client's distal leg (Figure 2b) and brings it toward himself, stretching the client's thigh into adduction, thereby stretching the abductor musculature of the hip joint along with all other lateral tissues. Some people like to place a small towel for cushioning between the therapist's hand and the client's upper leg.

As with the side-lying lateral line stretch, the therapist's stabilization hand is placed on the client's iliac crest (Figure 2c), pinning the pelvis and focusing the stretch to the tissues that cross the hip joint. If the stabilization hand is placed higher on the client's ribcage (Figure 2d), the lateral musculature of the abdominal/lumbar region will be included in the stretch. One advantage to the supine lateral line stretch is that keeping the hips stacked is not a concern.

Anterior line stretches

An anterior line stretch works all soft tissues that run on the anterior side of the hip joint, including the tensor fasciae latae, rectus femoris, sartorius, iliopsoas, pectineus, adductors longus and brevis, gracilis, anterior fibers of the gluteus medius and minimus, and the anterior fibers of the hip joint capsule and ligaments.

Figure 3a shows a supine anterior line stretch with the client lying far to one side of the table with the thigh being stretched hanging off the side of the table. In Figure 3a, the therapist gently pushes the client's distal thigh into extension; this stretches all flexor musculature of the client's hip joint, as well as its anterior capsular fibers and ligaments. The stabilization hand is placed on the client's contralateral anterior superior iliac crest. This

pins the pelvis, focusing the stretch to the hip joint and preventing the low back from being arched. Figures 3b and 3c show two alternative anterior line stretches with the client side-lying. In Figure 3b, the therapist stands behind the client and pulls the client's thigh into extension and stabilizes the client's pelvis with the other hand. In Figure 3c, the client stands between the client's legs and uses his body to push the client's thigh into extension, again using the other hand to stabilize the pelvis.

One advantage of side-lying anterior line stretches is that the therapist has the ability to medially or laterally rotate the client's thigh that is being extended. By medially rotating the thigh as it extends, the stretch will be focused on the flexor muscles that are also lateral rotators, such as the sartorius and iliopsoas. By laterally rotating the thigh as it extends, the stretch will be focused on the flexor muscles that are also medial rotators, such as the tensor fasciae latae and anterior fibers of the gluteus medius and minimus. Side-lying also allows the therapist to better control the degree of flexion/extension of the knee joint. By adding more flexion to the knee joint, the rectus femoris will be preferentially stretched; by adding more extension to the knee joint, the rectus femoris will be slackened, allowing the other hip joint flexors to be preferentially stretched.

The disadvantages to these side-lying stretches is that it requires more effort on the part of the therapist to both stretch the client as well as stabilize the client's pelvis so that the hips remain stacked and the lumbar spine is not torqued. Consequently, these stretches may be difficult with larger clients. Furthermore, the stretch in which the therapist is standing between the legs of the client requires careful placement of the body, as well as trust and comfort between the client and therapist.

Posterior line stretches

Figure 4 illustrates supine posterior line stretches. Posterior line stretches—depending upon their angle of force—will stretch posterior tissues, including the hamstrings, adductor magnus, gluteus maximus, posterior fibers of the gluteus medius and minimus, and the deep lateral rotator group (piriformis, gemelli superior and inferior, obturators internus and externus, quadratus femoris), and the posterior fibers of the hip joint capsule and ligaments. Figure 4a shows a posterior line stretch in which the therapist brings the client's thigh into flexion and adduction. The additional component of thigh adduction is necessary because so many of the posterior muscles are abductors—gluteus medius and minimus, upper fibers of gluteus maximus, as well as most of the deep lateral rotator group when the thigh is first in a po-

1A



1B



1C

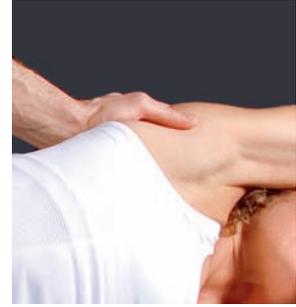


Figure 1. A side-lying lateral line stretch is shown.

A: The therapist's right hand is applying the stretch to the distal thigh of the client. Note the placement of the therapist's (left) stabilization hand upon the iliac crest of the pelvis. **B** shows placement of the stabilization hand upon the lower ribcage. **C** shows placement of the stabilization hand at the top of the trunk.

