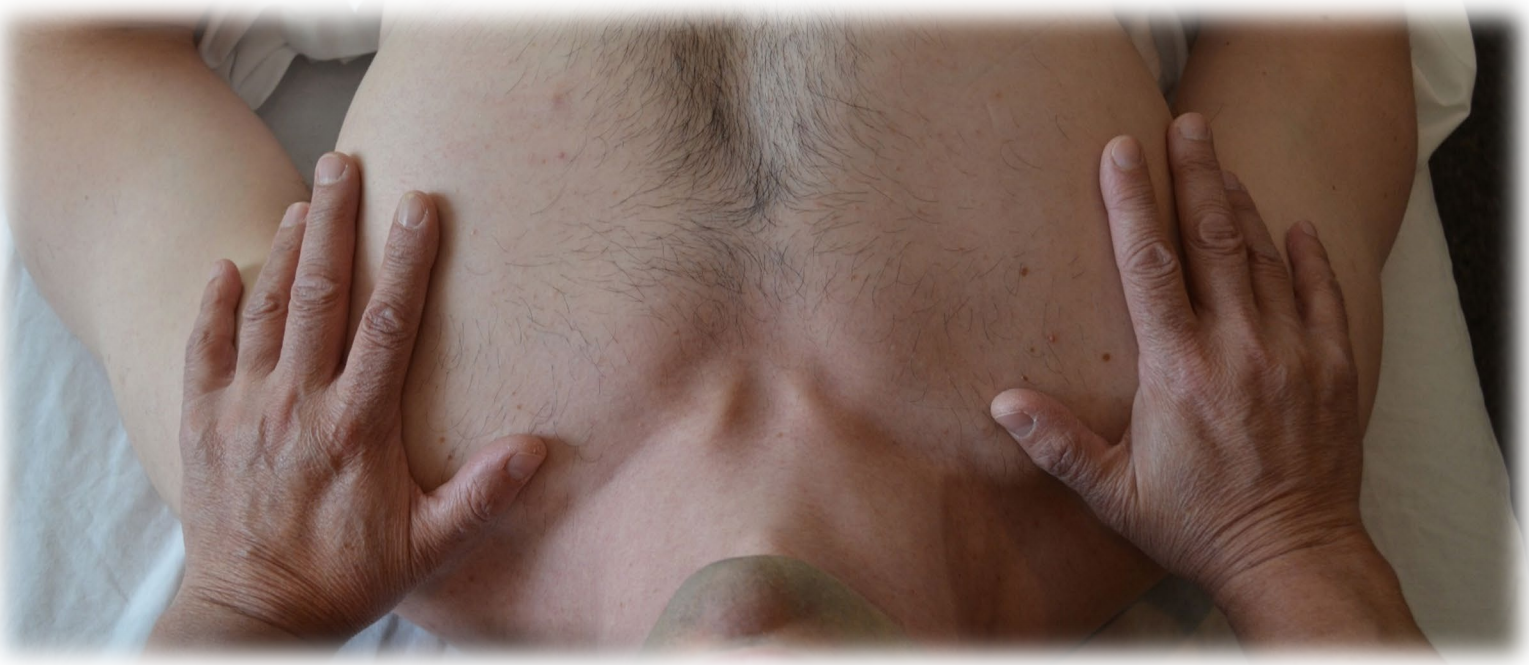
Take a Breath – Myofascial Release Techniques to Improve the Breathing Mechanism, Thorax, and Neck



Presented by:
Lisa M. Satalino, PT

Take a Breath – Myofascial Release Techniques to Improve the Breathing Mechanism, Thorax, and Neck

In this 7-hour class the participant will learn myofascial release techniques and principles targeted to improve the breathing mechanism, thorax, and neck.

Participants will engage in a laboratory style workshop gaining evaluation and assessment tools, hands-on instruction, and application of MFR techniques and principles to improve the breathing mechanism, thorax, and neck.

Techniques Covered:

Cervical Techniques: Pages 4-8

1. Thoracic Inlet release
2. Cross hand releases at occipital base
3. Anterior Neck and Throat Release
4. Hyoid Release
5. SCM Release with Traction
6. Scalene M. Release
7. Subclavious/Clavicular Release

Myofascial Releases for Thorax: Pages 8-12

Supine

1. Anterior Rib Release in Supine
2. Sternum Unwinding

Prone

3. Respiratory Diaphragm in Prone
4. Scapular Unwinding
5. Posterior Rib Cage Release in Prone

Sitting

6. Shoulder Girdle Yolk Technique
7. Unwinding of Lower ribs in Sitting
8. Neuromuscular/Myofascial Techniques in Sitting with Trunk Rotation

Visceral Manipulations of Ribs and Lungs: Pages 13-21

1. Inhalation/Exhalation Exercise - Visceral Mobilization of the Lungs
2. Lymphatic Pump
3. Upper Lung Balancing – Pump Handle
4. Lower Lung Balancing – Bucket handle
5. External Rotation of long Axis of Ribs Balancing
6. Mediastinum Balancing
7. Release of Suspensory Ligament/Pleural Dome
8. Release of Parietal Pleura
9. Release of Phrenic Center

Class Schedule:

8:30-9:00 Class Introduction and Concepts

9:00-10:00 Cervical Techniques 1-4

10:00-10:15 Break

10:15-11:00 Cervical Techniques 5-7

11:00-11:30 Thorax Techniques in Supine

11:30-12:15 Thorax Techniques in Prone

12:15 -1:15 Lunch

1:15 – 2:00 Thorax Techniques is Sitting

2:00-2:30 Visceral Manipulation Techniques 1-2

2:30-2:45 Break

2:45-4:15 Visceral Manipulation Techniques 3-9

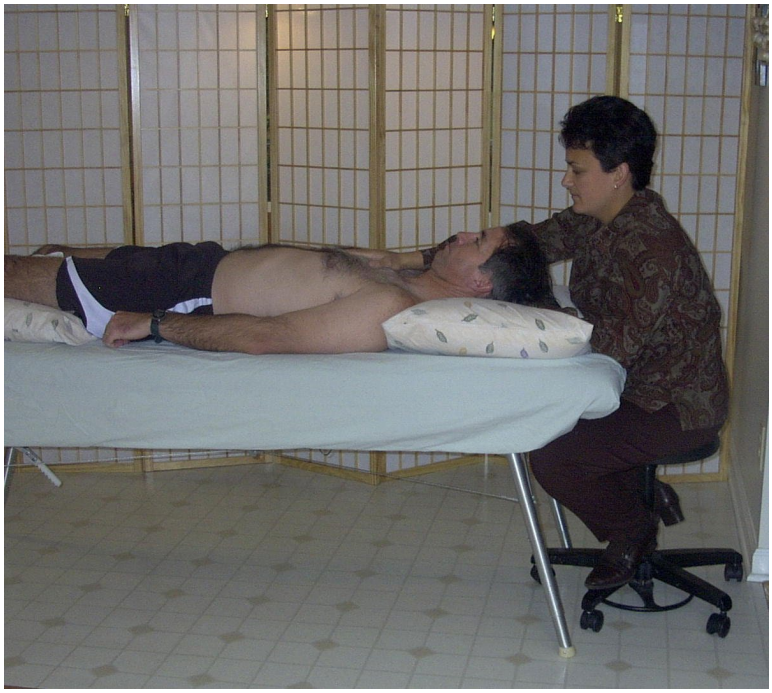
4:15-4:30 Course Wrap Up

Cervical Techniques:

