

Osteopathic Manipulation: 4 Cases

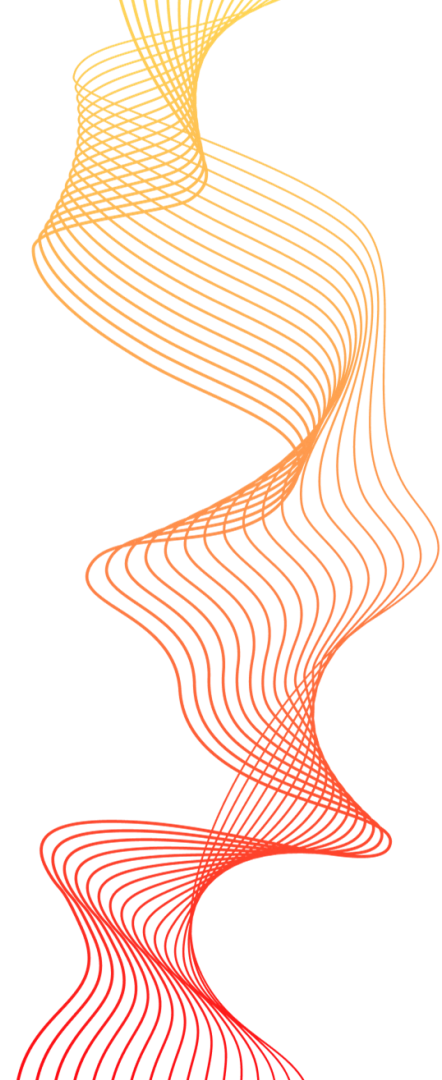
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▶ 4 Cases in Patient Management Using OMT

Case 1- antibiotic-resistant otitis media

Key topics- MFR of thoracic inlet, Galbreath's technique

Case 2- chronic, thoracic back pain

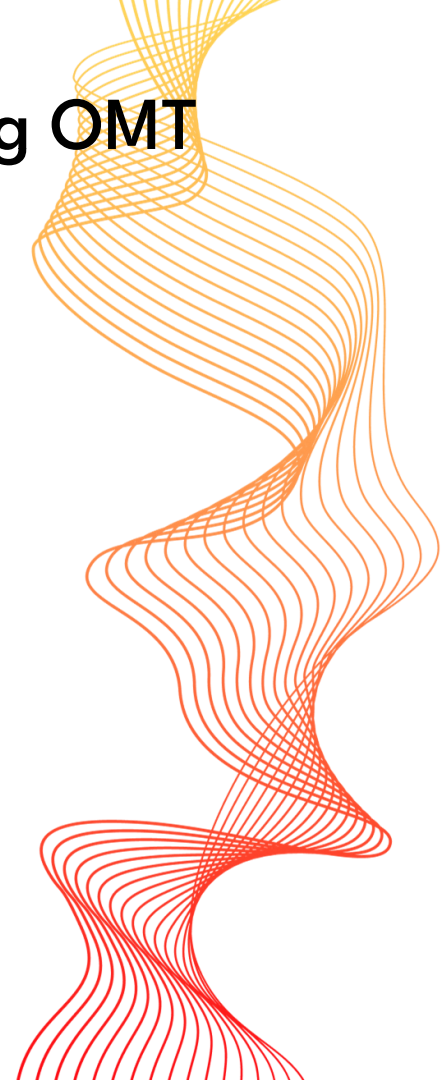
Key topics- Facilitated Positional Release, localization

Case 3- severe, SI joint pain in pregnancy

Key topics- HVLA, MET, and Still technique for superior innominate shear

Case 4- chest tightness and LBP in a hospitalized patient

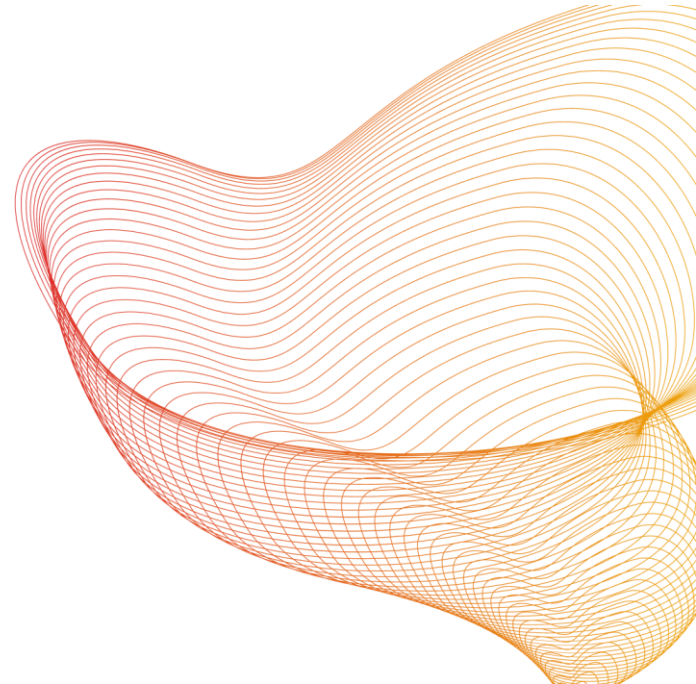
Key topics- MFR for respiratory diaphragm, lumbar





Case 1- Antibiotic Resistant Otitis Media

- 42 yo female patient presents with ongoing sore throat and right ear pain since February. Hx of swimming in “questionable water” although she denied submerging her head
- Pain began with R inner ear, and there is currently constant soreness in her right ear. She also complains of mild throat soreness when she swallows but denies any other symptoms such as a cough, congestion, erythema in her throat, etc. She had an appointment with an ear, nose, and throat specialist in 2 weeks.



Antibiotic Management

Self-treated with left-over abx for 3-4 days (possibly Azithromycin)

Syxs improved but didn't resolve

Obtained prescription of a different abx ("something starting with a C") from Urgent Care

Took it for 5 days until the syxs improved and then stopped; didn't take full course.

