The Elusive (and Painful) First Rib

By Makani Lew, DC

Dysfunction of the costotransverse joint can be one of the most aggravating subluxations for a patient and, occasionally, the doctor of chiropractic. A first-rib patient will present in your office with interesting findings. She will be experiencing persistent, nagging pain. She will point to the area just in front of the trapezii and complain while shrugging her shoulder area, as if to "writhe out" the discomfort. Her complaints may touch on a variety of areas, such as:
"Something's not right in my shoulder."
"Something *catches* when I move my arm."
"My shoulder feels achy."
"I feel tingling down the arm and in my shoulder."
"My fingers go numb."
"It hurts in the angle at the base of my neck."
"It hurts when I sleep on that side."
"I can't seem to take a deep breath."

Associated Complaints
We need to make sure to rule out (or in) the costotransverse joint dysfunction when the patient has many other complaints since it is frequently confounded with them: neck pain; headaches; carpal tunnel syndrome; chest pain; rhomboid pain; upper and middle thoracic pain; elbow, wrist, and hand pain; and clavicular pain.

Possible Causes
The plethora of events that could lead to the costotransverse joint dysfunction includes, but is not limited to: excessive writing (student syndrome); gardening; cooking that involves considerable whisking; working at a desk, excessive use of a mouse or keyboard (especially if the seat is too low and the shoulder has to shrug to use the mouse); playing computer, video and handheld games; sleeping on the side with a pillow that's too small; and excessive driving in congested traffic.

Evaluating The Rib
Evaluating the first rib often involves finding a position where the doctor is able to sneak past the irritated trapezii and scalenes muscles. This is done by adding a little laxity to the muscles by bending the head toward the involved side and palpating through the little pocket that this creates. Pushing superior to inferior will reveal a very hard, bony feel that the patient reports as very tender. On some patients, palpation may suggest that both of the costotransverse joints are dysfunctional, but one is reported as more tender. Start by adjusting the more tender of the two, but don't hesitate to adjust the other side if it still feels tender after the first adjustment. Finally, a suspicion of this type of problem may turn out not to be a matter of joint dysfunction at all, but a cervical rib, instead.

The First-Rib Adjustment
Now that you have found the offending rib, it's time to adjust it. I've used several adjustments and these are my preferred approaches.

One move is supine and the other is prone. Both moves are set up very similarly, involving laterally flexing the head to the same side and slightly rotating away from the superior first rib. I have noticed that the patient is more relaxed and easier to stabilize while performing the prone move, which is therefore preferred. The stabilization hand presses lateral to medial on the opposite side, bracing the side of the head and some of the postero-lateral aspect of the neck. Both moves use a doctor's contact point of the proximal interphalangeal joint of the index finger on the superior first rib, along with the web of the hand contacting the surrounding area. The thrust is superior to inferior and lateral to medial. I would suggest thrusting toward the patient's inferior angle of the scapula on the opposite side. The thrust is quick and gentle, using the cushion of the softened and lax trapezius and the web of the doctor's hand to soften the impact.

Other Important Points
I find that this adjustment is so effective that treatment success may be achieved in as few as 1 or 2 visits. Because of the tenderness factor, however, the doctor generally gets only one chance to perform this maneuver satisfactorily, so a succinct thrust is essential. If the patient truly has a superior first rib, is relaxed, and the doctor's line of drive is well directed, the maneuver should meet with success. If not, there may be other adjustments and soft-tissue work that need to be done in related anatomical areas. The other associated subluxations include the superior clavicle, the anterior-superior humerus, and C7 or T1 subluxations. ■

Makani Lew, DC, teaches technique as a member of the faculty at Palmer West College of Chiropractic and is in private practice in Santa Cruz, California. She can be reached at Makani.Lew@palmer.edu.

This column is coordinated by Robert Cooperstein, DC, professor and director of technique/research at Palmer West College of Chiropractic. Dr. Cooperstein accepts manuscript submissions at Cooperstein_r@palmer.edu or by fax at (408)944-6118.

Still other conditions that could produce pain radiating down the arm and into the chest, upper back, etc., are disc lesions, tumors, infections, and osteophytes. While osteophytes are not rare, particularly in the older population, thoracic outlet syndrome, etc., can also cause such symptoms. Thanks to Dr. Tom Hyde for these comments.

Sources:

1. Rollis, C. Costovertebral Adjusting Is A Reality. *Dynamic Chiropractic*, May 20, 1994, Volume 12, Issue 11.
2. www.chiroweb.com/archives/12/11/04.html.
3. Peterson D, Bergmann T. *Chiropractic Technique: Principles and Procedures,* 2nd Ed., St. Louis, 2002, Mosby.

Fig. 1: The pain is anterior to the middle trapezius and posterior to the clavicle, deep in the shoulder "pocket."

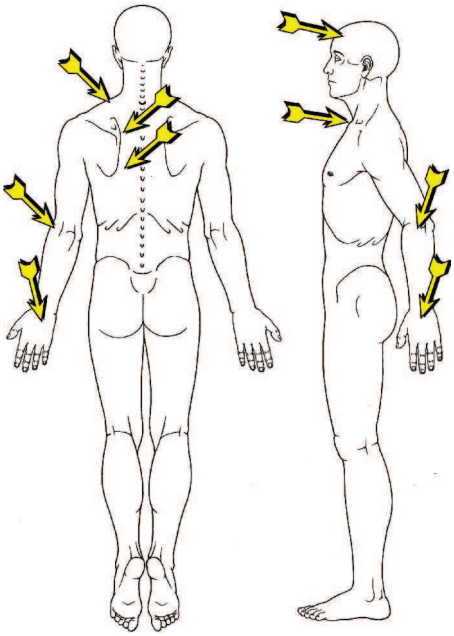

Fig. 2: Many other problems may actually be relieved by addressing the first-rib subluxation.

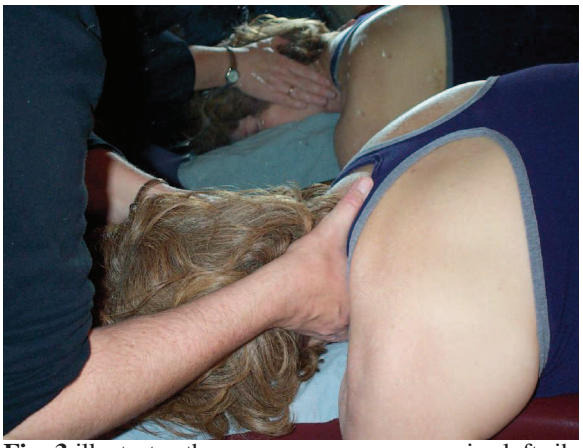

Fig. 3 illustrates the prone move on a superior left rib. The picture in the forefront shows the adjusting hand and the rear picture in the mirror shows the stabilization hand.