

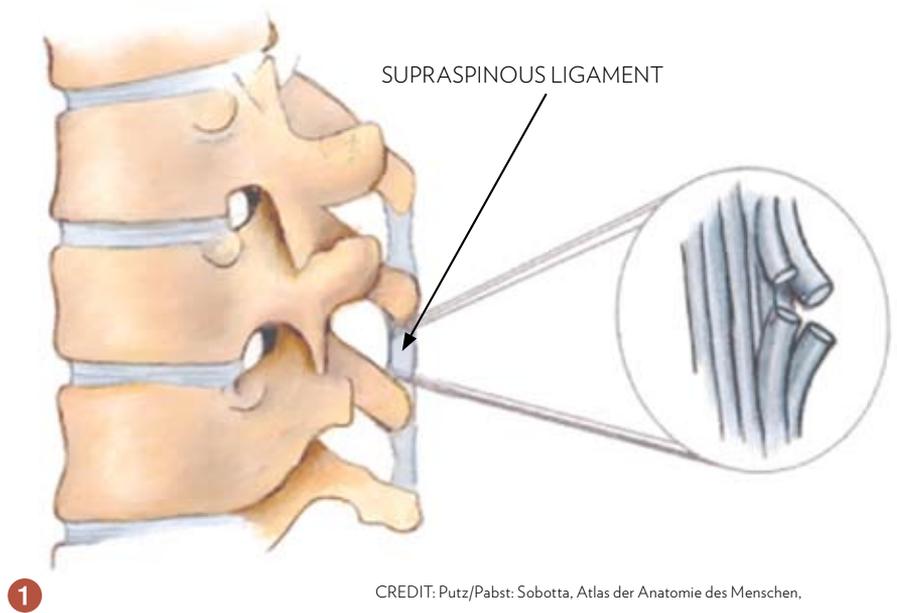
essential skills

BY BEN E. BENJAMIN



LIGAMENT INJURIES IN THE THORACIC REGION

This article focuses on pain stemming from the ligaments in the thoracic region. While these injuries are less common than their counterparts in other areas of the spine, they still cause a great deal of suffering for many people. They are also commonly overlooked by massage therapists and other healthcare practitioners.



The thorax begins at the base of the neck at T-1 and extends to the bottom of the rib cage at T-12, where it meets the first lumbar vertebra. Each of these 12 vertebrae has a rib attached to either side. Since the vertebrae are solidly fixed in place by the ribs, this part of the back has a very limited range of motion. This rigid structural configuration protects the heart, lungs, and other internal organs, as well as the intervertebral discs.

Due to the limited mobility of the thoracic region, injuries in this part of the spine are less common than those in the cervical and lumbar regions. Often pain in the midback is caused not by a thoracic injury, but rather by

a cervical injury that is referring pain to the thorax. For instance, a strain of an intertransverse ligament at the seventh level can cause pain felt down the medial border of the scapula, lasting at least several months. Pain also can be referred to the entire upper back area between the shoulder blades as a result of whiplash or other injury to the C-5 ligaments of the neck.

Many pains that occur in the thoracic area are due to disease or disturbances of the internal organs, such as heart attacks, lung cancer, or pneumonia. For this reason, it is essential that any clients who experience pain in the chest, midback, or upper abdominal area be examined by their doctor. Even if the pain appears to be caused by an athletic injury, a medical practitioner should always take a closer look.

Strain and/or tearing of the supraspinous ligaments in the thorax (image 1) can refer pain laterally to the left and/or the right. This pain may be experienced as a generalized ache or a sharp pain when twisting or breathing in deeply. Pain can also travel around toward the chest or abdomen or through the back into the chest. Aching pain in the midback that lasts for up to a week and then disappears is usually muscular in origin. However, pain in this area that lasts for months or years is indicative of ligament damage or an even more serious injury (images 2, 3, and 4).



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HOW THORACIC LIGAMENT INJURIES OCCUR

Many people sit or stand with a sagging, collapsed back and sunken chest. This posture often causes a slow stretching and loss of healthy tone in the posterior ligaments of the thoracic spine. The fatigued and weakened ligaments can begin to ache gradually over a long period of time or they can be stressed by an abrupt movement that twists the midback. Pain that originates in this way usually feels like a dull ache.

For people who do intense physical labor, it is common to injure the thoracic ligaments in a work-related accident. Additionally, those who routinely practice tennis serves or do a lot of house cleaning can also experience these injuries. Any fall that violently twists the upper body can cause a slight tear or strain of the thoracic ligaments.

Most commonly, though, thoracic ligament injuries occur when a person bends over in an awkward position, lifts a heavy object, and rotates or twists to place the object somewhere else. The person often feels a sharp, searing pain when the vertebrae move quickly out of alignment and a ligament is suddenly stretched or torn. This is followed by a persistent, dull ache as the stretching, tearing, and subsequent scarring of the ligaments occurs repeatedly over a long period of time.

INJURY VERIFICATION

Test 1. Passive rotation of the thorax (image 5) The most important test for thoracic ligament injuries is passive rotation of the thorax. In clients with those types of injuries, this test causes pain. Ask the client to sit upright on the edge of a chair. Straddle the person's knees with your legs and hold the client's legs together with the insides of your knees, preventing movement. Have the client cross his or her hands on the chest and rotate to the right as far as possible. Place your hands on the shoulders and rotate the body as far to the right as you can; normal passive range is 90 degrees. Repeat the same rotation on the other side. Discontinue the twisting motion as soon as the client feels any discomfort or pain. The pain is felt on the spine itself or it is referred laterally to the right and/or to the left. Palpation of each ligament will allow you to precisely locate the injured areas. (The only ligament that can be palpated easily is the supraspinous ligament, the most superficial ligament in the thoracic region. It runs in a continuous line down the spine and connects the spinous processes to one another.)