2A



2B



2C



2D

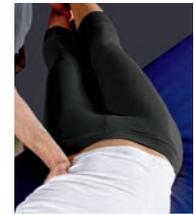
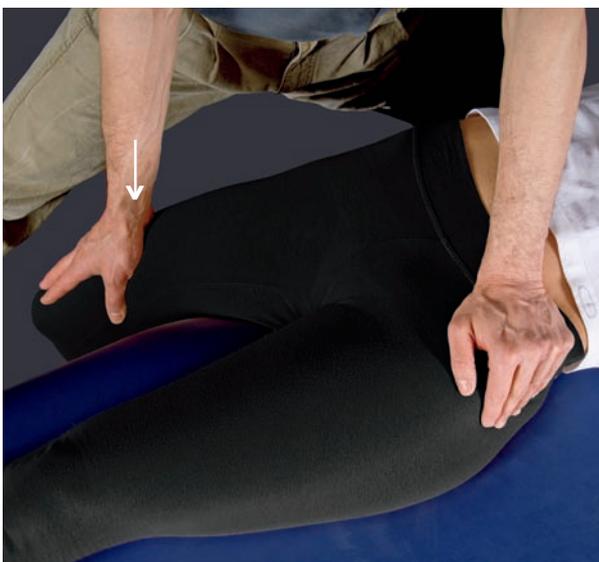


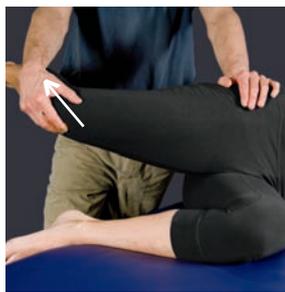
Figure 2. A supine lateral line stretch is shown.

A: The therapist's left hand is applying the stretch by moving the client's distal leg toward his side of the table. **B** is a close-up showing the placement of the therapist's hand; **C** is a close-up showing the placement of the client's stabilization hand on the iliac crest. **D** shows placement of the stabilization hand upon the lower ribcage.

3A



3B



3C



Figure 3 shows anterior line stretches. **A** shows the client supine with her thigh hanging off the table. The therapist gently pushes the thigh into extension and stabilizes her pelvis at the contralateral anterior superior iliac spine. **B** and **C** show two versions of a side-lying anterior line stretch; in each case, the client's thigh is moved into extension and the pelvis is stabilized.

4A



4B



4C

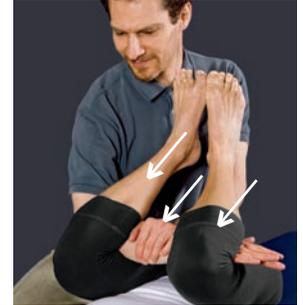


Figure 4. Posterior line stretches are shown. **A**, the therapist brings the client's thigh up into flexion and across the body into adduction, stretching the posterior muscles that are extensors and/or abductors. **B** shows the figure-4 posterior line stretch that is a particularly effective stretch for the piriformis. **C** shows the double knee to chest stretch that effectively stretches the low back as well as sagittally oriented posterior hip joint tissues.



The link between pelvic posture and the posture of the spine was addressed in greater detail in mtj's Summer 2006 issue. Visit www.amtamassage.org/journal/summer06_journal/pdf/BodyMechanics.pdf to read the article.

sition of flexion. Because there is no stabilization hand on the client's pelvis, it's important that the client's pelvis and trunk do not lift off the table, or the focus of the stretch will move from the posterior hip joint into the low back.

During this stretch, it's fairly common for a client to complain of discomfort in the anterior hip joint region at the sartorius or iliopsoas muscles. To avoid this, the therapist can first traction the client's thigh up in the air before pressing it down toward the other side of the body. If this doesn't work, it's often helpful to do a few minutes of soft tissue work anteriorly to the client's proximal sartorius and/or distal iliopsoas before trying the stretch. To prevent this problem, it's recommended to always perform the anterior and lateral line stretches before carrying out the posterior line stretch.

Figure 4b shows an alternative posterior line stretch, often called the *figure-4* stretch because of the position of the client's lower extremities. This stretch involves flexion and lateral rotation of the client's right thigh and is particularly effective at focusing the stretch at the piriformis. When the thigh is flexed, the piriformis

switches from being a lateral rotator to being a medial rotator; hence it is stretched by lateral rotation.

Figure 4c shows another posterior line stretch. This stretch is often called the *double knee to chest* stretch, and it's carried out purely in the sagittal plane (i.e., there is no adduction component). This stretch is less effective at stretching the gluteal and deep lateral rotator muscles, but can be more effective at stretching the low back if the client's pelvis is allowed to lift from the table (as seen in Figure 4c), and/or more effective at stretching the sagittally oriented hamstrings if the client's knee joints are extended (not shown in the photo). ■



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