Assessment & Treatment of Low Back Pain

THE BENJAMIN INSTITUTE PRESENTS

Excerpt from Listen To Your Pain

A BENJAMIN INSTITUTE EBOOK

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The Low Back and Sacrum

**Low Back Assessment Tests**

A full assessment of the low back — which distinguishes between disc, ligament, muscle, and other injuries — includes more than 25 assessment tests, which is beyond the scope of this book. Here I’m focusing on ligament injuries, which are among the most common and least known causes of chronic low back pain. Damage to ligaments in the low back is indicated by the results of three tests: flexion, extension, and side-flexion. The major indicators differ somewhat among the various ligaments, as I’ll discuss in the sections that follow. For each of these tests, have the client begin in a standing position with the knees straight and the feet a few inches apart.

**Test 1. Flexion**—Ask the client to bend forward slowly, stopping if and when pain is felt and immediately returning to the upright starting position. If there was pain, ask the client to point to the area or areas that hurt. With a normal range of motion the person can touch the floor.

**Test 2. Extension**—Ask the client to bend backward from the waist. Again, if there is any pain, have the client stop, return to the starting position, and point to the place or places that hurt. With a normal range of motion the person can bend at least 30 degrees.

**Tests 3–4. Side-flexion**—Ask the client to bend to the side as far as possible, stopping if there is pain. Be sure the knees remain straight. Take note of where any pain is felt, and then have the client bend to the opposite side. With a normal range of motion the person’s hand can touch the side of the knee.
**Low Back Exercise Protocol**

There are two standard exercises that are useful for most of the ligaments in the low back and sacral area. These movements should cause no pain — only a slight pulling sensation.

**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 that your head hangs down. As you stretch forward, your hands make an arc and go under the chair, placing a gentle stretch on the low back ligaments. Keep the motion continuous — when you reach the end of the movement, slowly come back up to the starting position. Don't stretch any further than is comfortable. Repeat this movement 40–50 times twice a day or, if possible, three times a day.

(Note: Friction techniques for all of the low back injuries described below are demonstrated in the DVD The Power of Precision: The Low Back (see www.benbenjamin.net).)

**Standing Forward Bends**
Stand with your feet a few inches apart. Slowly bend forward, moving your hands in the direction of your toes while keeping your knees straight. Keep the motion continuous — when you reach the end of the movement, slowly come back up to the standing position. Stay relaxed and avoid forcing the movement. The purpose of this exercise is to place tension on your low back ligaments, not to touch your toes. Over time you will gradually reach farther down. Do 40–50 repetitions, two or three times a day.)
**Supraspinous Ligament Injury**

**Major Indicators:**
Flexion, sometimes extension and palpation.

**Exercise Protocol:**
Begin with the Sitting Forward Bends described above and add the Standing Forward Bends after several weeks if they are easy and painless to do. If neither of these is comfortable, begin with the more gentle Back Series 1 exercises described on page 2.

**Friction Therapy:**
Stand at waist level with the client lying in a prone position. To perform this friction, you can use your thumb, index finger, or middle finger, whichever is easiest for you. First palpate the ligaments — friction briefly at each level with one or two cross-fiber strokes to find the areas of tenderness. They may be in the central portion of the ligament or at the left or right edges. The most common sites of injury are at L5, L4, and L3. When you find a tender area, apply pressure on the ligament at the lateral edge closest to you, and sweep through to the other side. Do this motion repeatedly in one direction and then repeat from the other side, pulling toward you. Perform friction at the various sites of tenderness for a total of 5 to 10 minutes, taking breaks as needed.

**Sacroiliac Ligament Injury**

**Major Indicators:**
Flexion, extension, and sometimes side-flexion and palpation.

**Exercise Protocol:**
Begin with the Sitting Forward Bends and add the Standing Forward Bends after several weeks if they are easy and painless to do (see page 2). If neither of these is comfortable, begin with the more gentle Back Series 1 exercises described on page 273.

Once you've been able to perform these two exercises easily for a week or so, add the Leg Up Forward Bends (see description on page 4).
Friction Therapy:
There are thousands of ligament fibers crisscrossing the sacroiliac joint. They are clearly palpable just medial to where the lip of the ilium (near the PSIS) overhangs the sacrum. To friction these ligaments, work diagonally across the sacrum in the groove between the central extension of the spine and the lateral edge of the sacrum. Use your thumb or your middle, index, and ring fingers to friction across the fibers in one direction at a time. Move to different sections, depending on where you find the tender areas. As you perform this friction, you'll be working through the thoracolumbar fascia, which lies superficial to the ligament fibers.

