



# The Mystery

## of Low-Back Pain, Part III Treatment Choices

By Ben E. Benjamin

In the previous two articles, we examined the anatomy of the low back and the various types of injuries that can occur in this area, with a particular focus on low-back ligament tears. We discussed how and why these injuries occur, how they affect the body, and how they can be accurately assessed through orthopedic testing and palpation. In this article, we'll explore a variety of options for treating low-back ligament tears, ranging from self-care and dietary changes to hands-on manipulation and injections. Fortunately, there are effective treatments available for resolving these troublesome problems.

### Self-Treatment

**Rest.** Time, the healer of many wounds, may temporarily ease the pain caused by low-back ligament injuries. Unfortunately, however, the pain frequently returns as a result of reinjury, because healing didn't occur properly the first time. Typically the injured person stops engaging in activities that cause pain, which is a good idea in the short run, but for a complete resolution of this problem most people need some professional help.

**Gentle exercise.** Sometimes all that is needed is an exercise program to maintain the strength and normal range of motion of the back. Forward bending, lateral stretches, and low-back exercises on all fours are often effective in mild cases of low-back pain (see Low-Back Exercises, page 108). The activity must be consistent, however, since sporadic, irregular exercise can lead to weakened structures that are vulnerable to multiple mini-injuries. In addition, any back exercise that causes pain (either at the time or afterward) should be avoided.

### Medical Treatment

#### 1. Manipulation

Manipulation often helps heal ligament strains by correcting bone misalignments that place undue stress on the ligaments. It may also tear improperly formed scar tissue, allowing the injured structure to heal more strongly with proper alignment. If manipulation does not provide some relief for a person within 3–10 sessions, it is probably not the right treatment for that individual.

#### 2. Friction Therapy and Deep Massage

Deep massage applied to the low-back region often helps to reduce muscle tension, increase circulation, and speed the healing process. Massage therapy is most helpful when paired with transverse friction, which breaks apart pain-producing scar tissue. However, to perform friction, you must be able to contact the injured structure. The interspinous (and, in

very muscular people, intertransverse) ligaments are too deep to be effectively reached by a practitioner's fingers. Therefore, if they are injured, friction and massage therapy will be only marginally helpful, and another type of treatment will be necessary.

If a client experiences pain or limitation when bending backward (as in the extension test described in the second article), be sure to place a pillow under the person's abdomen when working on the low back, and don't use too much force. When a client lies prone on the treatment table, the low back is naturally in slight extension. Applying pressure on this area increases the degree of extension and will cause further strain to injured structures that are irritated by extension. This is why some clients feel more low-back pain after a treatment than they did before.

When performing friction therapy it's important to be patient and work gently, using your client as your guide. The first session is always an experiment to see how much pressure the person can handle, so you can slow the treatment down or speed it up as necessary. Ask the client to report any pain or significant discomfort. Anything more than a slightly annoying sensation indicates you need to lighten up. Also ask the client to keep track of how the injured area feels during the week after treatment. It is normal for soreness to linger for up to 48 hours, but if it lasts any longer than that, you're working with too much force. Sometimes the tissue is so tender that you need to start with as little as a half pound of pressure.

**Frictioning the supraspinous ligament.** To locate the supraspinous ligaments between L1 and S1, place the tip of your index finger on any of the spinous processes in the low back. (On the average individual, the distance between L1 and S1 is about 5 inches.) Now gently slide your finger to the next spinous process. Between these two prominences of bone lies the supraspinous ligament. You will work where the ligament is tender, either in



between the spinous processes or where the ligament attaches, right on the bone at the tip of the process. Use your thumb, index finger, or middle finger — whichever is easiest for you.

First, use palpation to target the precise location of the tender, injured areas. Palpate each supraspinous ligament with one or two cross-fiber friction strokes, as described in the previous article. The areas of tenderness may be in the central portion of the ligament or on the left or right edge. If pain is felt more toward the right or left side of the body, the injured tissue is likely to be located at the right or left edge of the ligament, respectively. If pain is felt right on the spine, the injury is likely to be centrally located. Pain felt all the way across the back indicates there are multiple injuries or the right and left edges, as well as the central portion of the ligament, are injured.

Once you have identified the injured areas, perform friction at all of these sites for a total of 5 minutes, taking breaks as needed. (Over time, gradually build up to doing 10 minutes of friction.) Friction the supraspinous ligaments in an east-to-west direction, so you are moving at a 90 degree angle to the direction of the fibers.

