

## SET TALK

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### THORACIC OUTLET SYMNDROME

Over the years I have had many referrals and walk-ins with clients in pain from thoracic outlet syndrome. Many of these clients have been treated by chiropractors and physical therapists, have had surgery, and have been on medication for both pain and inflammation with limited results or even worsening pain from this condition. Upon review of x-rays there is often evidence of vertebrae being rotated, causing the connecting ribs to be rotated. What appears to be missing in the above treatments is the release of the spasming muscles and soft tissue that are related to the rotation of both the vertebrae and the rib. When the actual nerve outlet is viewed it is often not that severely narrowed to create the degree of pain and dysfunction that the client often experiences. Instead the pain is more from the nerve being compressed by the tightened soft tissue.

What is amazing here is that, when I address the core distortion of the body (which includes scoliotic curvature of the thoracic region) by releasing the cranial distortion, along with the ischemia, swelling, soft tissue restrictions, the myofascial holding patterns, and the adhesions specific to nerve entrapment, most clients experience significant improvement within several sessions. When these improvements to the scoliotic curvature of the thoracic spine can be supported by balancing the rotation of the iliums and tippage of the sacrum, the results become long term.

Let's now look at the implications of this kind of treatment. When viewing thoracic outlet syndrome as part of the core distortion of the entire structure, it is an area that has collapsed to the degree that the client experiences acute pain from the entrapment of the nerve. Because of this collapse it is inherently a structural imbalance problem, and there needs to be significant structural improvement for rehabilitation of the area. Once this is accomplished, the client's normal life activities will not once again cause structural collapse to the point of pain.

At the base of the spine the core distortion pattern is evidenced by an anterior/posterior rotation of the iliums and a tipped sacrum which forces the spine into a degree of scoliotic curvature. This also results in creating a long leg/ short leg with the long leg having an additional distortion to absorb the extra leg length to prevent the client from tipping dramatically to one side. On the posterior hip side there will be a significant shortening between the crest of the ilium and the floating rib pulling

down on the entire rib cage. This often results in an exaggeration of the lordosis. To counter balance this, several ribs will counter rotate to the opposite side along with the vertebrae rotating the opposite way in their "S" curvature which can either be side to side or front to back. If we follow this curvature approximately 5-6 vertebrae higher, we usually see another reversal of the curvature going back in the opposite direction. This brings us into the area of the rhomboids and the scapula. If the rotations were severe in the pelvis and low back, they will also be severe in the upper thoracic vertebrae and ribs. This is the area of thoracic outlet syndrome.

With the rotation of the ribs there is spasming and shortening of connective tissue associated with the posterior serratus, latissimus dorsi, intercostals, rhomboids, subscapularis, trapezius, supraspinatus, multifidus, and levator scapula. Because these rotations involve the ribs and the shoulders, the front of the thorax is just as involved as the back. In fact, often it is equally responsible for the compression of the nerves and distortion of the vertebrae in the thoracic region as the muscle directly at the site of the nerve entrapment. If we follow the ribs around to the sternum and observe the structure from the front, we will note that one side of the rib cage is pulled down and the shoulder is rotated medially. We will see opposing rotations in the front to those that are evidenced from behind. Here the major players are the diaphragm, intercostals, serratus anterior, pectoralis major, pectoralis minor, SCM and scalenes.

When talking about the above muscles I am also including the fascia and connective tissue associated with them as they hold the distortion even when the muscle is relaxed, and must also be released for the distortion to be balanced.

These distortion patterns are repeated in the soft tissue restrictions governing the cranial motion. This provides additional understanding of the relationship of the cranial motion, reciprocal tension membrane, the dura and the cerebral spinal fluid. The restrictions in the soft tissue that distort and restrict the flexion extension of the cranial bones, contribute to the distortion of the pelvis and scoliosis of the spine. In addition, restrictions of specific cranial sutures are related directly to soft tissue restrictions and rotations of ribs and vertebrae. They are part of the problem, and can also become a very effective part of the solution.

The following case study exemplifies an effective treatment process for thoracic outlet syndrome.

