

THE ESSENCE OF MOST MANUAL THERAPIES, and certainly clinical orthopedic massage therapy, is to loosen taut soft tissues, thereby allowing for greater freedom of motion.

Stretching the Low Back— THERAPIST ASSISTED AND CLIENT SELF-CARE STRETCHES FOR THE LUMBOSACRAL SPINE

CLINICAL ORTHOPEDIC MASSAGE THERAPY

The essence of most manual therapies, and certainly clinical orthopedic massage therapy, is to loosen taut soft tissues, thereby allowing for greater freedom of motion. Soft tissue manipulation is an extremely effective tool toward that end. However, its effectiveness is limited when it is the only therapy that is employed. Massage can help to break up fascial adhesions, and relax and loosen muscle tone. However, for these changes to be more effective and to last longer, it is important to also stretch the client's tissues. Stretching muscles lengthens their spindles, promoting a relaxation in spindle tone and therefore a decreased sensitivity of the gamma motor system to stretch, thereby allowing for a

decreased baseline tone of the musculature. Stretching and lengthening all soft tissues also helps prevent fibrous adhesions from forming/reforming, allowing any increased range of motion gained during the treatment session to last.

STRETCH AFTER TISSUES ARE WARMED

Therefore, when working with clients who have a low back condition, it is beneficial to know how to stretch the client's lumbosacral spine. Because active self-care by the client is such an important part of an effective treatment strategy, being able to instruct the client on how to perform low back stretches at home is also extremely important.

Although stretching is always theoretically beneficial, it is safest and most effective after the tissues have first been warmed up. Therefore, it is best to stretch the client *after* performing soft tissue manipulation. It is even more effective if moist heat is applied and soft tissue manipulation is done before stretching the client's tissues. When giving self-care stretches to the client, it is best to recommend that they perform these stretches after they have first warmed up their tissues, either by physical activity or by applying moist heat (e.g., hot shower or bath, Jacuzzi, moist heating pad).

CAUTION

When stretching is done, it must be within the tolerance of the client's tissues to prevent them from being torn, and to prevent a muscle spindle (stretch) reflex from being engaged. Whether stretching is therapist-assisted or done by the client at home, first bring the tissues to tension, and then add a gentle increased range of motion stretching force. Stretching can be assertive, but it should never be forced.

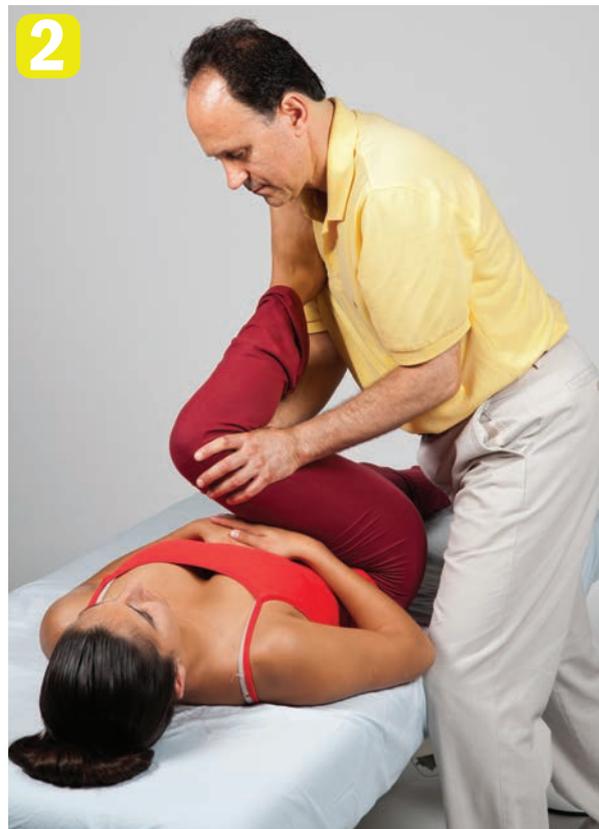
LUMBOSACRAL SPINE STRETCHES

Because stretching is such an integral part of clinical orthopedic manual therapy, knowing assisted and self-care stretches for the lumbosacral spine is essential for your clients with low back conditions. Following are a number of therapist-assisted and client self-care lumbosacral spine stretches that you may consider adding into the treatment strategy for your clients.