Thoracic Inlet:

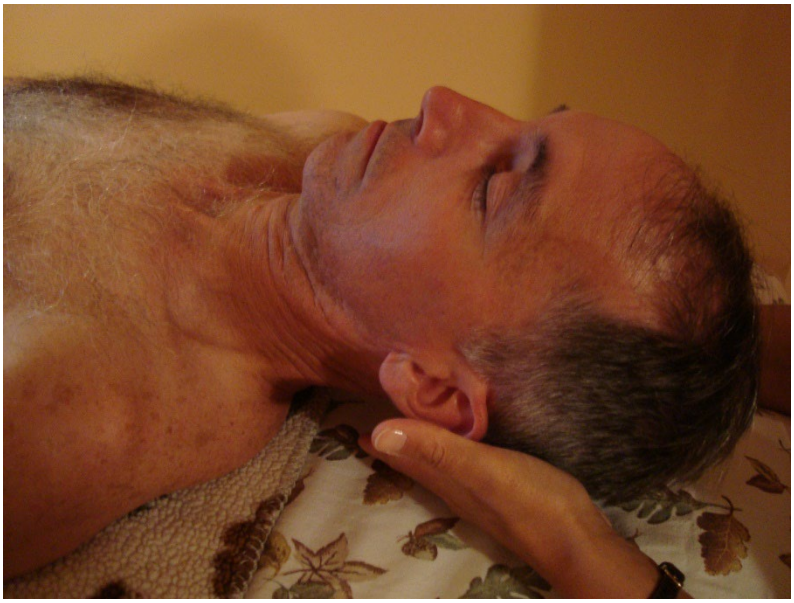
1. Place one hand under the cervical/thoracic junction, covering C7-T2.
2. Place the other hand on the anterior/superior thoracic wall so that you are covering the sternoclavicular joints, suprasternal notch, and costochondral junctions.

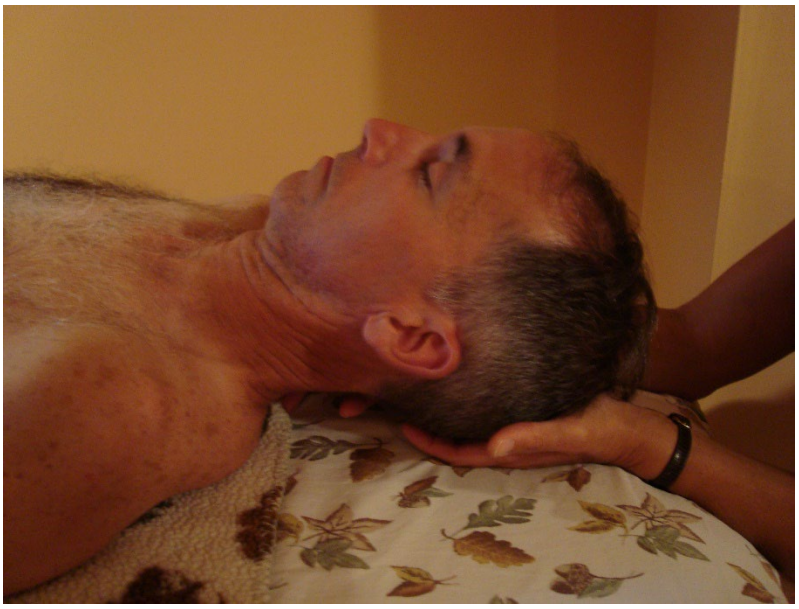
- This can also be completed with one hand supporting/cradling the occiput and the other hand placed as in #2.
- This technique should always be completed prior to completing an occipital condyle release.



Cross-Hand Releases at the Occipital Base:

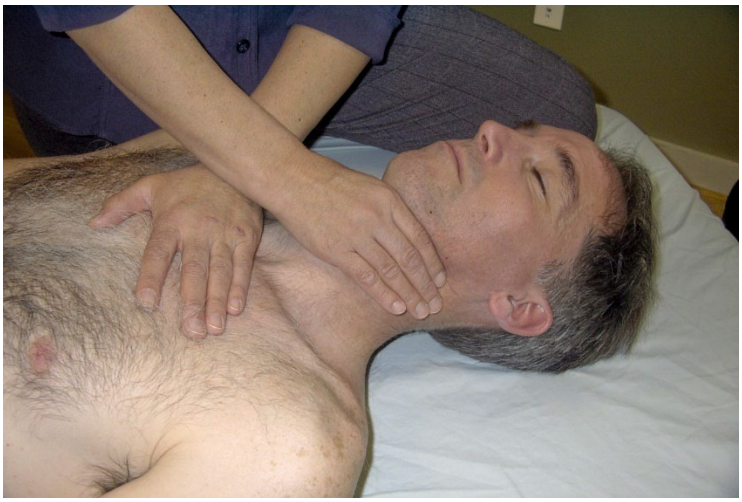
Place middle and ring fingers just lateral to each side of the cranial base and complete a cross hand/finger release.
Now complete a cross hand/finger release with fingers just superior and inferior to occipital base.
Follow these techniques with an O-A release.





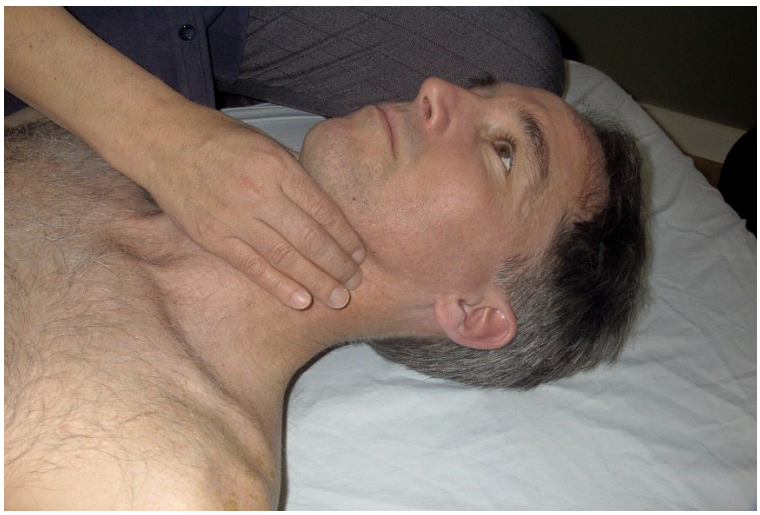
Cross Hand Release for Anterior Throat:

1. Place one hand at the sternoclavicular joints and upper sternum.
2. Place your other hand along the upper throat / lower jaw.
3. Complete a cross-hand release following as the tissue releases and unwinds three dimensionally.



