Sacral vs. Lumbar Decompression Traction

By Joseph D. Kurnik, DC

The two most common lumbar traction methods used today are flexion traction and motorized lumbar traction. Traction is used to decompress disc, facet, and degenerative disorders characterized by compressive stress.

Flexion-distraction requires that cephalad pressure be applied to the spinous process of the vertebral segment or segments requiring distraction or decompression. Motorized decompression methods place the patient supine and use a belt system attached to a pulley rope to distract the lumbar spine.

A variation of the techniques used in flexion-distraction can be successfully performed using a sacral contact rather than a lumbar spinous contact. As the lower caudal portion of the table is lowered, instead of inducing cephalad pressure on a spinous process, you induce anterior and inferior (caudal) pressure on the mid to lower sacrum. This causes a separation of the lower intervertebral joint spaces, which has a distinctly different effect and feel to the patient. Quite frequently, the effects are superior to those obtained from using spinous contacts. Both methods may be combined.

The use of a sacral contact actually uses the body’s natural method of coping with lumbar stress and associated disorders. Recall the guarded posture of acute lumbar facet and disc disorders. The lumbosacral region flattens. Motion is guarded, especially in extension or Kemp’s position.

If sacroiliac motion is tested in the standing position during hip flexion, one or usually both sacroiliac joints will be locked, with no posterior inferior motion. The mechanism involved is the process of sacral counternutation. The sacral base simultaneously moves posteriorly, and the ilia move (and lock) superiorly and anteriorly (PSIS is point of reference).

Think about the value of this mechanism, as illustrated in Kapandji’s *Physiology of the Joints, Volume III*. The sacral base moves posteriorly, decreasing the lumbosacral angle and decreasing the vertical stress upon the posterior aspect of the lower lumbar discs and facet joints. This is what the body does naturally. As healing progresses, this mechanism reduces and the normal lumbar curve is re-established.
Even in chronic cases, however, the body does not completely let go of this mechanism, and there is an interesting side effect. When both ilia are locked in the anterior superior (AS) position, allowing no posterior motion, the hip joints have to assume more activity and consequent stress. The stress can manifest as increased wear on the acetabular articular cartilage and/or hypertonicity and soreness of gluteal, TFL, and hip flexor muscles.

When performing supine spinal decompression with motorized traction, attention should be paid to the belting system. Too often, the waist belt on the back side extends in the caudal direction, splits into two pieces, extends over the SI joint/buttock areas, then rejoins and connects with the pulley rope. The effect is to reduce inferior sacral pressure, not allowing the belt to create sacral counternutation.

In fact, the later position of the descending belts may produce some ilium PI motion, which would induce sacral nutation, in which the sacral base is directed anteriorly, adding to posterior joint stress. It might be more consistent with the natural counternutation mechanism if the belt from the waist placed more pressure over the sacrum than the SI joint/ilium regions.

Another note of interest involves adjusting of the sacroiliac joints during an acute or chronic episode of low back pain. We have all likely had patients who worsened after being generally adjusted bilaterally for low back pain. The point is that some respect should be shown for the body’s natural protective mechanisms. Work with them. General sacroiliac adjusting may not be appropriate when the body has set up a specific guarding mechanism.

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