THERAPIST-ASSISTED STRETCHES:

1. Single Knee to Chest

Single knee to chest is an excellent way to begin stretching the client's lumbosacral region (Figure 1). Its purpose is to stretch the posterior gluteal musculature as well as the sacroiliac joint on that side. When bringing the client's knee to their chest, the direction that you press is important. If you press too horizontally (parallel with the table), the client's pelvis will tend to lift off the table, causing the stretch to leave the gluteal region and move up into the lumbar spine. However, if you press too downward into the client's abdomen, it might be



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uncomfortable for the client's anterior hip joint region. Best is to find the angle that holds the pelvis down and is most comfortable for the client. Alternately, you can place your knee that is closer to the table up on the client's opposite-side anterior thigh. This will hold that thigh down and stabilize their pelvis.

When contacting the client, it is better to contact the client's distal posterior thigh as seen in Figure 1 instead of on their anterior proximal (lower) leg as is often done. This avoids excessive flexion of the knee joint, which can be uncomfortable for the client. Your body mechanics can also be improved by placing the client's foot on your clavicle so that leaning in with the core can create the stretch. If the client's knee is uncomfortable in this position, support it on top of your shoulder instead and ask the client to relax it as the stretch is performed.

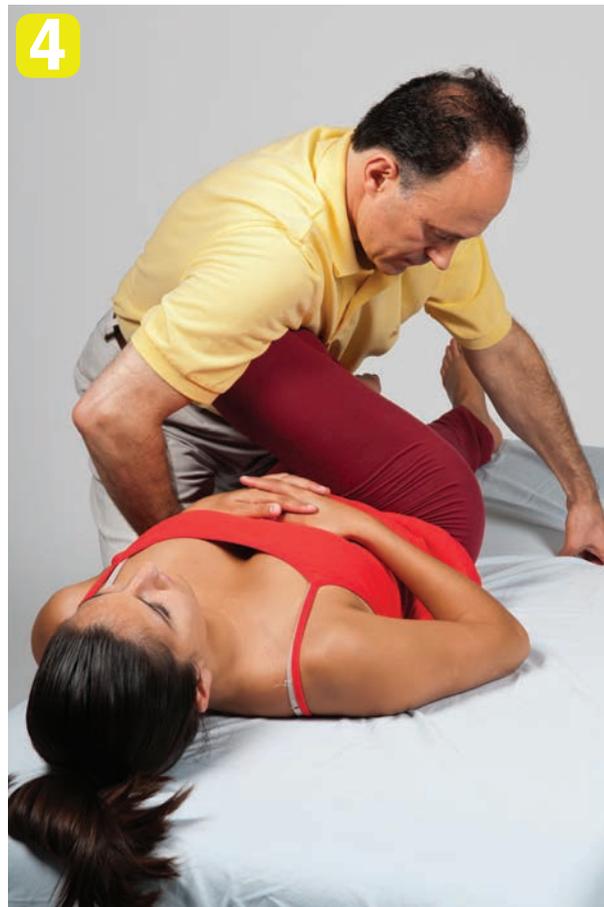
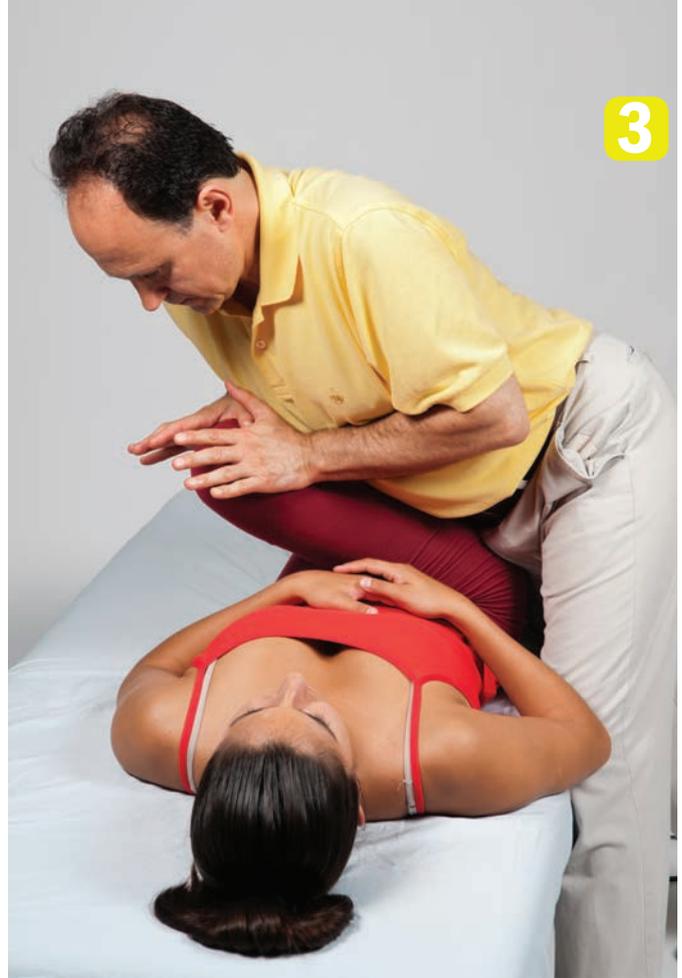
2. Transitioning Toward the Opposite Shoulder