When syx returned she finished it but the syxs didn't resolve

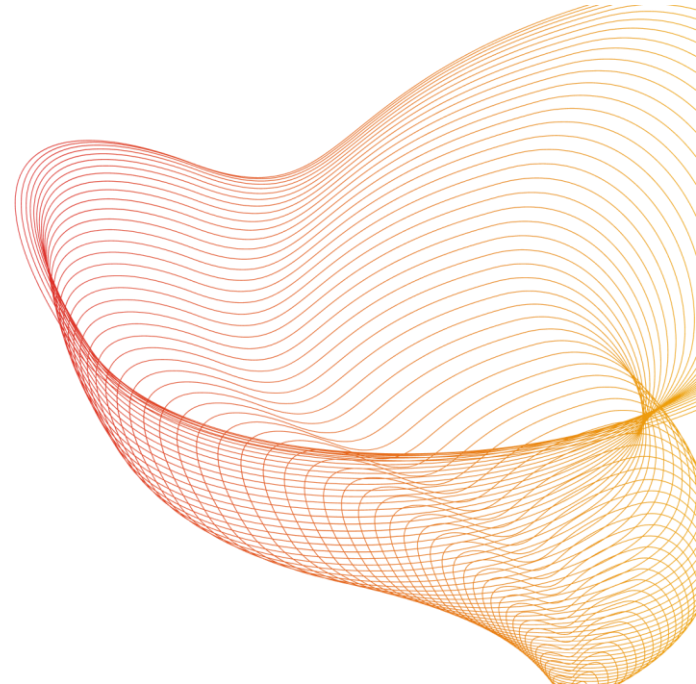
Obtained a 3rd abx from PCP (possibly Amoxicillin) and took the whole course but symptoms returned after it was completed





Physical Examination Findings

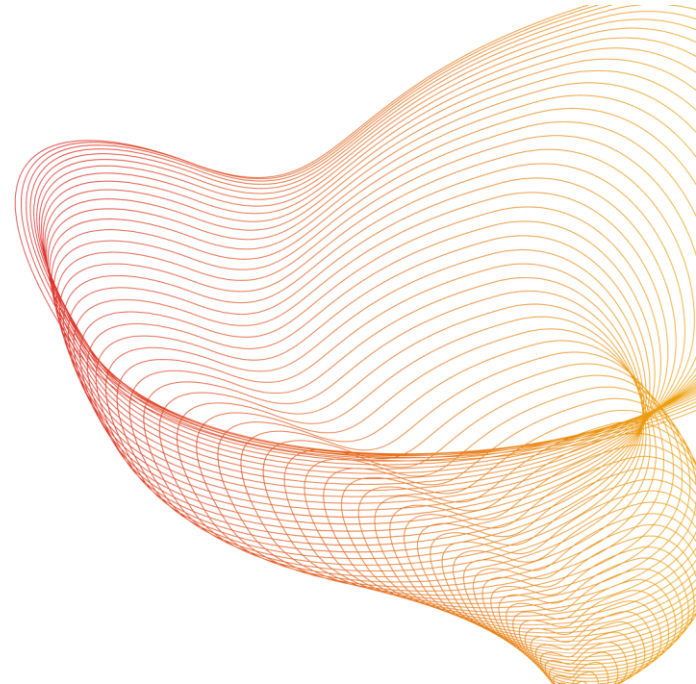
- Purulent, non-erythematous right tympanic membrane
- No erythema, cobblestoning, purulence, foul odor noted of the mouth and pharynx on oral exam
- Osteopathic findings: suboccipital myofascial tension, right temporal bone external rotation, right TMJ myofascial tension, and thoracic inlet rotated right, sidebent left.





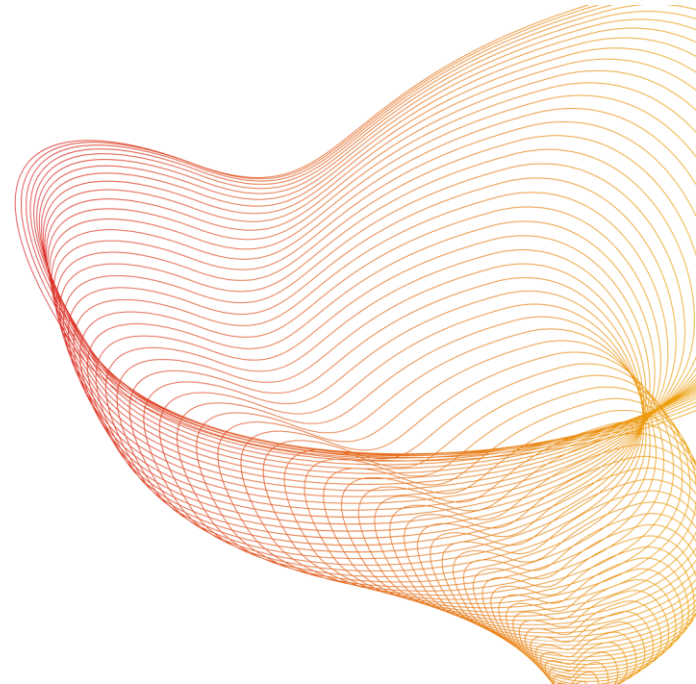
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Osteopathic Treatment

- Myofascial Release of thoracic inlet to address thoracic inlet rotation.
- Galbraith's technique to address tension of the right TMJ and Eustachian tube



▶ What is Myofascial Release?

- Myofascial release (MFR), a system of diagnosis and treatment first described by Andrew Taylor Still and his early students, which engages continual palpatory feedback to achieve release of myofascial tissues.
 - Direct MFR, a myofascial tissue restrictive barrier is engaged for the myofascial tissues and the ***tissue is loaded with a constant force*** until tissue release occurs.
 - Indirect MFR, the dysfunctional ***tissues are guided along the path of least resistance*** until free movement is achieved. (FOM III)



MYOFASCIAL RELEASE (MFR) TECHNIQUES

Thoracic Inlet MFR "Steering Wheel Technique"

Mechanism: Utilizing the boundaries of the thoracic inlet, it is easy to treat the entire complex with MFR to release lymphatic obstruction and promote lymphatic flow throughout the body.

Diagnosis: Flexed, rotated and sidebent right

Physician Position: Standing behind patient or seated at patient's head

Patient Position: Seated or supine

Procedure:

1. Anterior contact is made across sternoclavicular junction and ribs 1 and 2. Posterior contact is made with T1-2 and costovertebral junction. Therefore, the physician places hands on either side of the base of the patient's neck with fingers overlying the thoracic inlet and clavicle, palms over the upper trapezius, and thumbs contacting the transverse process of T1.
2. Apply slight compression to engage the thoracic inlet fascia, including Sibson's fascia.
3. Induce motion in anterior-posterior, medial-lateral, and rotational planes until the desired position is achieved. *
4. Hold 20-60 seconds until tissue creep indicates a release of tissue tension.
5. Reassess.

