

BACK ON TRACK – TECHNIQUES TO RELIEVE LOW-BACK PAIN

By George P. Kousaleos, LMT, NCTMB

On July 1, 2004 I was returning to work following a quiet lunch. As I was driving through a residential neighborhood on a one-way street, a car failed to stop at the next intersection's crossing stop sign and instead entered the intersection at a high rate of speed, slamming into my car on the driver's side door. I felt the impact lift my car momentarily and then realized that I was spinning counter-clockwise in the middle of oncoming traffic. Luckily, the other cars avoided colliding with me and I came to a standstill half a block further down the road and facing in the opposite direction. As I tried to unsuccessfully open my door, a stabbing pain registered across my lower back and around the left side of my ribcage. Thirty minutes later the Fire Department's Rescue Team was cutting the doors off of my vehicle and maneuvering me into the ambulance. Later that day in the emergency room, I was diagnosed with five fractured ribs, skull lacerations, and undetermined lumbar injuries. Following an MRI several weeks later, the painful truth was revealed as I had incurred bilateral tears to the spinal discs between L3 and L4 and between L4 and L5.

For the first time since I became a massage therapist in 1978, and a structural integration practitioner in 1979, I was unable to practice my craft for an extended period of time. My volunteer role as co-director of the international sports massage team of the 2004 Athens Summer Olympics that would begin in mid-August was also in jeopardy. I was experiencing severe pain and spasm throughout the lower and mid-back, and I had shooting pain from my left hip to foot with every step I took. I finally knew what many of my clients had reported to me for many years was true, as this multiple injury had not only robbed me of physical comfort, but also of psychological well-being, patience, and optimism.

The Lower Back

The framework of the lower back includes five spinal vertebrae, which house and protect the lumbar portion of the spinal column. The vertebral discs of the lower back are responsible for cushioning the vertebral column and minimizing the impact from the various movements of the axial and lower appendicular regions of the body. Strong, fibrous ligaments surround the discs and attach the vertebrae to each other. The muscles that are attached to the lumbar vertebrae provide flexion, extension, hyperextension, and rotation of this region of the body, as well as hip flexion for leg movement. These same muscles also support the majority of the body's weight while standing. The 5th lumbar vertebrae (L5) sits on the base of the sacrum, directly between the sacroiliac joints. Movement of the lumbar spine is therefore linked to movement of the pelvic girdle. The whole of the lower back, its bones, ligaments, muscles, and tendons, are surrounded and protected by the thoracolumbar aponeurosis, the thickest layer of dense fibrous connective tissue in the human body. Diamond shaped and covering the full length and width of the lumbar and sacral regions, this aponeurosis is often at the center of traumatic damage to the lower back. →

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James has been practicing bodywork for 15 years and has trained in a variety of approaches. He is founder and director of Ultimate Massage Solutions and has trained with Tom Myers, originator of the Anatomy Trains theory, and is a registered teacher of his approach. James has travelled widely to learn from some of the top educators in the field and he now teaches a range of courses for schools in Ireland, the UK and Europe.. He now specializes in myofascial release and structural integration to rid the body of restrictions and restore the body's natural postural balance.



Quadriceps broadening with compression



Abdominal and leg rocking



Lateral waistline release

Common Causes

Many massage therapists work with clients who have acute or chronic lower back pain. The common causes of lower back pain include lumbar strain or sprain, nerve irritation, and degenerative bone or disc syndromes. While traumatic injury is often the culprit, work and sports related overuse can also play a decisive role. Other causes include obesity, pregnancy, kidney or ovarian problems, and tumors (benign or malignant).

Lumbar Strain

Considered the most common form of lower back pain, lumbar strain is often caused by sudden overstretching of the ligaments, tendons, and muscles of the lower back. Whether from improper use, work-related overuse, or trauma, lumbar strain results in microscopic tears in any or all of the soft tissues. The degree of tearing can result in minor acute conditions that heal in a matter of weeks, or chronic conditions that can affect the client for months or years. Massage therapy, hydrotherapy, and thermal therapy can be successfully used in many cases.