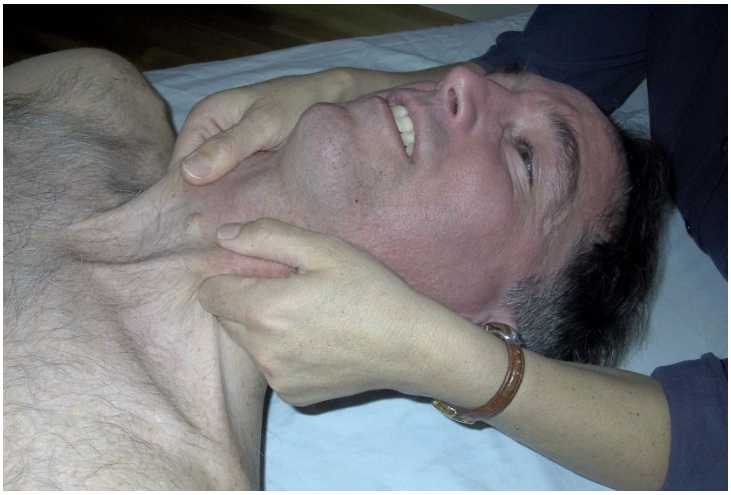
Hyoid Release:

1. Gently mold one hand around the hyoid and soft tissue around the hyoid.
2. Engage the hyoid and release three-dimensionally.
3. Follow with release of the supra hyoid by stabilizing the hyoid with one hand and placing the other hand under the mandible as a cross-hand release.



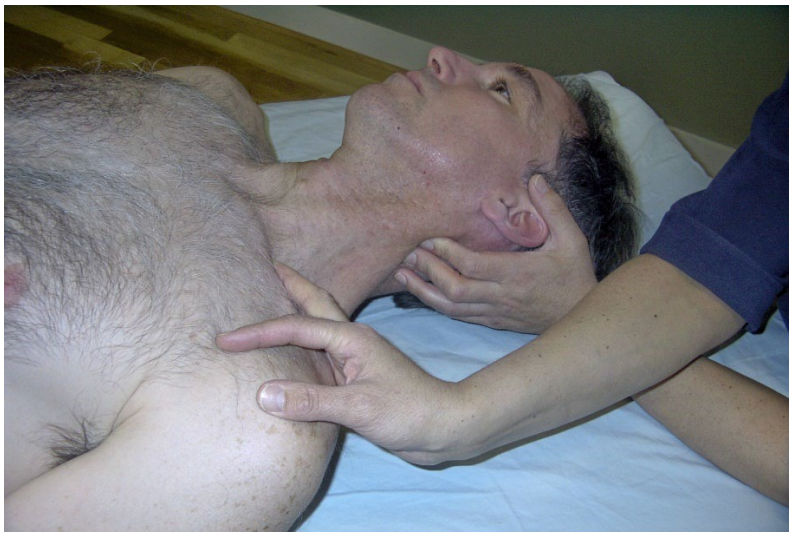
Sternocleidomastoid Release:

1. Trace the SCM muscle with your index finger and thumb.
2. Pull the SCM muscle up toward the ceiling and wait for a release to take place.
3. Follow as the tissue releases three-dimensionally.



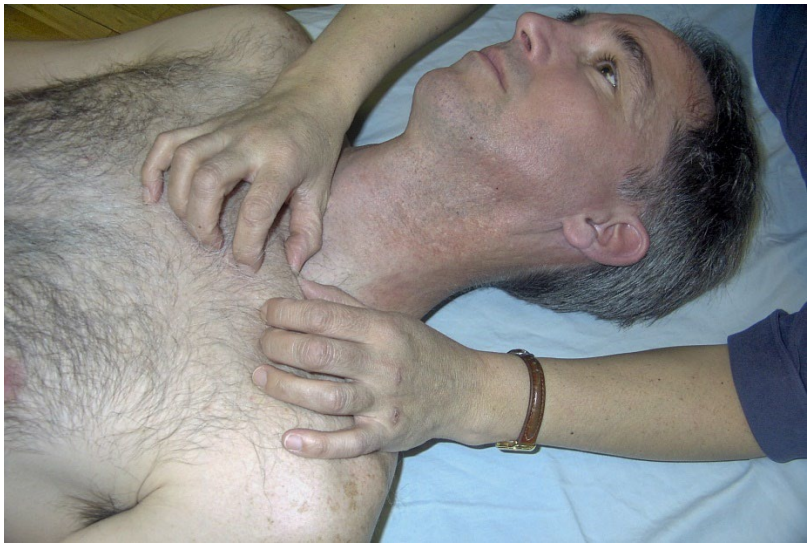
Scalene Release:

1. Place one hand posterior to the clavicle in the soft tissue above the first rib.
2. Place your other hand over the transverse processes of the upper cervical vertebrate.
3. Sidebend the patient's head laterally away from the side you are releasing and complete a cross-hand release.



Release of the Clavicle and Subclavious muscle:

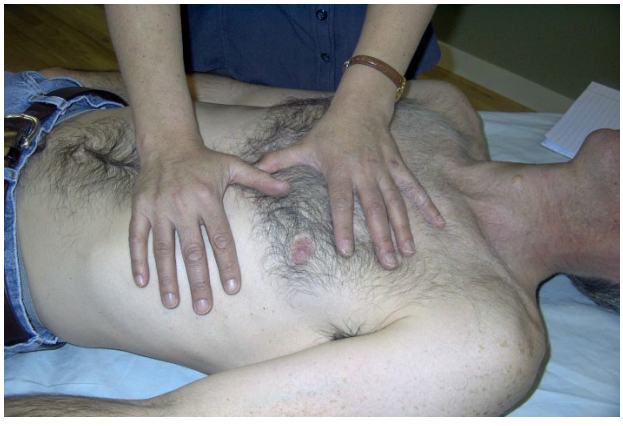
1. Place your index fingers and thumbs around the clavicle.
2. Sink your thumb posterior to the medial aspect of the clavicle.
3. Gently lift the clavicle in an upward (toward the ceiling) direction.
4. Follow as the tissue releases and the clavicle unwinds.