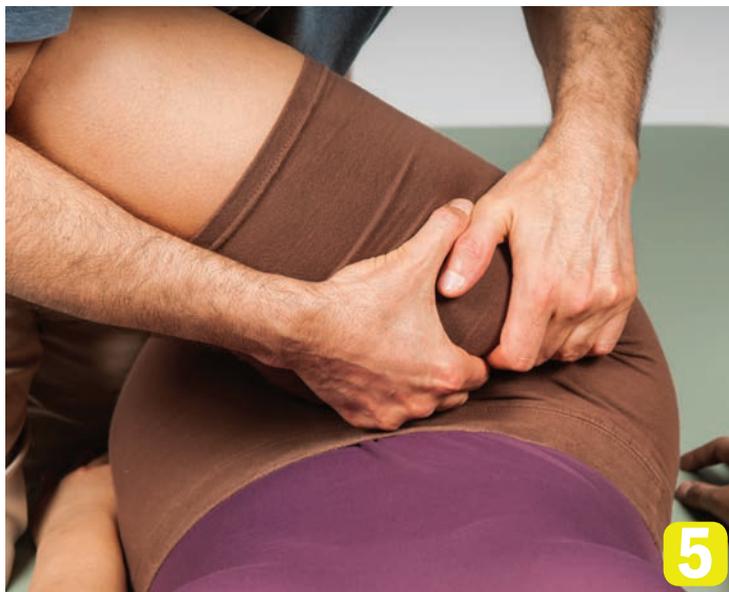
Single knee to chest can be transitioned to the opposite shoulder by successively bringing the client's thigh across their body (Figures 2 and 3). This moves the stretch within the gluteal region from the more vertically oriented tissues toward the more horizontally oriented deep lateral rotators such as the piriformis. Each different angle that the client's thigh is pressed will optimally stretch different fibers of the region. For this reason, it is a good idea to purposely play with the angles between straight up to chest and straight across the body so that all the soft tissues of the posterior gluteal region are well stretched. When contacting the client, be sure to press primarily on the client's distal thigh and not on the leg; this avoids unnecessary compression and torquing to their knee.

3. Knee to Opposite Shoulder

Once the thigh is across the client's chest into a position of horizontal adduction as seen in Figure 3, it is more effective for your body mechanics to move to the opposite side of the table and trap the client's knee between your trunk and arm (Figure 4). This allows you to use core body weight to simply lean down onto the client's thigh to create the stretch. (For female therapists, it can be helpful to rotate your trunk toward the foot end of the table to minimize client contact with breast tissue.)

Another advantage to standing on this side of the table is that it places the therapist's hands in position to be able to grasp and traction distally the femur and soft tissue of the client's proximal anterior thigh (Figure 5). Tractioning the proximal thigh usually lessens and often entirely eliminates the uncomfortable pinching pain that many clients experience with the knee to opposite shoulder stretch.





4. Double Knee to Chest

Double knee to chest begins the stretch of the client's lumbar region. By flexing both thighs at the hip joints, the pelvis rocks back into posterior tilt, creating a flexion stretch force into the posterior musculature and ligament/fascia of the lumbar spine. As with the single knee to chest, it is healthier for the client's knee joints if you contact the distal posterior thighs instead of the proximal anterior legs. For effective body mechanics, you should position yourself on the table so that the core of your body is in line with and behind the force of the stretch (Figure 6). An alternative position is to place the client's feet on your clavicle so that your core body weight can be even more effectively used (Figure 7). Another option is to contact the client's posterior thighs with your arm. This allows you to reach and grasp the opposite side of the table for stabilization support (Figure 8). This is particularly effective if contract relax (CR, also known as proprioceptive neuromuscular facilitation [PNF]) stretching technique is employed.