Nerve Irritation

The nerves of the lumbar spine can be irritated by traumatic impingement or by degenerative disease. The impingements are often at the spinal roots adjacent to the bodies of the vertebrae, but it can also occur along the nerve pathway or on the outer layer of the thoracolumbar aponeurosis.

Lumbar disc disease, or radiculopathy, is caused by damage to the discs between the vertebrae. This “wear and tear” syndrome most often affects people over 40 years of age. These syndromes may cause a compression of the lumbar discs, commonly called “bulging” discs. The irritation often affects the denser ring surrounding the disc (annulus fibrosus) The most common form of bulging disc may not cause as much pain as other nerve irritations.

Excessive bulging may cause a herniation of the nucleus of the disc. This “slipped” or “ruptured” disc can cause tears towards the soft, jellylike center of the disc (nucleus pulposus), forcing a fragment of the nucleus to rupture the outer layer of the disc.

Spinal Stenosis

The narrowing of the spinal canal is called spinal stenosis. This occurs in the lumbar region more often than to the thoracic or cervical spine. The narrowing of the spinal foramen can be a part of the normal degenerative aging process, but can also be accelerated by falls or arthritic conditions. Stenosis is often accompanied by a narrowing of the disc space, due to dehydration of the cartilaginous material. The symptoms of stenosis may often start as generalized pain in the lower back or legs, but may also cause weakening of the soft tissues.

Chronic vs. Acute

Many people experience lower back pain, with some national estimates stating that 2 out of 3 people will experience an acute episode during their lifetime. It is the second most common reason for missed work (colds are first). The figure for chronic situations is dramatically different, with 1 in 50 people experiencing long-term disability from lumbar injuries. As stated earlier, lower back pain becomes chronic after 4 to 6 weeks of painful symptoms. Multiple episodes of acute lower back injury may lead to a more severe chronic condition. The difficulty in diagnosing the causes, and therefore the best treatment plan, is that many symptoms of different injuries look remarkably similar and only very expensive diagnostic strategies are likely to pinpoint the injured tissues with any level of specificity.

Because most massage therapists will initially see clients with acute lower back pain, it is important to have a comprehensive treatment plan organized around the safe treatment, exercise, and wellness issues that surround the most common acute injuries. Here are other treatment modalities that seamlessly integrate with various forms of massage therapy.

- Range of motion exercises keep the soft tissues more limber and less restricted.
- Strengthening exercises for the waistline musculature, commonly called the “core” of the body.
- Stretching exercises with an accent on hyperextension, forward and lateral flexion, and spinal rotation.



Iliofemoral circles



Sacroiliac joint/lumbar spine stretching



Iliac crest soft tissue release



Deeper work on lateral border of lumbar tissues



Iliotibial band broadening and stretching



Stretching lateral line of thoracolumbar region

- Hydrotherapy and thermal therapy can be used to limit inflammation (cryotherapy) and to diminish pain (cryotherapy or contrast therapy)
- A nutritional plan that safely lowers caloric intake if obesity is an issue.

These modalities need to be a part of a universal treatment plan that educates clients on biomechanical issues, postural improvements, and other wellness initiatives.

Massage Therapy Treatment Strategies

Many disciplines of massage therapy can be utilized to eradicate the painful, and often lingering symptoms of lower back injuries. Many clients have seen other health care professionals before visiting a massage therapist and have tried various forms of relief, including prescription pain medications, over-the-counter analgesics, steroid injections, and various physical therapy modalities. Massage therapy treatment strategies should include the following criteria to improve the soft tissue dysfunction commonly found in lower back injuries:

- Treat the whole body – all soft tissue is interconnected through the multiple layers of fascia that surround and support the body.
- Spend sufficient time warming the tissues of the full length of the back, and include treatment for the abdomen, hips, and thighs.
- Balance the treatment of the lower back by working these tissues from all sides, including prone, supine, and side-lying.
- Check for postural distortions, including excessive lordosis, obvious rotation of the pelvis, and extra weight on one side of the body.
- Test range of motion of lumbar spine in flexion, hyperextension, and spinal rotation.
- Massage therapy is most effective when delivered in a progressive series of sessions that gradually works deeper tissues with less sensitivity.
- Go slow, nurturing the parasympathetic reflexes of the autonomic nervous system.

