ATSU | National Center for Osteopathic Principles and Practice Education

Introduction to OMM for MDs and DOs

- May 19 – 22, 2025, Kirksville, MO
- NCOPPE & KCOM

ATSU | A.T. Still University

FIRST IN WHOLE PERSON HEALTHCARE

Myofascial Release

Introduction and Axial Spine Techniques

Eric Snider, DO
ATSU-KCOM
May 21, 2025

Eric Snider, DO

Eric Snider, DO, is an associate professor at A.T. Still University's Kirksville College of Osteopathic Medicine (ATSU-KCOM). He serves as the chairperson for the Osteopathic Manipulative Medicine department and as the program director for the Osteopathic Neuromusculoskeletal Medicine (ONMM) residency. Dr. Snider is board certified in Neuromusculoskeletal Medicine & Osteopathic Manipulative Medicine. He earned his Doctor of Osteopathy from the West Virginia School of Osteopathic Medicine (1999), and he completed his internship and residency at Northeast Regional Medical Center (1999-2002).

Speaker Disclosure Statements

The speaker(s) disclose that s/he has no relevant financial relationships with any organization producing, marketing, reselling, or distributing healthcare goods or services consumed by, or used on, patients relative to the content of this presentation.

Planning Committee Disclosure Statement

- The Continuing Education Steering Committee (CESC), Osteopathic Principles and Practice (OPP) Committee members, and planners/reviewers of this activity disclose that they have no relevant financial relationships with any organization producing, marking, reselling, or distributing health care goods or services consumed by, or used on, patients relative to the content of this presentation.
- The copyrighted materials available in this PowerPoint are for educational use only. Redistribution of copyrighted materials is not permitted.
- No discussion of off-label use and/or investigation used in this presentation.

Accreditation Statement

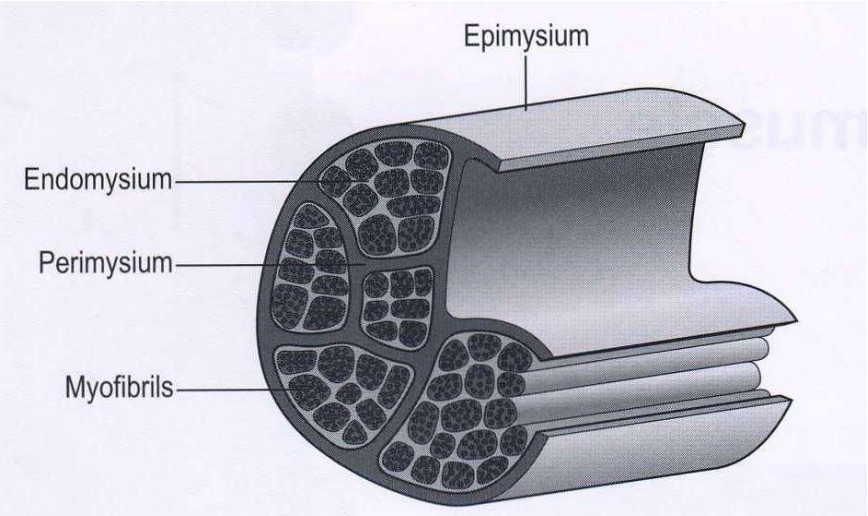
- Missouri Accreditation of Osteopathic Physicians and Surgeons (MAOPS) is accredited by the American Osteopathic Association to provide osteopathic continuing medical education for physicians.
- MAOPS designates this program for a maximum of 2 AOA Category 1-A CME credits and will report CME and specialty credits commensurate with the extent of the physician's participation.
- MAOPS is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.
- MAOPS designates this live activity for a maximum of 2 *AMA PRA Category 1 Credits™.* Physicians should claim only the credit commensurate with the extent of their participation in the activity.
- This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Missouri Association of Osteopathic Physicians and Surgeons (MAOPS) and Still OPTI. MAOPS is accredited by the ACCME to provide continuing medical education for physicians.