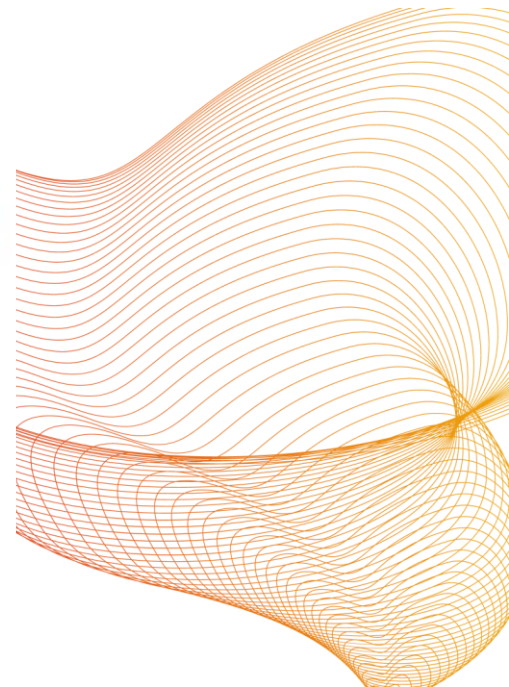
***Note:** If using direct MFR, engage the tissues in the position that creates the most tension and **follow** the barrier as it moves until there is no further change in the tissues. With indirect MFR, engage the tissues and move them into a position of maximal ease and **follow** the ease until there is no further change in the tissues.



A) Treatment position for Thoracic Inlet MFR



B) Hand position for Thoracic Inlet MFR





Galbreath Technique

Mechanism: This technique is utilized to address the Eustachian tube dysfunction contributions to otitis media in a pediatric patient. This technique is an oscillatory technique (similar to articulatory) with the pulsating force directed to musculature. By engaging the musculature of the pharynx, which is directly attached to the eustachian tube, the eustachian tube is opened. This allows the fluid in the eustachian tube to drain into the pharynx which helps the body to rid itself of the infection. This technique can be used to help clear middle ear fluid, improve ear infection symptoms, and also help to prevent otitis media when a child is sick with an upper respiratory infection.

Example Diagnosis: Right sided eustachian tube dysfunction potentially associated with right otitis media

Physician Position: Seated behind the patient or standing behind them

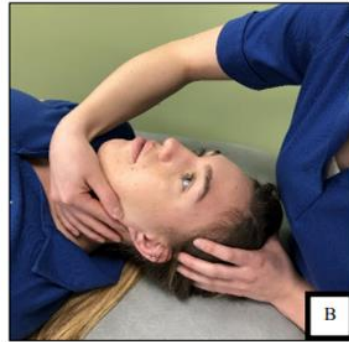
Patient Position: Sitting or supine

Procedure:

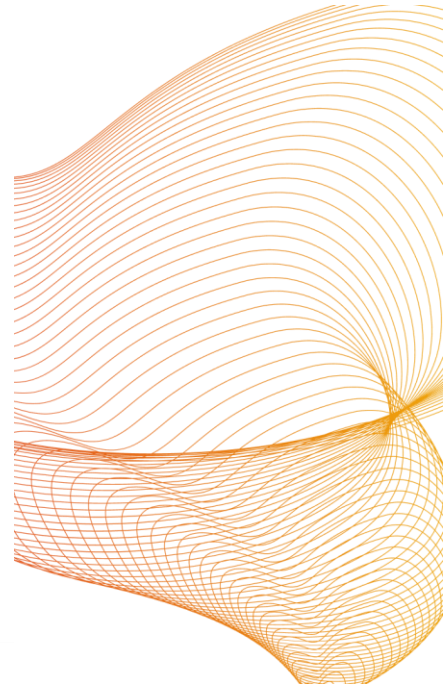
1. With the finger pad of the thumb or index finger, contact the angle of the mandible (A). [Alternative (classical) contact: contralateral hand contacts the angle of mandible with finger pads (B)]
2. Apply gentle inferior and medial pressure to engage the musculature of this area. Note the tissue texture changes of this area, including boggy or tense musculature.
3. Begin to rhythmically pull the musculature anteriorly, inferiorly, and medially in the direction of the long axis of the mandible.
4. Continue this motion until a release is palpated, and then reassess.



A) Treatment position: Galbreath Technique for infants



B) Treatment position: Galbreath Technique (Alternative/Classical) position



Case 2- Chronic Thoracic Back Pain

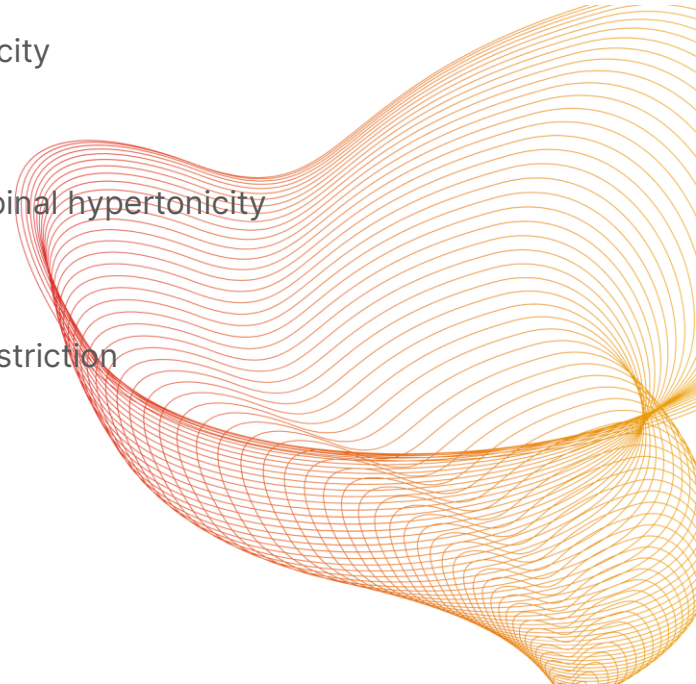
- 53 yo female patient with chronic thoracic back pain of many years duration.
- No major traumas or inciting events reported.
- Pain is aching and diffuse across the middle thoracic spine and worsens during the day.
- She has tried OTC NSAIDs but they do little for the pain