Test 2. Resisted rotation of the thorax To differentiate a ligament injury from a muscle injury, stop midway through the passive rotation test and ask the person to turn forcefully in the opposite direction. This requires the client to use muscles instead of being passively turned by the practitioner. As the client turns, resist the client's movement. Repeat in both directions. If this resisted movement elicits any pain, the muscles are injured. When the pain is muscular in origin, it can often be resolved easily by combining massage therapy, moderate exercise, and rest from pain-inducing activities.

As mentioned above, it's important for a physician to examine the client before you perform any work in this area, due to the many internal organs near the midback region and the potential complications of referred pain patterns to and from the thorax.

TREATMENT CHOICES

SELF-TREATMENT

If a sharp pain or an aching midback developed following an accident, one option is to rest for several weeks to see if the pain goes away. In many instances it does, but if this does not occur within a month, other forms of treatment are necessary.

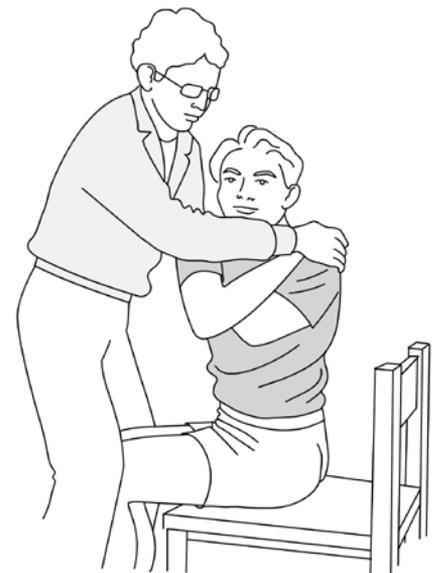
MANIPULATION

In cases where a rib is displaced or the vertebrae are suddenly pulled out of alignment (with slight stretching of ligament tissue but no actual tearing), one or two manipulations by a chiropractor or osteopath will often eradicate the pain. If a short course of manipulation isn't helpful, the person should receive other treatments, such as friction or injection therapy.

MASSAGE WITH FRICTION THERAPY

Once it is clear that the injured ligaments are near the surface of the body, friction therapy and massage can be very effective treatments. If the ligaments near the skin surface are not tender, this means that either the pain is originating in the deeper ligaments or it is being referred to the thoracic region from another area, so neither massage nor friction to the thoracic area will be effective.

Palpation of each ligament will allow you to precisely locate the injured areas.



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Friction Therapy of the Supraspinous Ligament

For this technique, you'll work both of the lateral edges of the ligament, as well as the posterior aspect. First, you'll work the lateral edge that is farthest away from you. With the client lying prone, stand at the side of the table and place your index finger on the far side of the vertebra, about a half-inch off the midline. Press in forcefully at the lateral aspect of the supraspinous ligament,

It's not uncommon for ligaments in the thorax to stretch and become permanently loosened and painful.



on or between the spinous processes, wherever the ligament is tender. Apply friction by pulling up and across the ligament on that side. After several minutes, pull across the posterior edge of the ligament and apply friction there. Then, use your thumb to work the lateral edge closest to you. Friction the area identified as containing the lesion, as well as the areas above and below that section. Keep changing fingers so you don't tire yourself. Perform a total of approximately 10 minutes of friction, with breaks as both you and the client need them.

Friction treatments should be done twice a week, along with deep massage of the entire back in order to increase circulation.

EXERCISE

After the second friction therapy treatment, teach the client the following exercise, to be done daily. This exercise prevents the return of the adhesive scar tissue you are eliminating with the treatment and helps to restore full movement. It is done gently, without much force.

While sitting upright, place your right hand on your left shoulder and your left hand on your right shoulder,

hugging yourself. Now rotate your upper body right and left, going as far as you can without pushing. Do this 50 times (25 right and left sets).

INJECTION

As mentioned earlier, it's not uncommon for ligaments in the thorax to stretch and become permanently loosened and painful. Manipulation can realign the vertebrae and friction therapy can alleviate inflammation, but if the ligaments are stretched neither method will tighten them. Proliferant injections (performed by physicians who are specialists in orthopedic medicine) are very effective in this situation because they tighten, strengthen, and permanently shorten the strained ligaments. Three or four treatments may be required before the ligaments are tightened and the pain subsides.

PREVENTION FOR A HEALTHY MIDBACK

We live in a sitting-oriented culture. Studies demonstrate that more pressure is exerted on spinal discs when sitting than when standing. It is more difficult to maintain good posture while we're sitting than while we're standing, and as we've seen, poor posture often predisposes individuals to midback injuries. Therefore, ergonomic work spaces and chairs are essential to maintain back health. It is equally important to balance seated work activity with movement, as well as to practice gentle, strengthening exercise.

There are a variety of disciplines that help maintain midback health. There are a range of seated exercises that can be incorporated into the workday to help maintain flexibility, good circulation, and a strong back. Methods such as the Alexander and Feldenkrais techniques provide excellent training for a dynamic and healthy posture. Many yoga poses also encourage correct posture. Active involvement in self-care methods helps support the ongoing development and maintenance of a healthy back, which will be more resistant to injury. **m&b**

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