Iliolumbar Ligament

Major Indicators:
Side-flexion toward or away from the painful side. Sometimes flexion and/or extension. Pain is felt across the superior ilium, lateral hip, and/or groin.

Exercise Protocol:
Leg Up Forward Bends is the primary exercise for this injury. However, it is best to begin with the Sitting Forward Bends, add the Standing Forward Bends after a week if they are easy and painless to do, and then add the Leg Up Forward Bends when they can be done with relative ease.

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. The feet can be turned slightly out or parallel to one another. Now slowly bend forward toward your standing foot, so that your hands move toward the ground on either side of that foot. Having the right leg raised places greater tension on the right side of your low back — especially the right iliolumbar ligament and sacrum — and having the left leg raised places greater tension on the left side. Repeat this movement 25–50 times on each side, two or three times per day.
Finding the iliolumbar ligament can be very challenging. 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 shallower 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 most people stand and put their hands on their hips, each thumb is 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 many 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 you’ll be working on. Make sure the client’s head is in a face cradle or turned away from that side. 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 1–2 minutes. (Over time, gradually increase the duration of frictioning to 5 minutes.)

**Sacrotuberous Ligament Injury**

**Major Indicators:**
Flexion and palpation. Pain is felt in the buttock, down the back of the thigh, and into the calf and heel.

**Exercise Protocol:**
Begin with the Sitting Forward Bends described on page 2 and add the Standing Forward Bends after several weeks if they are easy and painless to do. If neither of these is comfortable, begin with the more gentle Back Series 1 exercises described on page 273.

**Friction Therapy:**
This technique can be performed while the client is lying prone or on one side with the knees up. Place your thumb or fingertips along the margin of the sacrum, just below the PSIS. Friction
against the edge of the sacrum, moving gradually down to the superior edge of the coccyx. This broad attachment is the location of most sacrotuberous lesions. It is very rare for injury to occur at the ischial attachment.

**Gluteus Medius**

**Major Indicator:**
Resisted abduction of the hip in extension—Have the client lying on their side with a pillow under the head. Ask them to bring the leg backward, while slightly extending the back. Have them lift the leg — extending it a bit and bringing it about a foot into abduction. Then offer resistance, making sure they keep the knee straight. When the gluteus medius muscle is injured it is particularly tender to the touch.

**Exercise Protocol:**
Begin with the Sitting Forward Bends, add the Standing Forward Bends after several weeks if they are easy and painless to do (see page 2), and then move to the Leg Up Forward Bends (page 4). If none of these is comfortable, begin with the more gentle Back Series 1 exercises described on page 273.

**Friction Therapy:**
Facing the side of the table, place your thumb pad or thumb tip at the medial edge of the gluteus medius muscle, about an inch or two from the iliac crest. Have the thumb oriented toward the anterior pelvis, with the thumb pad facing the floor. To perform the friction, lean into your thumb and slowly move down (anteriorly) toward the table. Move to different sections of the muscle, frictioning any tender spots. Alternatively, you can reach across the table and use your fingertips to friction. In this case, you will begin the movement at the lateral edge of the gluteus medius, applying pressure and pulling upward (posteriorly) toward yourself. Friction for a minute or so in each area. This muscle can have multiple lesions, and can be very tender.
Gluteus Maximus

**Major Indicator:**
Resisted extension of the hip (with knee bent)—Ask the client to lean forward over the end of the table and place their chest on the table. Then have them lift the leg as high as possible, with the knee bent at 90 degrees. Place your hand on the sole of the foot and ask the person to raise the leg into the air as you offer equal and opposite force.

**Exercise Protocol:**
Normal activities are sufficient to strengthen this muscle.

**Friction Therapy:**
With the client lying prone, stand at the side of the table, facing up toward the client’s head. Now place the fingertips of both hands on the gluteus maximus muscle, in the area that is painful. Lean into your fingers and slowly move laterally in a diagonal direction, so that your friction strokes are almost perpendicular to the muscle fibers. Move to different sections of the muscle, frictioning each tender area for a minute or so. This muscle may have multiple lesions.