Physical Examination Findings

- Osteopathic findings:

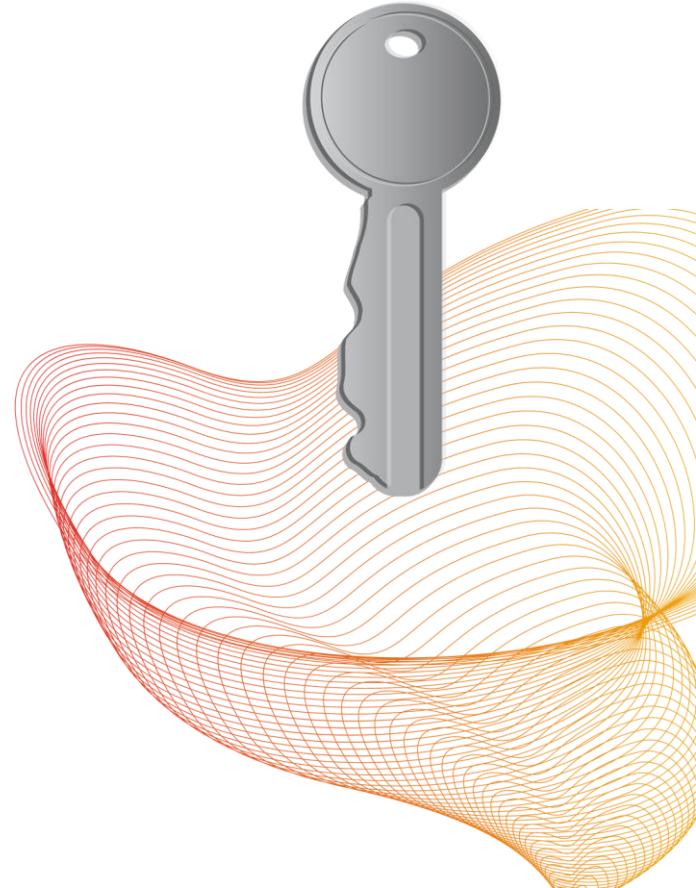
- Thoracic spine- T3-5 NRISr, thoracic paraspinal hypertonicity
- Ribs- sternal myofascial restriction, Cervical spine- paraspinal hypertonicity
- Upper Extremities- bilateral upper trapezius myofascial restriction





What is Facilitated Positional Release?

- Facilitated positional release (FPR) is a system of *indirect* myofascial release treatment. The component region of the body is placed into a neutral position, diminishing tissue and joint tension in all planes, and an activating force (compression or torsion) is added (FOM III)
- Neutralize curve of the spine -> apply compression or traction -> position tissue in direction of ease -> hold that position until the tissue releases (often 3-5 seconds) continuing to apply force -> return the tissue to neutral and reassess



Localization is key

FPR for Lower (T5-T12) Type I Thoracic Joint Dysfunctions

Example Diagnosis: T 6-8 NRLSR

Physician Position: Standing behind the patient

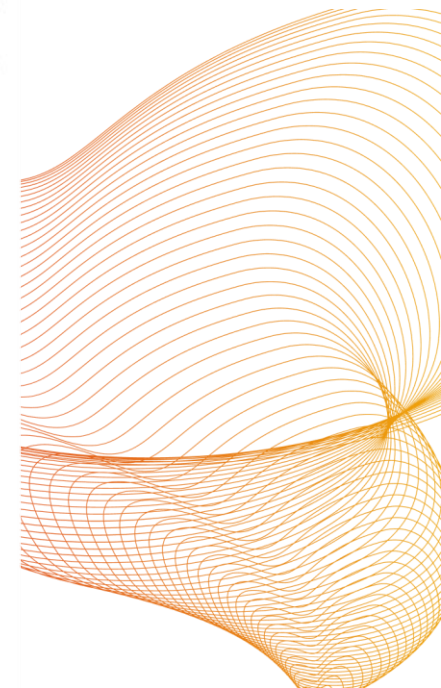
Patient Position: Seated

Procedure:

1. Place the index and middle fingers of the caudal hand over the transverse processes of T7. Apply gentle anterior translation to flatten the thoracic kyphotic curve.
2. Contact the patient's shoulders by placing the left axilla over the patient's left shoulder and reaching across the chest to contact the patient's right shoulder with the cephalad hand.
3. Using the patient's shoulders, place T7 into a neutral position.
4. Apply an activating force through the cephalad arm, axial compression or traction, vectoring toward T7. Make sure that the forces are localized to the joint being treated.*
5. While maintaining the activating force, bring the area into ease. For the above diagnosis this means right sidebending and left rotation to the level of T7. T7 should remain neutral in the sagittal plane.
6. Hold this position until a release occurs (typically 3-5 seconds).
7. Return the patient to neutral and reassess.



Treatment position: FPR T 6-8 NRLSR RVU COM OPP Manual



▶ Case 3- Severe SI Joint in Pregnancy

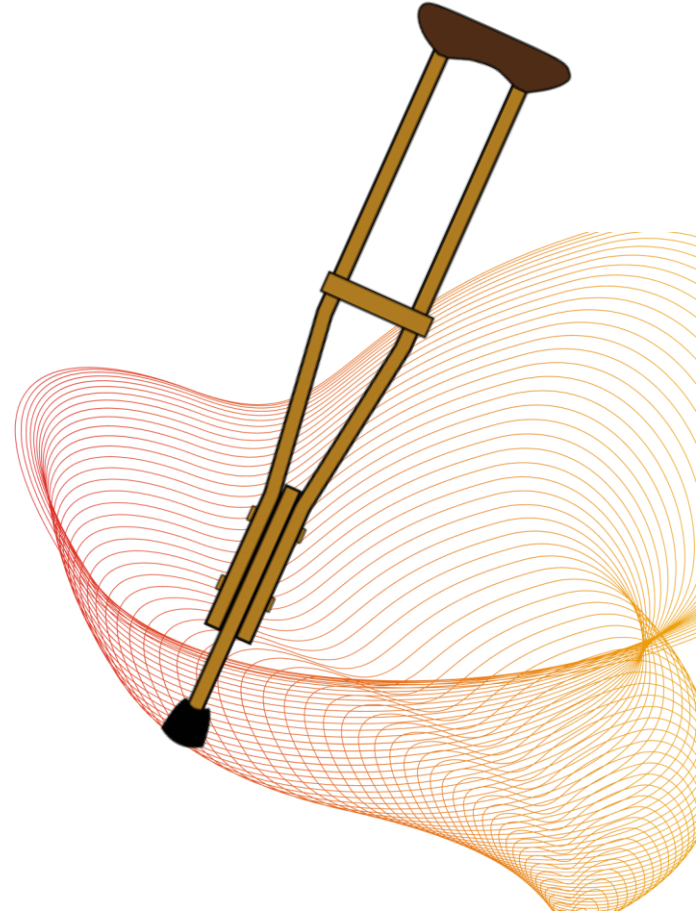
- A 28 yo female at 32 weeks gestation presented with severe left posterior hip pain with insidious onset three weeks prior
- She has experienced similar complaints in previous pregnancies but never as severe. She presents walking with crutches due to the pain
- Nothing makes it better, putting weight on it and ambulating makes it worse
- Tylenol provides only minimal relief