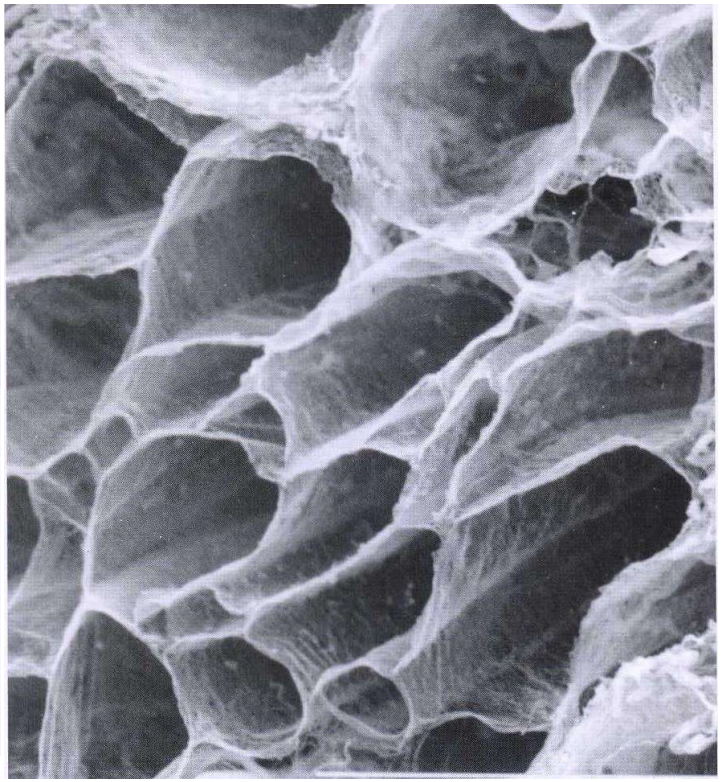
ATSU | National Center for Osteopathic Principles and Practice Education

Objectives

- Summarize the basic concepts of myofascial release (MFR) and integrated neuromuscular release (INR) as treatment methods
- Demonstrate how to treat somatic dysfunction using MFR and INR
- Demonstrate how to treat somatic dysfunction of the axial spine and thorax using MFR and INR, using both indirect or direct method.
- Describe when to use these treatment methods by providing Clinical Scenarios as examples of patients who might benefit from this approach.