Charles, a 37 year-old accountant and bowler, developed thoracic outlet syndrome during a bowling tournament. There was not a specific time during the tournament that

he was aware of having injured himself. However, by the end of the tournament he had shooting pains between his shoulder blades running down the back of his arm into his hand. After a sleepless night he contacted his primary physician and was referred to an orthopedic surgeon who gave him a cortisone shot around the 3<sup>rd</sup> thoracic vertebra in the rhomboids and sent him to physical therapy. After one week of physical therapy he had a 2<sup>nd</sup> cortisone shot and was given a prescription for five more weeks of physical therapy. After the five weeks there had been little change. A friend had referred him to a chiropractor who had been adjusting his thoracic vertebrae three times a week with only temporary improvements.

Charles was then referred to me. Structural evaluation revealed a structural collapse of the core distortion with an anteriorly rotated left ilium, posteriorly rotated right ilium, tipped sacrum, scoliotic curvature of the spine, a medially rotated right shoulder, and the left shoulder higher at the superior angle of the scapula. There was significant contraction within the rhomboid major and minor at the diagnosed site of his thoracic outlet syndrome. In addition, Charles' neck was forward and tipped to the right with the head tilted to the left for balance. This was a whole body distortion.

It was obvious that significant changes in the soft tissue throughout the whole body were necessary to allow Charles' structure to rebalance. The physical therapist focused on strengthening the traps, rhomboids and levator scapula in the area of the thoracic outlet syndrome, the orthopedist had treated the site with cortisone, and the chiropractor had adjusted the specific thoracic vertebra at the site of the thoracic outlet syndrome, all with only temporary relief. Since the whole body was in a structural collapse, I addressed all the muscles and connective tissue throughout the whole body to take the pressure off the specific site of the nerve impingement and create a balance that would relieve the scoliosis and resulting thoracic distortions.

The treatment of the muscles and connective tissue had to be very specific in order to release the imbalance of the pelvis and add support to the spine and thoracic region. Since the core distortion within the cranium that involved the dura down to the sacrum was governed by soft tissue restrictions, its release would help bring the pelvis into weight bearing balance and support, and release adhesions along the dura that were part of the restriction on the impacted nerves.

To treat Charles effectively, Cranial/Structural techniques were applied to balance the cranial motion, release soft tissue restrictions of the cranium, and increase the flow of the cerebral spinal fluid in the

cranium and the spinal column. This also brought the sacrum and ilium into weight bearing support of the spine allowing an unwinding of the spinal scoliosis up through the thoracic kyphosis at the site of the thoracic outlet syndrome. This release of the scoliotic curvature also initiated the unwinding of the soft tissue in the myofascial holding patterns to allow further structural balancing of the thoracic vertebrae and ribs. This had a positive effect on taking pressure off the nerves exiting through the foramen (opening) between the vertebrae. The soft tissue unwinding also took pressure off the nerves that were compressed by tension in the soft tissue which further relieved his condition.

The Cranial/Structural work was followed by specific soft tissue protocols to bring the pelvis further into balance and further release the scoliosis of the spine. These protocols also work specifically with the head, neck and shoulders, and the thoracic rib cage. Each protocol was specifically applied to release the core distortion of the body further into balance and to take pressure off the collapsed area of the thoracic outlet syndrome. After several sessions Charles experienced significant improvement and was using his arm and shoulder without pain in his daily activities.

The soft tissue work in the thoracic region was most effective after balance was achieved in the pelvis and neck and shoulders. The 3-step approach of releasing fluids, toxins, inflammation and ischemia, directed myofascial unwinding, and individual fiber strokes for scar tissue and adhesion release, in the above order, allowed deep work over areas where there was significant pain from nerve entrapment. The anterior side of the body was treated first because the rib cage was pulled down in the core distortion. The release from the anterior side resulted in a significant release in the compensating tissues on the posterior side even before they were treated. This allowed more specific and effective work on tissues directly related to the nerves involved in thoracic outlet syndrome resulting in long term relief. After six sessions Charles no longer had the symptoms of thoracic outlet syndrome and was experiencing overall improved structural balance and its resulting benefits. Charles' bowling was even better.

By treating the structural collapse of the core distortion, massage techniques were effective long term where medications, physical therapy, and chiropractic were not.