**Frictioning the iliolumbar ligament.** Finding the iliolumbar ligament can be very challenging, so get some help if you need it. This ligament is located just inside the superior edge of the anterior lip of the posterior iliac crest. It is attached to the anterior superior surface of the ilium, approximately an inch lateral and superior to the posterior superior iliac spine (PSIS). Because the female pelvis is wider and more shallow than the male pelvis, the position of the attachment relative to the PSIS differs a bit between the sexes (slightly more lateral for females, slightly more superior for males). When people stand with their hands on their hips, each thumb is usually either right on the ligament attachment or very close to it. The superficial portion of the iliolumbar ligament is accessible to the finger, but the deep portion is not. Fortunately, the superficial portion is where most of the injuries occur.

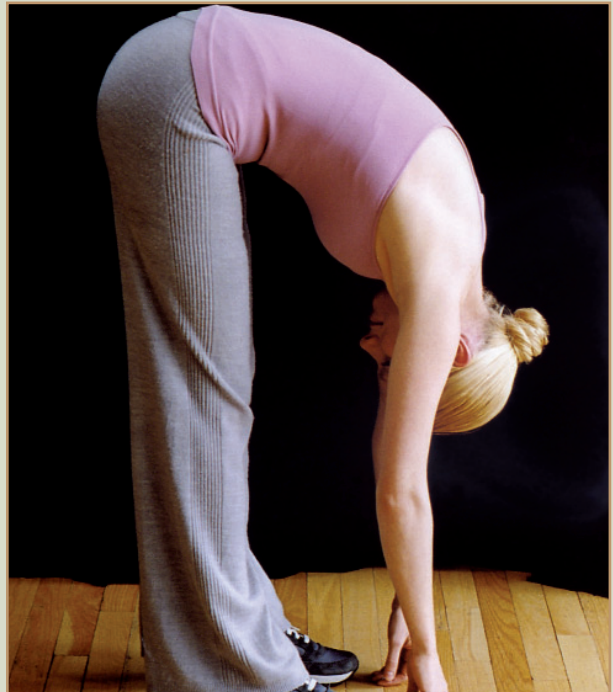
The most efficient position for frictioning the iliolumbar ligament is standing at the head of the table on the same side as the area where you'll be working. Make sure the client's head is turned away from that side if the head is not in a face cradle. Now lean over the client's upper body and place both thumbs on the crest of the ilium, facing each other, approximately one inch lateral and superior to the PSIS. Move your thumbs laterally, while simultaneously pressing down on the ilium (inferiorly) and pressing toward the floor (anteriorly). Then release your pressure, move back to the starting position, and repeat the movement. Continue this frictioning for 2 minutes. (Over time, gradually increase the duration of frictioning to 5 minutes.)

### 3. Exercise

The low-back exercises described at right place repeated tension on the ligaments of the low back and sacral area. They prevent the reformation of adhesive scar tissue that →

## Low-Back Exercises

**Sitting Forward Bends.** Sit at the edge of a chair with your legs approximately two and a half feet apart. Clasp your hands together with your arms extended in front of you and slowly bend forward, relaxing your neck so your head hangs down. As you bend forward, your hands will make an arc and go under the chair, placing a gentle stretch on the ligaments of the low back. The movement should be continuous — once you've gone as far as you can with no strain, don't stop moving, but gently come back up to the starting position. Repeat this movement 40–50 times, two or (if possible) three times per day.



**Standing Forward Bends.** Stand with your feet a few inches apart (above). Slowly bend forward, moving your hands in the direction of your toes while keeping your knees straight. Do not force the movement or strain to touch your toes; keep it relaxed and easy. The motion should be continuous — at the end of the movement, don't stop, but slowly come back up to the standing position. As you practice forward bending over time, you will gradually reach farther down. Repeat this movement 40 to 50 times, two or three times per day.

**Leg Up Forward Bends.** Stand next to a chair or step and place your foot on it so that your thigh is at a 90 degree angle (or less) to the trunk of your body. Be sure your feet are facing forward and are relatively parallel to one another. Now slowly bend forward toward your standing foot, so your hands move toward the ground on either side of that foot. Having the right leg raised places greater tension on the right iliolumbar ligament, and having the left leg raised places greater tension on the left one. Repeat this movement 25–50 times on each side, two or three times per day.



### **Proliferant Therapy for the Low Back**

**1. Valium.** In most cases, the person is first given an injection of Valium (diazepam), or another benzodiazepine, so they relax and experience little or no pain during the treatment. Within 10–15 seconds the person feels groggy and sleepy.

**2. Xylocaine.** Next, the affected ligaments are injected with Xylocaine (lidocaine), the same substance used to numb the mouth in dental procedures. As the Xylocaine fills and softens up the adhesive scar tissue, multiple quick insertions of the needle break apart adhesions in the supraspinous, interspinous, intertransverse, iliolumbar, and/or sacroiliac ligaments. This procedure usually takes 3–5 minutes, depending on the severity of the injuries. In cases of severe pain, anti-inflammatory medication may also be injected at this time.