Physical Examination

- Patient presents with antalgic gait, difficulty changing positions (from standing to sitting to supine)
- Positive ASIS compression test on the left side (performed supine)
- Left ASIS, iliac crest, and PSIS were all superior on the left

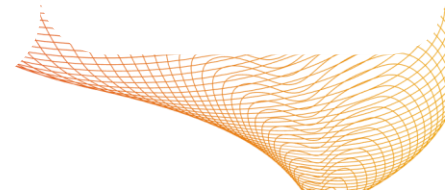
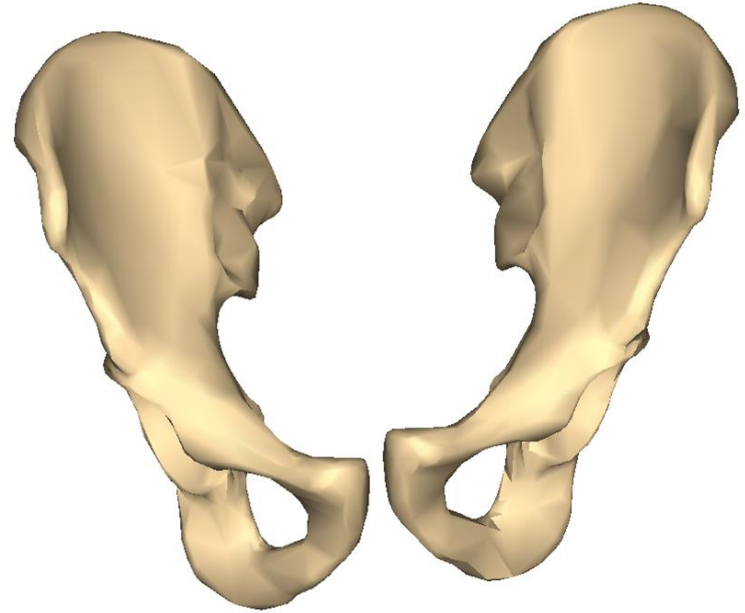
Physical diagnosis?



Physical Examination

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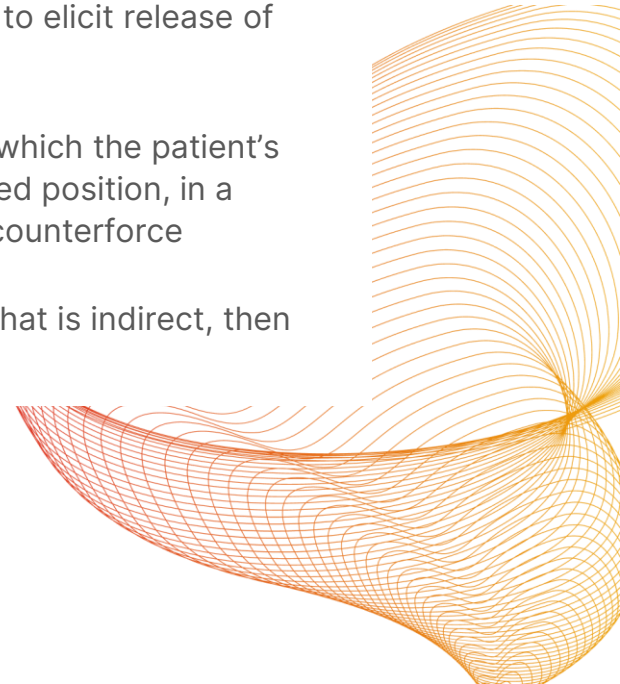
Left Superior Innominate Shear!





Superior Innominate Shear Treatment Options

- **High-Velocity, Low-Amplitude (HVLA) manipulation**
 - an osteopathic technique employing a rapid, therapeutic force of brief duration that travels a short distance within the anatomic range of motion of a joint, and that engages the restrictive barrier in one or more planes of motion to elicit release of restriction
- **Muscle Energy Technique (MET)**
 - a form of osteopathic manipulative diagnosis and treatment in which the patient's muscles are actively used on request, from a precisely controlled position, in a specific direction, and against a distinctly executed physician counterforce
- **Still technique**
 - characterized as a specific, nonrepetitive articulatory method that is indirect, then direct (FOM III)





Still for Superior Innominate Shears

Example Diagnosis: Right superior innominate shear

Physician Position: Standing at the foot of the table

Patient Position: Supine

Procedure:

Step 1

1. Contact the right ankle with both hands.
2. Introduce external rotation to the ankle and leg, then add axial compression toward the SI joint.
3. While maintaining compression, gently internally rotate the ankle and the leg.
4. At the end of internal rotation, switch from compression to traction.
5. Return the leg to neutral.

Step 2

1. Use the Still for Posteriorly Rotated Innominate. See above.

Step 3

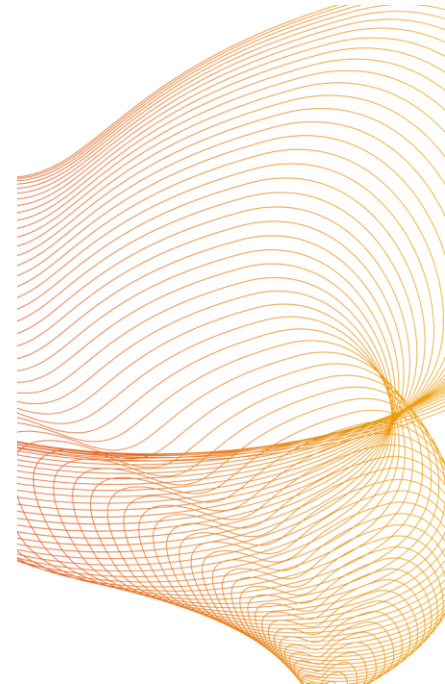
1. Use the Still for the Anteriorly Rotated Innominate. See above.



