Working with Rib Restrictions

By Til Luchau

Take a breath. How much did your rib cage move, and where? Take another breath, this time without moving your ribs quite as much. Was it an unpleasant, hard-to-breathe sensation? That's what restricted rib motion feels like, whether the restrictions are from connective tissue constriction, pain, posture, or habit.

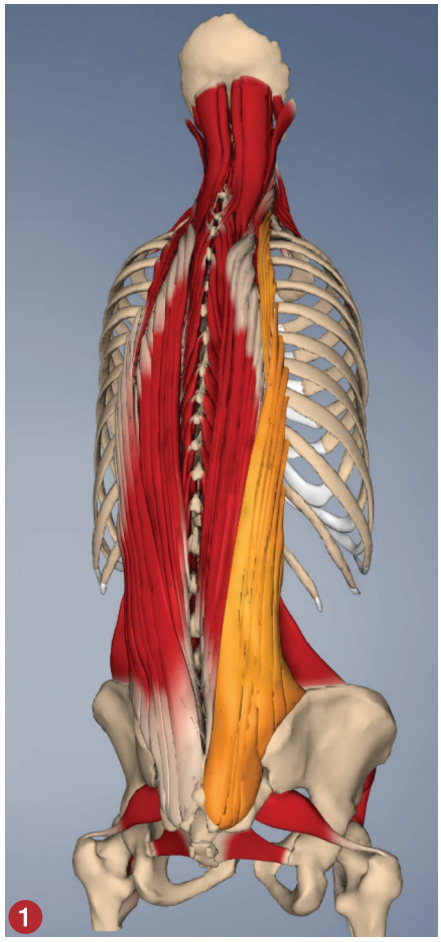
Breath efficacy affects many functions, from metabolic processes to our energy level, alertness, and mood.[1] Because we take approximately 24,000 breaths in a day, even small changes in our respiratory efficiency will have cumulative and far-reaching body-mind effects. Fortunately, this multiplying effect works both ways: not only can breath restrictions make us feel bad, but even small, incremental improvements in rib freedom can improve well-being on many levels.

Restricted rib motion can arise from the usual things that cause us to lose mobility: stress, postural and habitual stance, inactivity, disease, pain, or injury. No matter what the cause, skilled hands-on work can be an effective way to help reestablish lost motion. I'll discuss three techniques for restoring rib cage mobility, taken from Advanced-Trainings.com's Advanced Myofascial Techniques series. We'll begin with the back.

ERECTOR TECHNIQUE

Your work with rib restrictions will be more effective if you take time to release the larger, more superficial rib structures first. Within the erector spinae group (Image 1), the iliocostalis and longissimus thoracis connect ribs to other structures, and will restrict breath mobility when tight (both connective tissue tightness and high muscle tone are common here). You will also find it easier to assess the movement of the ribs themselves in the subsequent techniques if you release the erector spinae group first.

The forearm tool (Image 2) is an effective way to work with the erectors. Without using oil (which would eliminate the slight friction necessary to differentiate individual layers), use your forearm to apply a bit of caudal (downward) pressure on the erectors, feeling for their lateral edge. At first, feel for variations in tissue density, rather than attempting to release or change anything. Keep your other, nonworking hand on your client, close to your forearm. This will help make your body position more stable, and give you a bigger "footprint" in your client's awareness, ultimately helping him or her to relax into your touch. Allow the slow release of the tissue to set the pace for your gradual gliding movement down the back. Begin with moderate pressure, in order to prepare and warm the superficial layers. Once they've released, on your successive passes feel deeper into the back's myofascia, working slowly, layer by layer. Don't be too concerned about the precise name of the erector subgroups you're feeling; your palpatory skill will show you where the restrictions are. You might ask your client to gently let the breath expand under your touch, releasing from the inside the same places you're working from the outside. Work the entire length of the erectors, but be extra sensitive over the lower floating ribs and lumbars.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COSTOVERTEBRAL JOINT TECHNIQUE

One of the most commonly overlooked places that ribs lose mobility is at the costovertebral joints, where the ribs articulate with the spine. Deep to the erectors, the area around these key joints is filled with ligaments and small muscles which, when shortened or hard, can bind the