Myofascial Releases for Thorax:
Supine

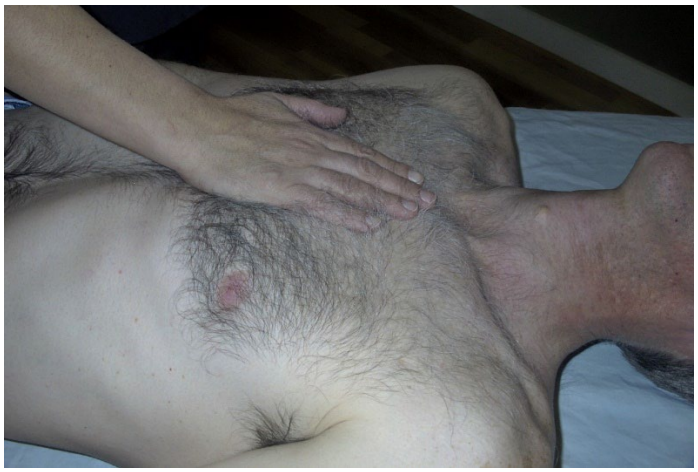
Anterior Rib Cage Release:

1. Patient is supine. Therapist places hands on sternum and central portion of lower ribs. (Therapist stands on the opposite side of the side being treated.)
2. Soften into the sternum and gently apply pressure through the body until you can feel a connection with the spine.
3. Take thorax into the direction of ease and wait for a release to take place.
4. Now take the thorax into the direction of restriction and wait for a release to take place.



Release of Sternum/Sternum Unwinding:

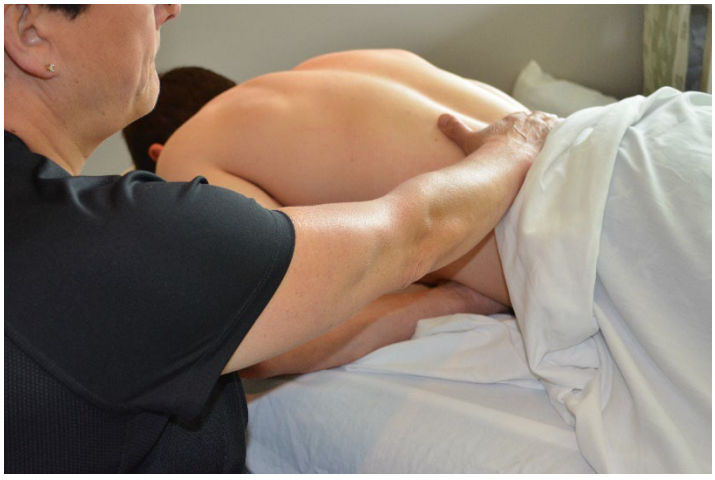
1. Patient is in supine. Therapist places a hand along the sternum longitudinally.
2. Motion test the sternum to determine the direction of restriction.
3. Provide a release into the direction of restriction following three-dimensionally as the sternum and the tissue around it moves and unwinds.
4. After several releases gently rock the sternum into the direction of restriction.



Myofascial Releases for Thorax:
Prone

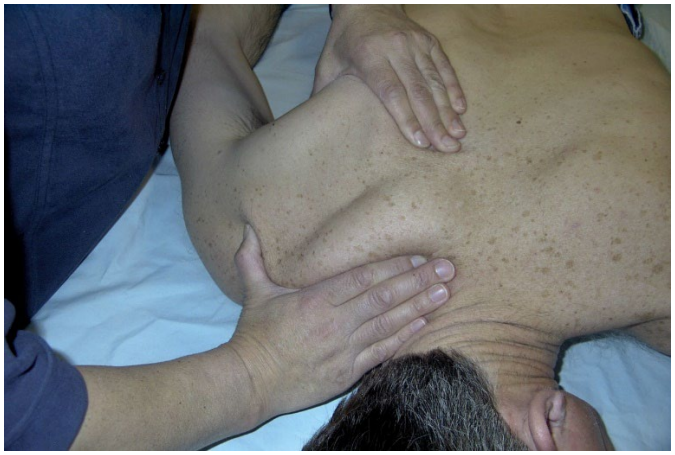
Respiratory Diaphragm Release in Prone:

1. Place one hand on the thoraco-lumbar junction.
2. Place the other hand over the epigastrium, the xiphoid process and the anterior inferior costal margins.



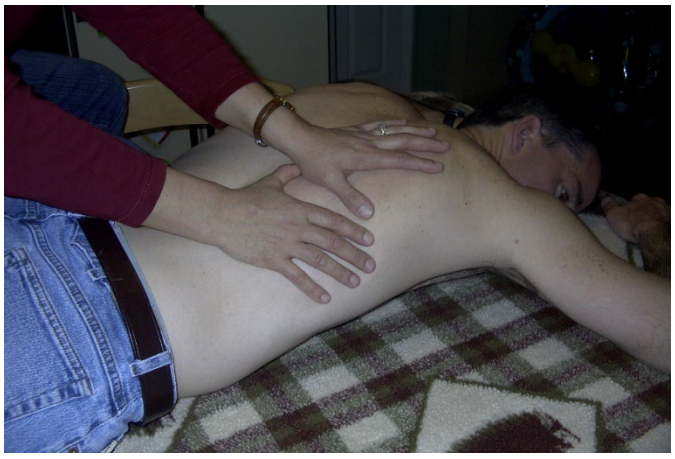
Scapular Unwinding/Release:

1. Place patient in prone and cradle the scapula in your hands.
2. Glide scapula along the rib cage in all directions to asses scapular and fascial mobility.
3. Provide a release into the direction of restriction following three-dimensionally as the tissue and scapula move and unwind.
4. Rock the scapula into the direction of restriction mobilizing into the barrier.



Posterior Rib Cage Release:

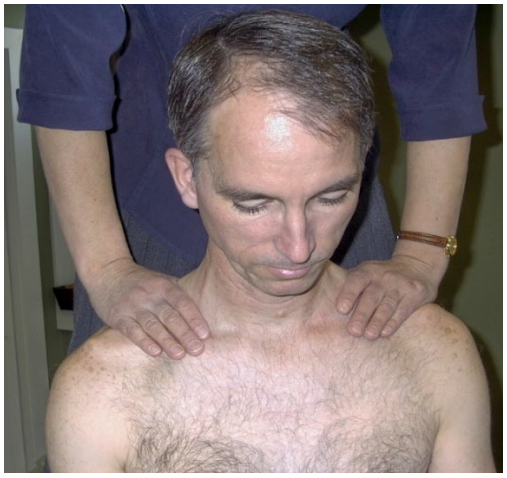
1. Patient is prone.
2. Identify the “high” side of the rib cage and stand on the opposite side of the treatment table.
3. Reach across the table and place your hands on the posterior lower rib cage on the “high” side with fingers pointing toward the cranium.
4. With both hands compress up through the soft tissue of the rib cage to the osseous structure of the ribs.
5. Using the osseous structure as a handle take up the slack in the tissue and release in a cranial direction barrier upon barrier.