A) Initial treatment position: Step 1 of Still for superior innominate shear



B) Final treatment position: Step 1 of Still for superior innominate shear



HVLA for Superior Sheared Innominate

Example Diagnosis: Left Superiorly Sheared Innominate

Physician Position: Standing at the foot of the table

Patient Position: Supine

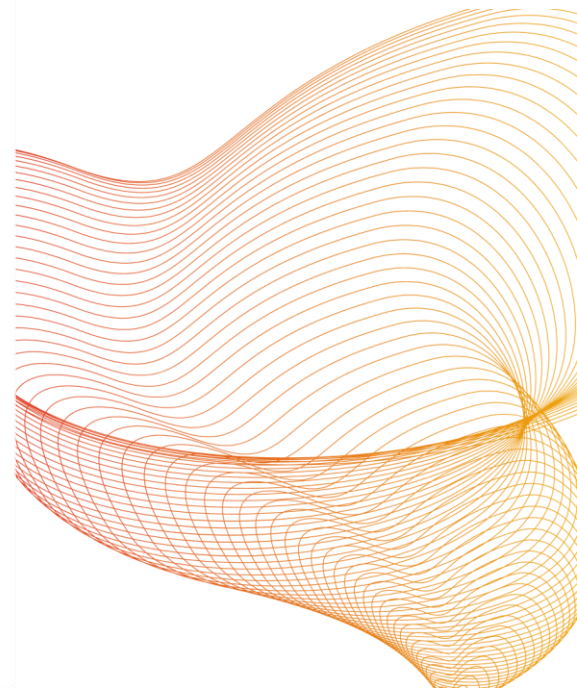
Procedure:

1. Physician stands at the foot of the table.
2. Grasp patients left leg with both hands just proximal to the ankle.
3. Abduct the left leg 10-15 degrees to gap the SIJ and flex the leg approximately 10-15 degrees.
4. Internally rotate the abducted left leg to seat femoral head into acetabulum and localize to the SIJ.
5. Apply traction down the shaft of the leg to reach the restrictive barrier.
6. The final corrective force is a gentle inferior tug on the left leg in the direction of traction (white arrow).
7. Return patient to neutral.
8. Reassess.



Treatment position: HVLA for Superior Sheared Innominate
white arrow showing direction of final corrective thrust

RVU COM OPP Manual





Muscle Energy for Superior Innominate Shear

Mechanism: Both quadratus lumborum and rectus abdominus attach to the superior aspect of the innominates, and when hypertonic, they pull/hold the innominate into a superior shear. Therefore, by using muscle energy to reset the tone of these muscles, the superiorly sheared innominate can move back into a physiological neutral position.

Example Diagnosis: Left superior innominate shear

Physician Position: Standing at the foot of the table

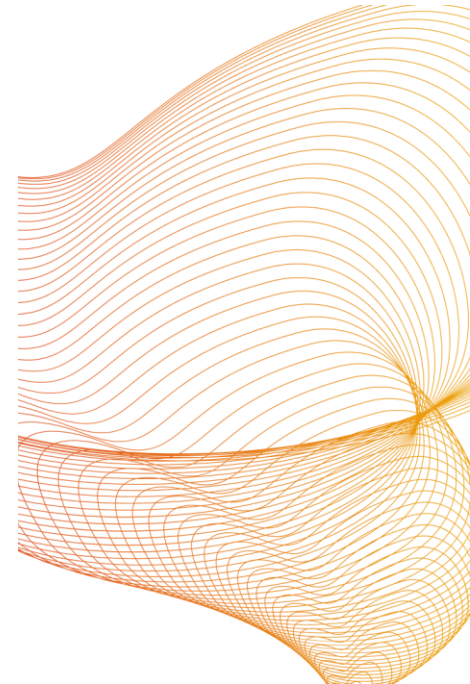
Patient Position: Supine

Procedure:

1. Physician stands at the foot of the table.
2. Contact the patient's left ankle.
3. Abduct and flex or extend the leg until the SIJ is decompressed.
4. Internally rotate the leg to place the femoral head deep in the acetabulum and localize forces to the SIJ.
5. Apply traction to the leg by slowly leaning back until the feather edge of the restrictive barrier is engaged.
6. Instruct the patient to pull their hip cephalad while providing an isometric counterforce; hold for 3-5 seconds.
7. Wait 1-2 seconds for the post isometric relaxation to occur, then re-engage the feather edge of the restrictive barrier.
8. Repeat steps 5-7 two to four more times until no further change is noted.
9. Return patient to neutral.
10. Reassess.