Use the flat portion of your forearm to gently release the erectors, including the iliocostalis (orange), the most lateral of the erector spinae. *Image 1 courtesy Primal Pictures; used by permission. Image 2 courtesy Advanced-Trainings.com.*

ribs and vertebrae together into an immobile mass. Free costovertebral joints allow the ribs to change their angle in relation to the spine, lifting with inhalation, and dropping with exhalation. Since the costovertebral joints are obliquely arranged, with the rib lying anterolateral to the transverse processes of the vertebra (Image 3, page 114), these joints also allow a small amount of anterior rib movement as well; this anterior movement is an indicator of freedom at this joint.

Assess this anterior mobility after you've addressed the erectors with the previous technique. With your client prone, use what manual therapy teacher Art Riggs calls the "piano key" method: using either your fingers, thumbs, palm, or forearm (as in the Erector Technique, Image 2), check each rib's anterior mobility in turn. Each rib can be palpated just lateral to the muscle mass of the erectors, or on the upper ribs, just medial to the scapula. A variation is to reach under your supine client, and with your fingertips, lift each rib from underneath.

Whichever position or assessment method you choose, be sure you're feeling for the boney hardness of the rib itself, and not getting distracted by any remaining tightness in the soft tissues over the ribs or in the laminar groove. Each rib should give slightly when you put anterior pressure on it. An unyielding rib or particular tenderness with the test reveals an issue with that rib's costovertebral joints. Test all ribs, using caution and using very little pressure on the lowest two pairs of floating ribs.

Once you've identified which costovertebral joints are restricted, position your client on his side, with the restricted joint on the upper side (e.g., for right-side restrictions, your client would lie on his left side). Curl your client into a tight fetal position, with hips and spine in flexion, knees to the chest, and chin tucked. This position will give you a head start by creating a bit more space between adjacent vertebral transverse processes, opening them away from the neck of the restricted rib.

Using the flat section of your ulna just distal to your elbow, apply pressure (in an anterior and slightly medial direction) to the back (posterior angle) of the restricted ribs (Image 3, page 114). Usually it is most effective to approach at a low angle, almost parallel to the table. Tune the direction of your pressure until you feel the rib itself, then lean on it, check with your client about their comfort, and wait for a release. You can invite your client to breathe into his back, which will fill the area you're working with and encourage the spine to move slightly posteriorly. You can monitor this slight posterior motion of the spine with your nonworking hand. The key here is patience; stay comfortable in your own body so that you can sustain the pressure for several breaths, giving the ligaments around the joints time to respond. You'll feel the rib become subtly but tangibly mobile, if you wait long enough.

When you've released the restrictions on one side, turn your client over and work the restrictions on his or her other side, so that you're again working the upper side. Or, before your client turns over, check another dimension of that side's rib mobility with the Intercostal Space Technique.

Watch Til Luchau's technique videos and read his past Myofascial Techniques articles in *Massage & Bodywork's* digital edition. The links are available at www.massageandbodywork.com, www.abmp.com, and on Advanced-Trainings.com's Facebook page. Watch the free archived webinar related to this article at www.abmp.com.

Applying gentle, steady pressure encourages a restricted rib in the release phase of the Costovertebral Joint Technique. *Image 3 courtesy Advanced-Trainings.com.*

Stabilizing a rib against the lift of active inhalation allows the intercostal spaces to open like an accordion. *Image 4 courtesy Advanced-Trainings.com.*

INTERCOSTAL SPACE TECHNIQUE

Once you've addressed restrictions at the costovertebral joints, you can proceed around the rib's shaft to check for the ribs' cranial/caudal motion. Since the ribs articulate at their posterior and anterior ends, rib cage expansion causes their most lateral part to rise on inhalation, much like a bucket handle pivots on its fastened ends when lifted. This motion depends on the mobility not only of the costovertebral joints, but on the ability of the intercostal structures to lengthen and allow separation between the ribs.