Myofascial Releases for Thorax:
Sitting

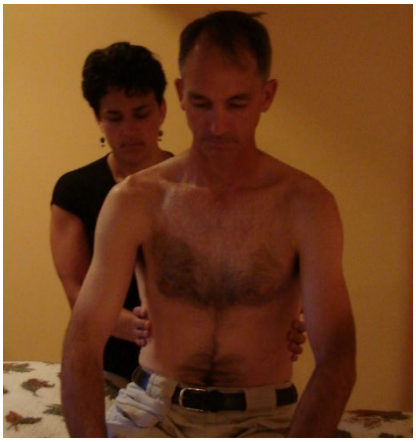
Shoulder Girdle "Yolk" Technique:

- Patient is in sitting. Therapist stands behind the patient with hands on the patient's shoulders/upper traps.
- Therapist compresses downward and laterally on the shoulder girdle to "pick up the slack" in the tissue.
- Follow the tissue three-dimensionally as it releases and unwinds through several barriers.



Unwinding of Lower ribs in Sitting

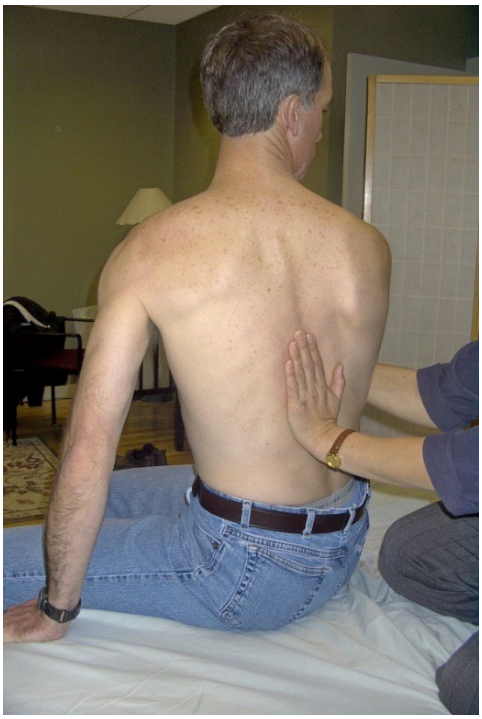
- Patient is in sitting. Therapist stands behind the patient with hands on the patient's lower rib cage.
- Therapist compresses downward and inward on the rib cage to "pick up the slack" in the tissue.
- Follow the tissue three-dimensionally as it releases and unwinds through several barriers



Neuromuscular/Myofascial Techniques

Thoraco-Lumbar Rotation:

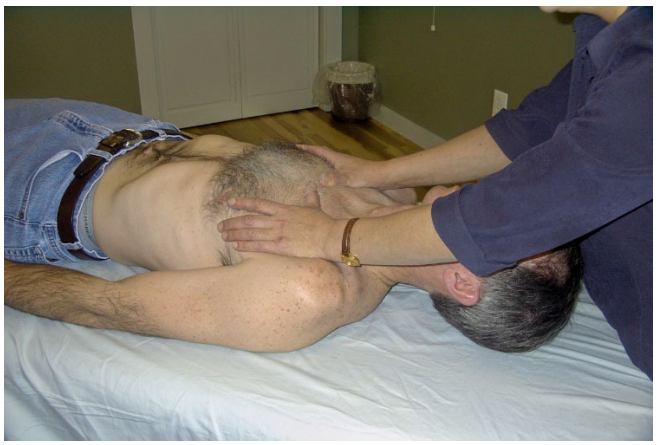
1. Patient is sitting on table and therapist is behind patient.
2. Using the lateral rib cage as handles, passively rotate trunk in both directions to asses ROM.
3. Ask patient to sit erectly with ischial tuberosities on the table. Focus attention on the rotation taking place at the thoracolumbar junction.
4. Place patient into the direction of ease and rotate the trunk into end range. Therapist has one hand at the respiratory diaphragm and one hand at the thoracolumbar junction.
5. Ask the patient to "sit up tall" to elongate their trunk and rotate as far as possible into the direction of ease.
6. Next have the patient rotate their head as far as possible and "look" with their eyes into the direction of rotation.
7. Now have them "look" without turning their heads in an upward direction, downward direction, and lateral direction away from the rotation.
8. Have them finish by looking back into the direction of rotation facilitating greater ROM into that direction at the T-L junction.
9. Repeat the process several times in the direction of ease and then complete the process into the direction of restriction.

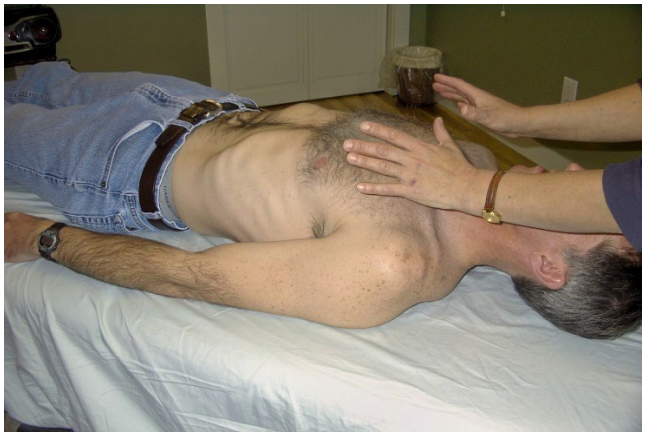


Visceral Manipulations for the Ribs and Lungs

Inhalation/Exhalation Exercise

1. Patient is supine and therapist is standing at the head of the table.
2. Therapist places hands on upper thorax distal to clavicles with fingers facing downward.
3. Therapist follows the ribcage during several inhalation/exhalation phases.
4. Therapist then applies slight resistance to inhalation and exhalation phases.
5. Now have patient inhale as fully as possible while therapist applies slight resistance.
6. Ask patient to hold breath and wiggle their fingers when they feel they need to exhale but ask them not to exhale until therapist allows it.
7. Therapist waits to feel pressure build in chest and then allows patient to exhale one time as fully as possible and hold breath at the end of that exhalation.
8. Again ask patient to hold breath as long as possible and indicate when they feel they need to inhale. Ask patient not to inhale until therapist allows it.
9. Therapist waits again until pressure builds in the chest cavity.
10. When the patient is "full" therapist "springs" chest and says "breathe" taking hands completely off of patient and waiting for the patient to "reorganize."