Double knee to chest can be intensified by standing at the head of the table and pulling the client's legs up and over the body (Figure 9).

5. Double Knee to Chest with Lateral Flexion

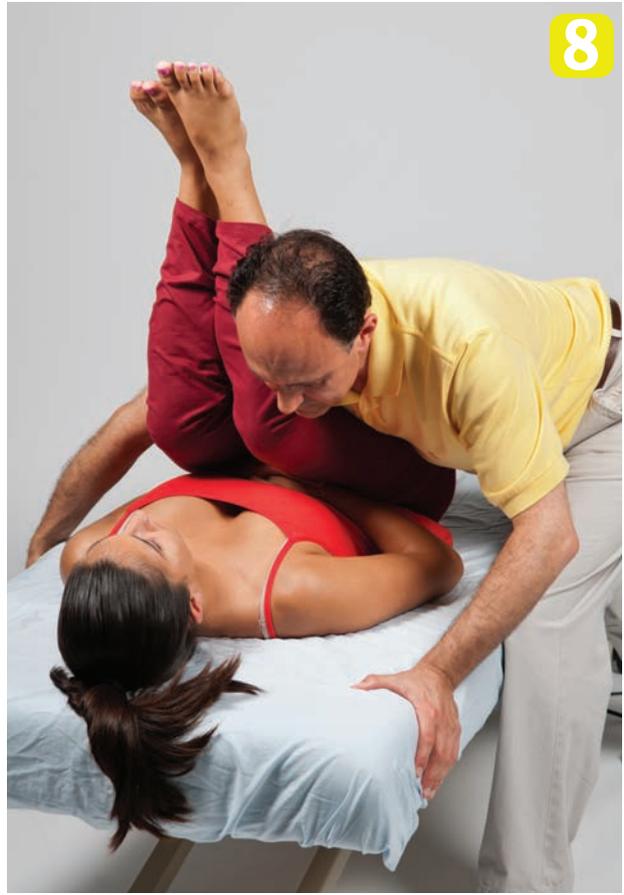
Double knee to chest stretch can also be intensified for one side of the client's body by adding in a component of lateral flexion to the opposite side (Figure 10). Of course this lessens the stretch for the side to which the lateral flexion is performed, so it should be performed in both lateral flexion directions.



CLIENT SELF-CARE STRETCHES

Most all of these therapist-assisted stretches can be done by the client at home. Self-care single knee to chest and knee to opposite shoulder are seen in Figures 11 and 12. Double knee to chest can also be easily done by the client. ■

ALTHOUGH STRETCHING IS ALWAYS THEORETICALLY BENEFICIAL, it is safest and most effective after the tissues have first been warmed up.





Stretching Protocol: STATIC VERSUS DYNAMIC

There is quite a bit of latitude about how stretching protocol can be performed. Some therapists prefer static stretching in which the position of stretch is held for a prolonged period of time, ranging anywhere from five seconds to twenty seconds or longer. When static stretching is done, it is typical to perform approximately three repetitions, each one held for about twenty seconds. Alternately, the stretching protocol can be more dynamic: once the position of stretch is reached, it is held for only about one to three seconds, but approximately twenty or more repetitions are done.

The foundation of static stretching is the soft tissue principle known as *creep*, which states that a prolonged force applied to a soft tissue causes deformation in that tissue; in this case, taut soft tissue becomes longer. The basis for dynamic stretching is that the increased movement facilitates increased warming of the tissues and local fluid circulation, including blood, lymph and interstitial fluid, as well as joint fluid within the joint cavity.

A nice compromise is to combine static and dynamic stretching together. Perform multiple short duration dynamic repetitions for the first forty seconds; then finish with one long held static repetition for the last twenty seconds. Either way, a good guideline is that each stretch is performed for approximately one minute. This allows the therapist to perform many stretches during the session. It is also easy for the client to remember for self-care, and not too demanding on their schedule.



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extensive soft tissue manipulation in his practice. He has been a massage educator for more than 25 years and currently teaches anatomy and physiology at Purchase College, SUNY. He is the author of multiple textbooks including The Muscle and Bone Palpation Manual, The Muscular System Manual and Kinesiology (Elsevier) and Advanced Treatment Techniques for the Manual Therapist: Neck (LWW). Joseph teaches Continuing Education Clinical Orthopedic Manual Therapy (COMT) certification workshops around the country and overseas. Visit Joseph's website at www.learnmuscles.com or his professional facebook page: The Art and Science of Kinesiology.