To check the ribs' ability to separate, position yourself behind your side-lying client, facing the foot of the table. Your client should no longer be in the tight fetal position of the Costovertebral Joint Technique, but instead, lying with the spine straight, that is, neither flexed nor extended. Use a broad, open hand to check for expansion between the ribs as you direct your client to take a full breath (Image 4). When the ribs are free, you'll feel each intercostal space expand on inhalation, much like the pleats of an accordion expand (Image 5). Note any rib spaces that expand less than others. Most of us have restrictions here; for example, on women, the spaces at the level of a bra strap can become bound together by restricted fascia, and move all together, instead of as individual bones.

To address any restricted intercostal spaces you find, use the base of your forefinger at the edge of your hand to apply gentle caudal (inferior) pressure to the upper edge of the rib, below the restricted intercostal space (Image 6). For example, if the intercostal space between ribs four and five is restricted, apply inferior pressure to the upper edge of rib five, thus encouraging the restricted space to open with direct but gentle pressure.

Actually, your pressure itself will not open the space as much as your client's breath will. Once your hands are in position, ask your client to "inhale above this place," as you resist the tendency of the lower rib to lift with inspiration. It may take your client a few attempts to discover how to lift the ribs above your stabilizing hands. Patiently coach your client to be specific with their in-breath: "inhaling from here up." This motion will actively separate the ribs and open restricted intercostal spaces.

Depending on your client's tendency toward exhalation- or inhalation-fixation, sometimes it is more effective to reverse the technique, stabilizing a rib superiorly while the client actively exhales below that level (Image 6 inset). In this version, the contraction of the abdomen and internal intercostals in forcible exhalation pulls the ribs downward. When combined with your gentle upward pressure on the rib just above the restricted space, you can use the exhalation (instead of an inhalation) to open a restricted intercostal space. If one variation does not seem particularly effective with your client's intercostal restrictions, try the opposite approach. The release will be clear to both your client and to you when you get it right.

RIB PAIN CONSIDERATIONS

The techniques described here are effective in reducing many kinds of rib pain, including mild rib displacements or fixations. These techniques are a good start—you'll also want to assess how the diaphragm, chest, shoulders, and abdomen might be inhibiting rib cage mobility. It is important to keep in mind that in addition to soft-tissue or articular restrictions, rib pain can accompany other issues, including:

- Bruised, cracked, or fractured ribs; or costochondritis (inflammation of the sternal cartilage, usually painful but benign). These often respond best to rest and the passage of time. Once healed, these can leave behind tissue and movement restrictions that these techniques can help relieve.
- Pleurisy (inflamed linings of the lung cavity) should be considered when breathing is painful. Referral to a physician is indicated when pleurisy is suspected.
- Cardiac issues can also cause chest pain. In the most cautious approach, unexplained chest pain should be considered an emergency until cardiac issues can be ruled out.
- Osteoporosis (a bone disease that increases the risk of fracture) initially has few signs or symptoms unless a fracture has already occurred, and is difficult to detect without screening. Both men and women can be affected. Bone density screening is recommended when three or more of these risk factors are present: being over age 65, Caucasian or Asian, female, low body weight, or having a family history of osteoporosis. Play it safe and avoid excessive pressure on the ribs or spine when you suspect any risk of osteoporosis.

Stabilizing a rib against the downward pull of exhalation in the reversed Intercostal Space Technique. *Image 6 courtesy Advanced-Trainings.com; Image 6 inset courtesy Primal Pictures, used by permission.*

Boney movement, like the ribs' movement in breathing, is often not the main focus in a soft-tissue practice. By assessing and releasing the ribs' articulations and tissues, we broaden our effectiveness and increase the contribution we make toward our clients' overall well-being.

The techniques described here are a good start—you'll also want to assess how the diaphragm, chest, shoulders, and abdomen might be inhibiting rib cage mobility,[2] since the body is a web of connections and interrelationships. **m&b**

Notes

1. One study of the link between breathing and depression: R.P. Brown et al., "Sudarshan Kriya Yogic Breathing in the Treatment of Stress, Anxiety, and Depression: Part I—Neurophysiologic Model," *Journal of Alternative and Complementary Medicine* 11, no. 1 (February 2005): 189–201.
2. An expanded version of this article and a photo gallery are available at www.tinyurl.com/mb-rib-ext.

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