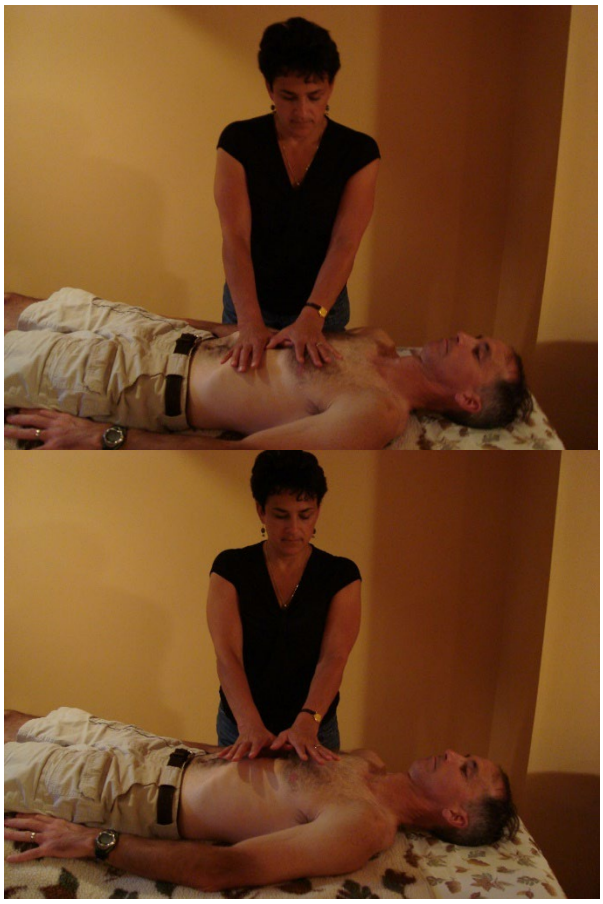


Lymphatic Pump for Respiratory Diaphragm and Thoracic Inlet

The below techniques improve lymphatic flow by creating a vacuum in the thoracic cavity and mobilizing the rib cage and its rib expansion.

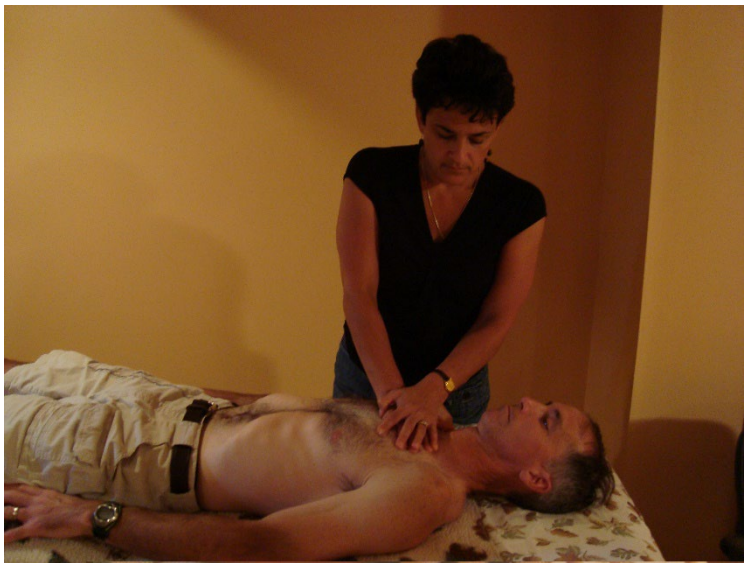
Respiratory Diaphragm:

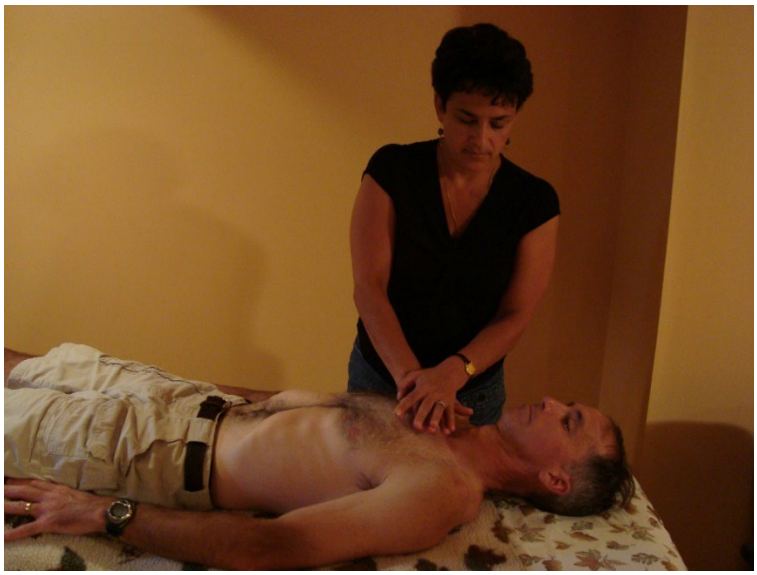
- With the patient in a supine position therapist places hands on rib cage over the respiratory diaphragm and xiphoid process.
- The therapist follows the patient's breathing cycle by keeping a steady pressure downward during inhalation and picking up the slack in the tissue during exhalation.
- After repeating several cycles, the therapist completes a quick spring release at the very end of an exhalation.



Thoracic Inlet:

- With the patient in a supine position the therapist places hands on upper chest over the thoracic inlet.
- The therapist follows the patient's breathing cycle by keeping a steady pressure downward during inhalation and picking up the slack in the tissue during exhalation.
- After repeating several cycles the therapist completes a quick spring release at the very end of an exhalation





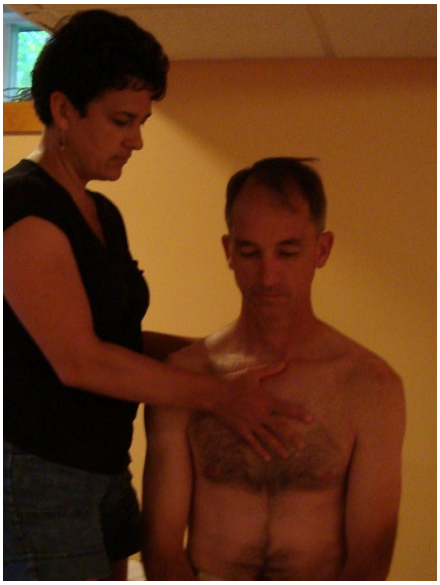
Balancing the Axes of Rotation for Lung Movement:

During inhalation, the lungs rotate around a set of axes. The direction of the axes is directly related to the orientation of the transverse processes. The upper lungs/ribs rotate in an anterior/posterior direction like that of a "pump handle" while the lower lungs/ribs undergo a "bucket handle" movement resulting in lateral elevation of the lower lungs/ribs.
There is also a horizontal rotational movement around a vertical axis created by the posterior arc of each rib which creates an external rotation of the entire rib cage.
All of these axes result in the lung expanding and externally rotating during inhalation.
Dysfunction within these axes can result in dysfunction in the functions of inhalation and exhalation.