**3. Manipulation.** The low back is then manipulated while the person is side lying to break away any remaining adhesive scar tissue. The manipulation also aligns the vertebrae and may restore some lost range of motion.

**4. Proliferant.** The next day, the ligaments are injected with the proliferant solution, which is

usually composed of Xylocaine, dextrose (a sugar), glycerine (which helps the blood congeal), and some phenol (which is a sterilizing agent). The main active substance is dextrose, which irritates the ligaments and causes the production (proliferation) of many like cells of tissue. These and subsequent follow-up injections generally take 2–3 minutes. Some people who are apprehensive about being injected are given a benzodiazepine again just prior to the injection. Proliferant injections are usually quick and not terribly painful if the physician is skilled.

**5. Exercises.** The client is instructed to do certain exercises daily (as described in Low-Back Exercises, page 108) to repeatedly put the low-back ligaments under slight tension. This stimulates the proliferating action and encourages the new fibers to align properly as they grow.

**6. Follow-up injections.** Following the initial proliferant treatment, the client is usually treated seven more times with the proliferant, as described in Step 4. The injections are generally done once a week for eight weeks, but they can take place over a shorter or longer period of time.



has been eliminated through friction treatment and help the treated tissues heal in the presence of movement. After you've done a few sessions of frictioning, show the client how to do sitting forward bends. A week or two later, have the person start forward bending from a standing position. Then, after another week, you can introduce leg up forward bends (appropriate only in cases of iliolumbar ligament injury). None of these exercises should cause any pain.



#### 4. Craniosacral Therapy

Craniosacral therapy is often effective in treating low-back pain caused by ligament strain. Practitioners of this modality use light touch to assess the functioning of the craniosacral system — the membranes and cerebrospinal fluid (CSF) that surround and protect the brain and spinal cord. They then use gentle manipulation to release any restrictions in this system. Craniosacral therapy treats the low back indirectly; it helps restore a healthy balance in the entire body, which allows the ligaments to heal more efficiently and stay strong. This very gentle treatment takes time and patience and is effective only when performed by a highly skilled practitioner.

#### 5. Diet

There is a profound connection between good nutrition and a healthy body that is free from injury, or that at least heals quickly when injured. Without good eating habits, the entire fabric of the body's tissues becomes weakened and depleted. In the course of your practice, you have probably encountered individuals who are not very old or out of shape, but whose bodies seem to be falling apart. They have not one injury, but many. They are constipated or have other digestive problems. They often feel they don't have enough energy, and they have no idea why. They may have headaches, difficulty sleeping, and pain in many areas of the body. Their muscles feel either too taut or lifeless. People who have a wide range of these sorts of symptoms frequently suffer from severe nutritional depletion.

To address problems caused by a poor diet, refer your client to a skilled practitioner who can assess any nutritional deficits and prescribe an eating program tailored to that person's body, lifestyle, and schedule. One-size-fits-all diets don't work for most people over the long term. Eating healthfully must be a sustainable, lifelong commitment. While a healthy body can tolerate a little candy, soda, or fried food now and then, a constant

onslaught of unhealthy foods will create vulnerability to injury and slow down the healing process. Clients who improve their eating habits generally heal much more quickly than those who do not. Make a connection with a good nutritionist, naturopath, or physician who specializes in nutrition. Having a good referral option for nutritional counseling will enhance the effectiveness of your work.

#### 6. Injection

Proliferant injections are very effective in eliminating pain caused by strained, scarred ligaments. This treatment

is recommended when more conservative methods have failed. Proliferants stimulate the production of new ligament cells. This strengthens the underlying structure of the ligaments, healing existing tears and helping to prevent the recurrence of injury. Proliferant therapy also tightens ligament fibers and is therefore the most appropriate treatment when ligaments are stretched and lax.

Proliferant therapy for the low back includes six basic steps. The procedure outlined in Proliferant Therapy for the Low Back (see page 110) represents the highest standard of treatment, refined over five decades of practice. Performing these injections safely and effectively requires a very high level of skill on the part of the physician.

The proliferant keeps working for up to nine months, with the most accelerated growth occurring in the three to seven days following each injection. As the new tissue forms, the ligament fibers become up to 40 percent stronger. Injection therapy has a very high success rate when performed by a highly skilled practitioner, but as with any treatment, it is not effective for every individual.

#### Conclusion

In this article, we have examined a broad range of treatments for low-back ligament injuries. The best option for any given individual will depend on a variety of factors, including the person's preferences and available resources, as well as the severity and precise location of the injury. With a thorough understanding of low-back anatomy, assessment, and treatments, you'll be able to give your clients the information they need to make educated choices about their care. **M&B**

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