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THE LOWER BACK ROUTINE

From the supine position with support under knees:

Start with broad palm strokes to the full length of the quadriceps, moving from knee to hip. For deeper work apply strokes across the musculature with palms, finger pads, or soft fists.

Release tension on the abdomen by stretching the rectus abdominus to either side from its lateral borders. This can also be coordinated with movement of the legs to the opposite side in a rocking motion.

Reach across the abdominal region and pull forward on the lateral waistline. Keep your hands spaced between the iliac crest and lower ribs. Work both sides thoroughly.

- Bring one leg superior into deeper hip flexion and move the leg in ever-increasing circles, testing the tightness of the hip rotators. Move each leg in clockwise and counter-clockwise directions.



Spinal rotation stretch



Lengthening strokes for paraspinals

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From the side-lying position:

Stretch the sacroiliac joint and lengthen the lumbar vertebrae by pulling the ilium posteriorly from the ASIS while pushing the sacrum anteriorly. Hold for several seconds with each stretch.

With both hands apply palm pressure across the oblique region. Include pressure on the superior aspect of the iliac crest and further up the lower ribcage. Work the tissues in both horizontal directions at the same time.

Apply palm or soft-fist pressure on the lateral edge of the lumbar region, moving slowly across the tissues towards the spine. Try to capture as much of the lateral aspects of the thoracolumbar aponeurosis, iliocostalis lumborum, and quadratus lumborum with each successive stroke moving deeper and slower.

Apply palm or soft fist strokes across the lateral thigh beginning at the greater trochanter and covering the full length of the iliotibial band. For deeper work use the forearm in slow, broad strokes.

Apply a cross-armed stretch from the mid-portion of the lateral ribcage to the iliac crest and hold for several seconds.

Stretch the same two regions in a spinal twist. When maximizing each stretch have the client exhale fully.

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Elbow technique for releasing contracted erector spinae



Thumb pressure for lamina groove

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Broadening lumbar region laterally



Releasing compression on lateral border of lumbar tissues



Releasing hip rotators

From the prone position:

Apply broad palm strokes down the full length of the thoracic and lumbar erector spinae. Use moderate force initially and continue on either side with forearm and then elbow for deeper work.

Using the thumbs, trace either lamina groove from mid-thoracic region to the base of the sacrum. Apply inferior pressure to the full width of the sacral base.

Apply palm, finger pad, or soft fist strokes across the lumbar region, moving laterally from the lamina groove to the oblique muscles.

Reverse the direction and apply gradually deeper strokes moving medially across the same region. Start with broader techniques and eventually use more specific techniques for deeper work.

Release tension throughout the hip rotators using compression strokes with soft fist or finger pads while moving the iliofemoral joint through moderate external and internal rotation.

Apply broad palm or soft fist strokes across the hamstrings, moving inferiorly from hip to knee.

Happier, healthier clients

Effective treatment for acute lower back pain can help return your client to a more active, pain free lifestyle. Any conditions that seem chronic in nature should be referred to a primary physician (MD, DC, or DO) for verification that massage therapy can be safely included in a multidisciplinary treatment plan.

Enjoy the challenge!

George P. Kousaleos, L.M.T., N.C.T.M.B., is the founder and executive director of the CORE Institute School of Massage Therapy and Structural Bodywork, in Tallahassee, Florida. George has practiced and taught myofascial therapy and structural integration since 1979. He was active in the development of the National Certification for Therapeutic Massage and Bodywork examination program and the Massage Therapy Foundation, as well as organizing sports massage teams for the British Olympic Association in 1996 and for the 2004 Athens Olympiad.
www.coreinstitute.com.

George will be presenting Sports & Performance Bodywork at the SMTO Conference 2009 in March.

Note: The information contained in this article is not meant to replace hands-on training. Readers must ensure they have received adequate training before attempting to apply the technique described here. – The Editors