For a complete description of the thoracic cavity function please refer to the text – Visceral Manipulation by /Barral and Mercier, Eastland Press, 1988.

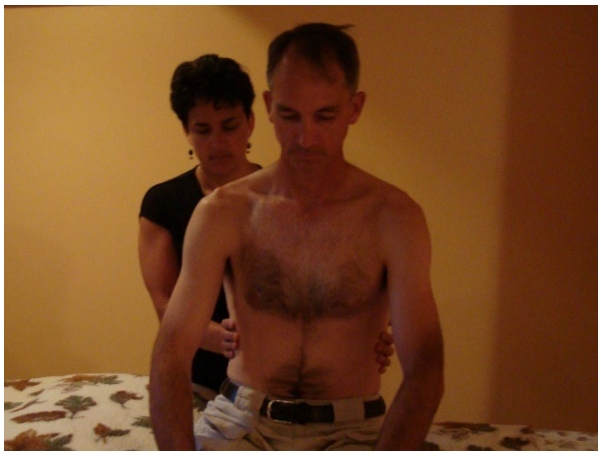
Upper Lung Balancing – Pump Handle

- With the patient in a sitting position place one hand on the sternum and one hand on the upper back.
- Follow the axes of motion in an anterior/posterior direction.
- As the patient exhales apply gentle pressure inward on the sternum and back.
- Create a gentle barrier to inhalation.
- Follow until a release takes place three-dimensionally.



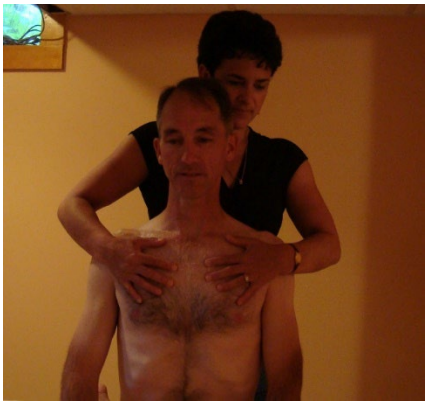
Lower Lung Balancing – The Bucket Handle

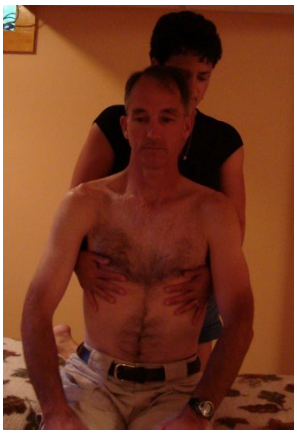
- With the patient in sitting place your hands laterally along the lower rib cage.
- Follow the motion of the ribs as they move laterally and medially.
- As the patient exhales gently follow with medial pressure.
- Create a gentle barrier to inhalation.
- Follow as above until a release takes place three-dimensionally.



Balancing External Rotation of Long Axis of Ribs

- Place hands on the anterior upper surface of the rib cage just lateral to the sternum.
- Follow the ribs as they externally rotate during inhalation and return to neutral during exhalation.
- As they externally rotate during inhalation follow them and create a gentle barrier to their return to neutral during exhalation.
- Continue this process several times until a release takes place.
- Repeat the same procedure with your hands placed on the anterior surface of the ribs just distal the xiphoid process.





Mediastinum Balancing

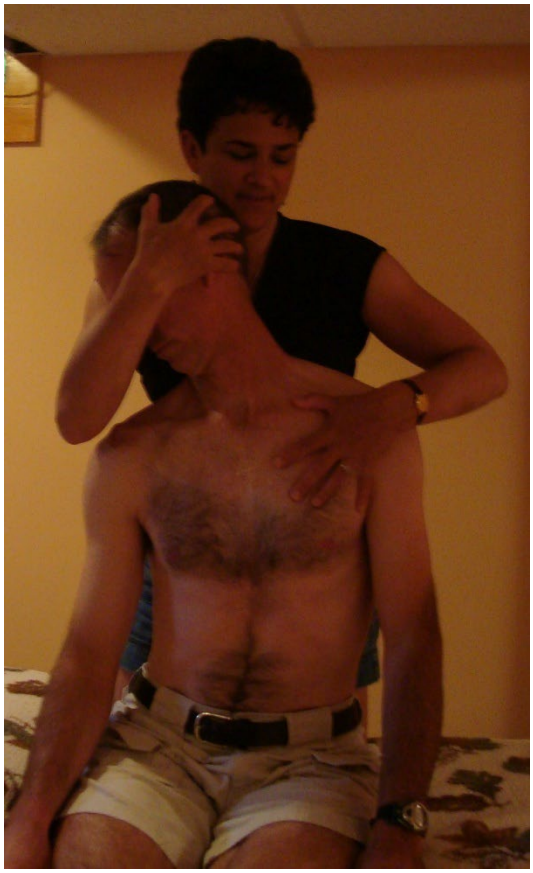
The Mediastinum divides the thoracic cavity in half and houses the heart, esophagus, trachea, and vagus n. While we can not palpate the movement of the heart itself, we can palpate the motility of the mediastinum because it appears to be the same as that of the sternum. The mediastinum along with the sternum swings anteroinferiorly during inspiration and posterosuperiorly during expiration.

- With the patient in supine place one hand gently upon the sternum.
- Follow the movement of the sternum/mediastinum as it moves in an anterior/inferior direction during inspiration and posterior/superior direction during expiration.
- Very gently follow into the direction of ease until a release is felt.
- Now follow into the direction of restriction until a release is felt.
- Finish by reassessing the motion.

Release of the Suspensory Ligament of the Pleural Dome:

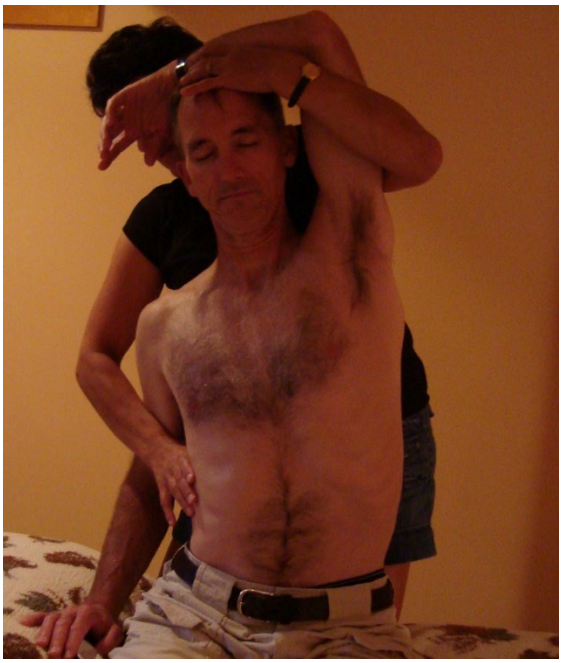
The suspensory ligament attaches the pleural dome to the skeleton. It consists of muscular fibers (scalenes,) and fibrous fasciculi. This ligament doesn't insert directly into the parietal pleura but into the intrathoracic fascia.
There is a direct link between the fascia that forms a connective tissue dome at the level of the top of the lungs and the cervical thoracic junction.