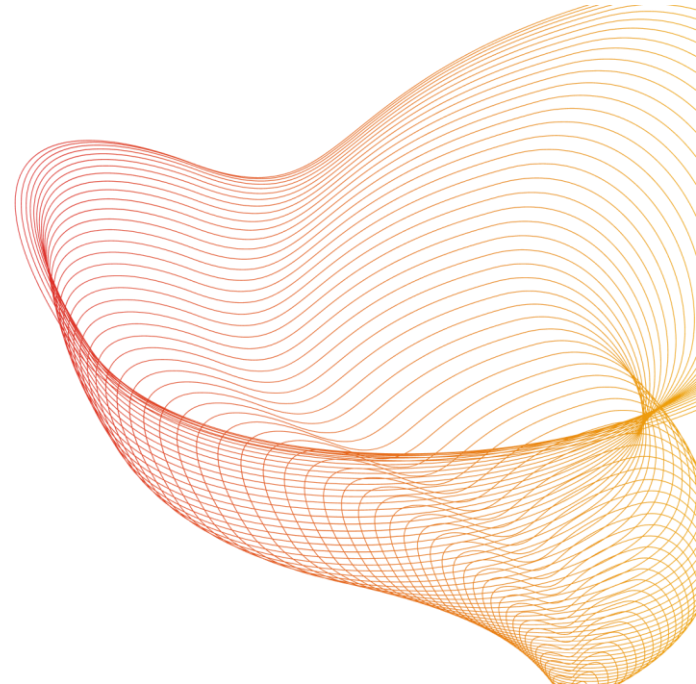


Treatment position: ME for Superior Innominate Shear
RVU COM OPP Manual



▶ Case 4 (and 5) - Chest Tightness and Low Back Pain in a Hospitalized Patient

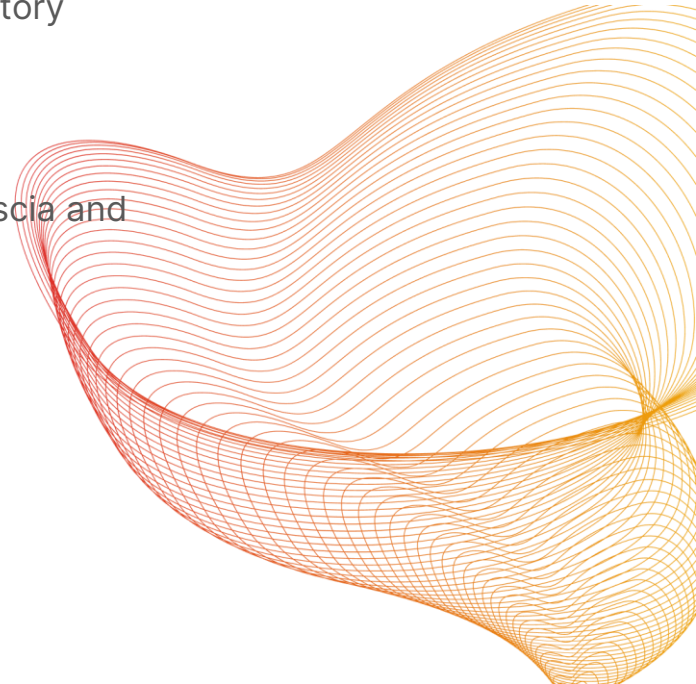
- A 45 year old male patient admitted to the hospital with pancreatitis who was responding well to treatment had persistent inability to take a deep breath, refractory to albuterol treatments. O2 saturation was in the high 90's, CT scan showed no PE. It was significantly affecting his comfort and ability to rest.
- A 78 year old female admitted to the hospital with viral pneumonia and sepsis, with additional complaints of chronic low back pain and arthritis. She was already given the appropriate allotment of pain medications and physicians were wary of increasing her level of care.





Physical Examination

- Pancreatitis patient had significant restriction of the respiratory diaphragm, and a diagnosis of FRISr
- Low back pain patient had restriction of the lumbosacral fascia and paraspinal hypertonicity





Thoracic Cage Release with Respiratory Assist

Mechanism: This technique uses the principles of direct Myofascial Release (See MFR technique in chapter 3) to release restrictions in the thoracic cage.

Example Diagnosis: Restricted thoracic cage

Physician Position: If treating a supine or seated patient, the physician should be seated to the ipsilateral side of the dysfunction. If the physician is treating both sides of the thoracic cage simultaneously, the patient should be supine, and the physician should be seated so his or her dominant eye is closest to the patient. For example, a right eye dominant physician should be seated on the right side of a supine patient.

Patient Position: Supine or seated

Procedure:

1. To treat the right side alone, contact the right thoracic cage with thumbs in the midaxillary line of the right axilla with fingers spread over the ribs. To treat both sides simultaneously, place thumbs over the costal margins with fingers spread over the ribs.
2. Gently encourage motion of the rib cage in inhalation and exhalation (in bucket and pump handle ribs) as the patient breathes in and out. You may move your hands slowly if they are breathing quickly.
3. Continue until motion is freer in both inhalation and exhalation.
4. Repeat by moving your contact to upper or lower ribs as needed.
5. Reassess.

Think About It

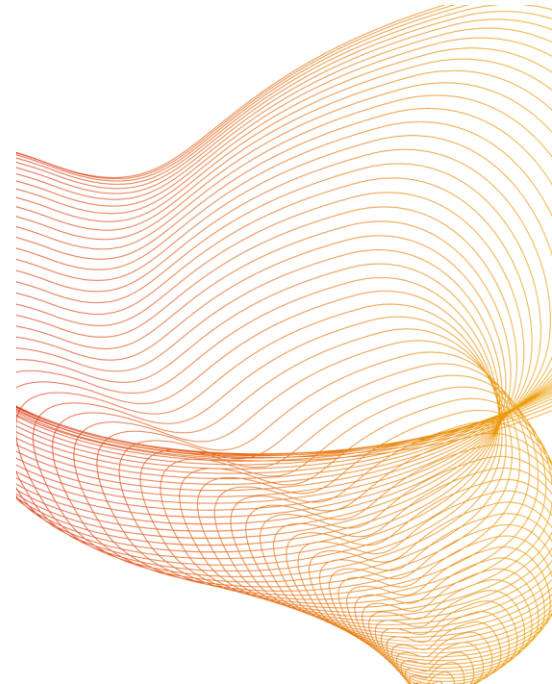
What is the last thing a patient will do before experiencing a major mechanical trauma? Right before a car accident or major fall almost everyone will take a deep breath in and hold it, which makes the diaphragm and thoracic cage more susceptible to injury. When tissues are held in a locked position, they are not able to move with the force vector and can become stretched too quickly, resulting in injury. Motion is lost, and motion lost in this particular area affects breathing greatly. Without proper motion of the thoracic cage and respiratory diaphragm, gas exchange across the alveoli will not be optimal. Without movement, how will the body be able to efficiently get rid of toxins and bring in oxygen for healing? By using this technique on patients, particularly patients with a history of major mechanical trauma, you can improve healing in the whole body.



A) Hand position for right Thoracic
Cage Release



B) Hand position for bilateral Thoracic
Cage Release



BALANCED LIGAMENTOUS TENSION (BLT)/Ligamentous Articular Strain (LAS)/Myofascial Release (MFR)

Thoracic Inlet BLT/LAS/MFR

Mechanism: Using the principles of either BLT or MFR, restriction of the thoracic inlet can be reduced to allow for increased blood flow, increased lymphatic return and decreased nerve compression among other benefits.