- The patient is in sitting and the therapist is behind the patient.
- Place one hand on the anterior lateral chest just distal to the clavicle on the affected side.
- Turn the head and neck in the opposite direction of the side you are treating.
- This stretch can also be accentuated by applying side bending of the head in the same direction as rotation and by pushing inferomedially on the upper part of the thorax on the affected side.
- Bring the tissue to end range and hold for a release.



Release of Parietal Pleura

- The patient is in sitting and the therapist is behind the patient.
- The parietal pleura can be released throughout the thorax by varying the degree of flexion/extension, rotation and side bending that you apply to the thorax.
- Begin by fully flexing the patient's upper extremity and placing their hand behind their head.
- Rotate and sidebend their neck in the opposite direction.
- Sidebend their trunk in the opposite direction and apply gentle counter-pressure to the thorax on the concave side.
- Hold until a release takes place.

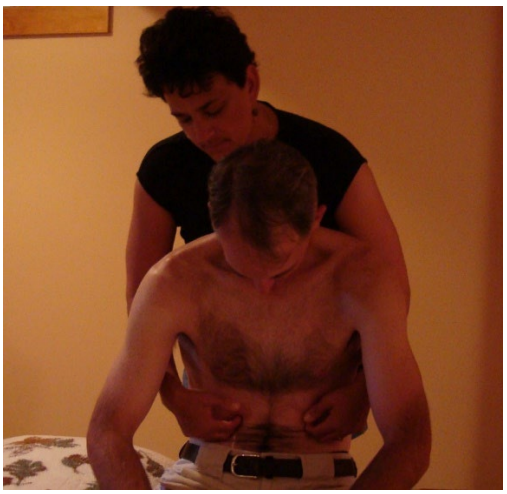


Release of Phrenic Center

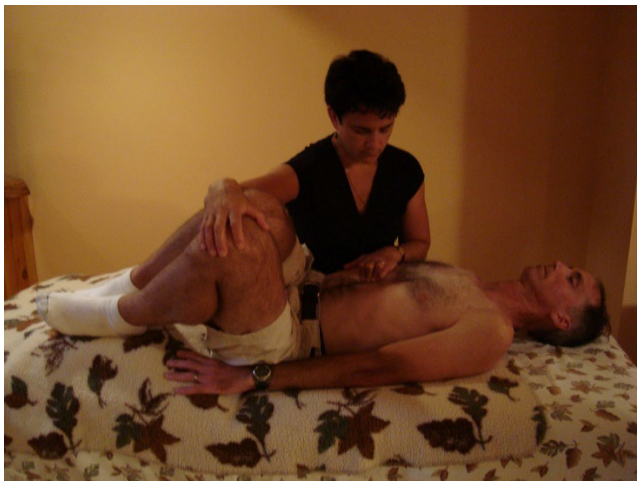
When the fascia, pericardial ligaments, and/or lung ligaments are shortened, the phrenic center (which is suspended from them,) is unable to function as well during normal respiratory motion.
The vertical tension is aggravated during inhalation and the diaphragm is persistently tense.
The purpose of this technique is to decrease restriction of the costal insertions on the diaphragm.

- The patient is in sitting and the therapist is behind the patient.
- The patient is in trunk flexion.
- Place the ulnar edges of your fingers under the thorax at the level of the costal cartilages, against the diaphragm.

- Gently release outward and upward with your hands and extend patient's trunk with your body.
- Complete the same process along all costal insertions of the diaphragm.
- When in complete trunk extension ask the patient to breathe in and maintain a gentle resistance.



- This technique can also be accomplished with the patient in supine.
- Place one hand under the costal cartilage of one side of the ribcage.
- Bend the patient's knees and hips.
- Rotate their trunk away from the side that you are mobilizing.
- Continue from the xiphoid process laterally and posteriorly for all costal attachments to the diaphragm.



Bibliography and Recommended Reading

1. Atlas of Manipulative Techniques for the Cranium and Face
Gehin, A. Eastland Press, 1981

2. Craniosacral Therapy
Upledger and Vredevoogd. Eastland Press, 1983

3. Myofascial Release – The Search for Excellence
Barnes, JB. JF Barnes Rehabilitation Services, Inc. 1990

4. Visceral Manipulation-Barral and Mercier, Eastland Press, 1988

Additional and updated resources:

1. Fascia in Sports and Movement. Schleip, et al. Handspring Publishing. 2015.

2. The Fascia – Anatomy, Dysfunction and Treatment. Paoletti. Eastland Press. 2006.

3. Fascia – The Tensional Network of the Human Body. Schleip, Findley, Chaitow, Huijing. Elsevier. 2012.

4. Architecture of Human Living Fascia – The Extracellular Matrix of Cells Revealed Through Endoscopy. Guimberteau. Armstrong. Handspring Publishing. 2015.

5. Shift Movement Science: www.shiftmovmentscience.com

Contraindications:

Keep in mind that before any treatment is undertaken, a thorough diagnostic workup by a physician should take place in order to rule out any underlying disease process. Furthermore, a comprehensive history and evaluation should precede any treatment.

The following are contraindications listed By Barnes and Upledger in reference to MFR and cranialsacral techniques:

MFR contraindications:

Malignancy
Cellulitis
Febrile state
Systemic or localized infection
Acute circulatory condition
Osteomyelitis
Aneurysm
Obstructive edema
Acute rheumatoid arthritis
Open wounds
Suture
Hematoma
Healing fracture
Osteoporosis or advanced degenerative changes
Anticoagulant therapy
Advanced diabetes
Hypersensitivity of skin

CST Contraindications:

Acute intracranial hemorrhage: may prolong the duration of hemorrhage by interrupting clot formation
Intracranial aneurysm – may induce leak or rupture
Herniation of medulla oblongata – life threatening condition
Recent skull fracture – best avoided: may be with discretion by advanced therapist
Acute systemic infectious conditions – generally avoided however compression and distraction or CV-4 induced “still-point” may help lower fever.