Example Diagnosis: Bilateral restricted thoracic inlet

Physician Position: Seated or standing behind the patient

Patient Position: Supine or sitting facing away from physician

Procedure:

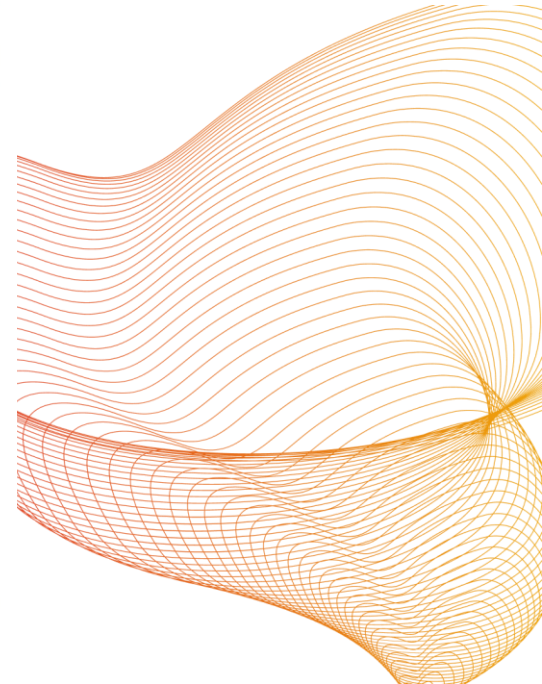
1. Contact the inferior border of the clavicles, first and second ribs, and possibly the manubrium anteriorly with first three fingers bilaterally and the costotransverse junction of T1 posteriorly with thumbs.
2. Gently lift superiorly on the clavicles to engage the subclavius muscle, which then also engages ribs one and two.
3. Assess the fascial restriction of the inlet by motion testing flexion/extension, side-bending and rotational barriers of both sides simultaneously or one side at a time.
4. Engage the tissues in the position that allows them to reach a balance point in all planes of motion. The balance point will be where the tension across the thoracic inlet is equal. Make minor adjustments in all planes until the position of best possible balance is achieved.*
5. Wait for the release.** The release should be achieved relatively quickly. If not, repeat step # 4.
6. Return the patient to neutral by removing hands and reassess.



A) Treatment position: Thoracic Inlet BLT/LAS/MFR; B) Treatment position: Thoracic Inlet BLT/LAS/MFR

*When using direct MFR, place the tissues in the position that creates more tension and follow the barrier as it moves until the release finishes. If using indirect MFR, place the tissues in the direction(s) of ease and follow until the release finishes. When using MFR, the release may feel more like an "unwinding" or pulling of the tissues in a new direction.

**When using BLT, the release occurs when there is a change in the tension of the tissues. Most often, this is perceived as a change (often a very subtle change) in the amount of force needed to maintain the balance point. This may also be perceived as the breath (either primary or thoracic) returning to the tissues.



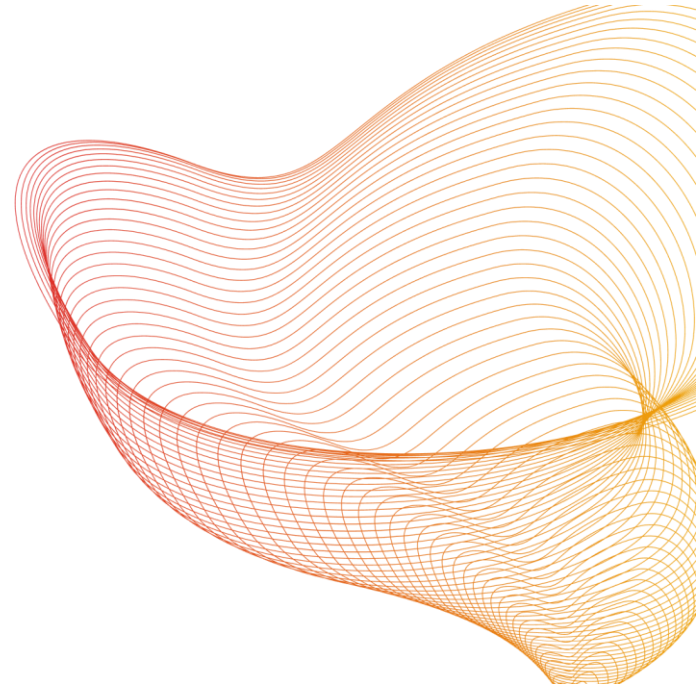


Conclusion

OMT is useful tool in many situations, with many patient types, in many positions

It can be added as an adjuvant therapy to the treatment of many disease states

It is easy, accessible, and doesn't have to take a lot of time

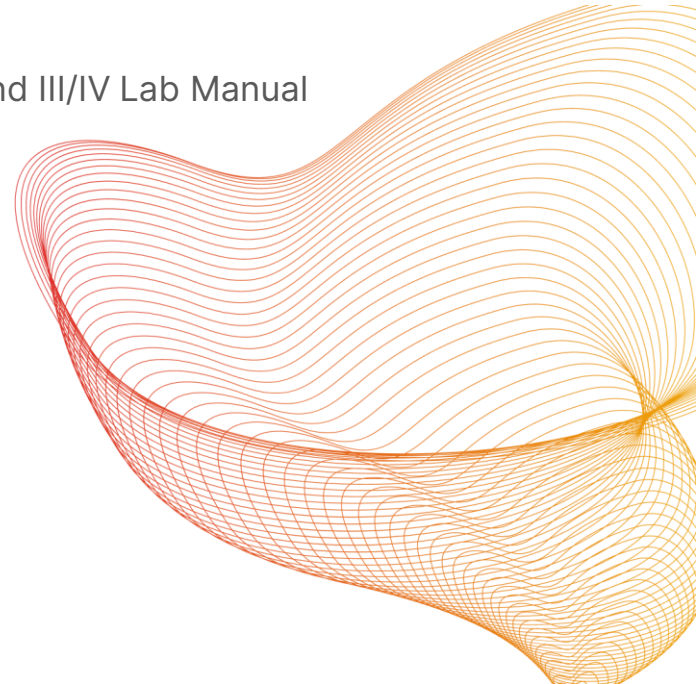




Resources

Foundations of Osteopathic Medicine III

Rocky Vista University Osteopathic Principles and Practices I/II and III/IV Lab Manual





Thank you for your time 😊