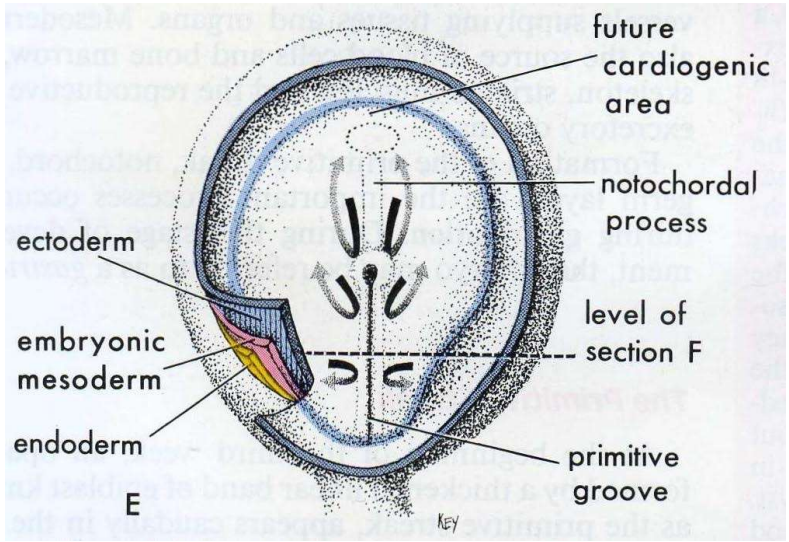
Fascia

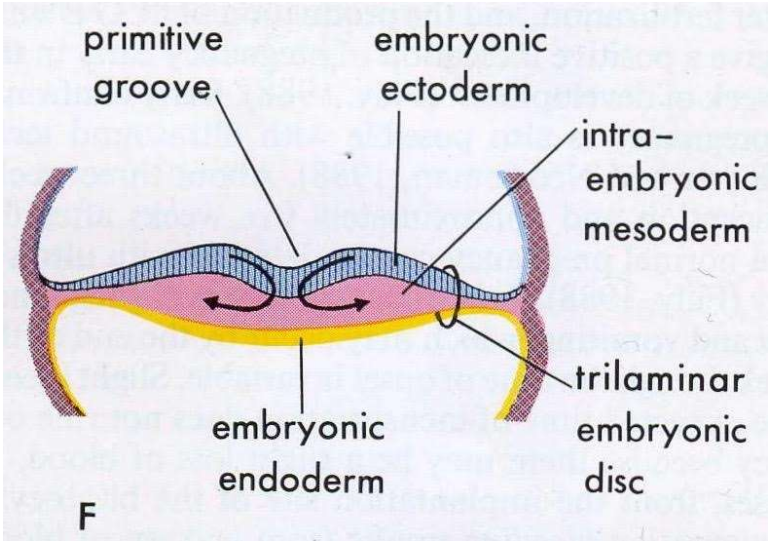




- All of the soft fibrous connective tissues that permeate the human body.
- Fascia surrounds and invests most of the body's structures.

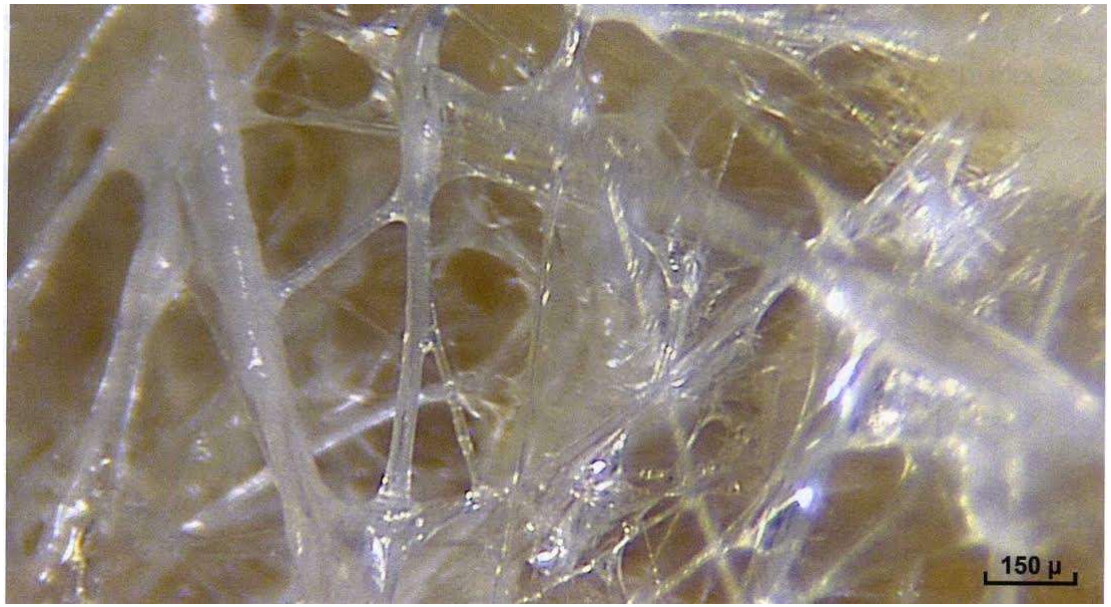
Fascia formed in mesoderm creates a body-wide communication system via transmission of mechanical forces





- 21 day embryo

Fascia creates one interconnected tensional network that adapts its fiber arrangements and density according to local tension demands.

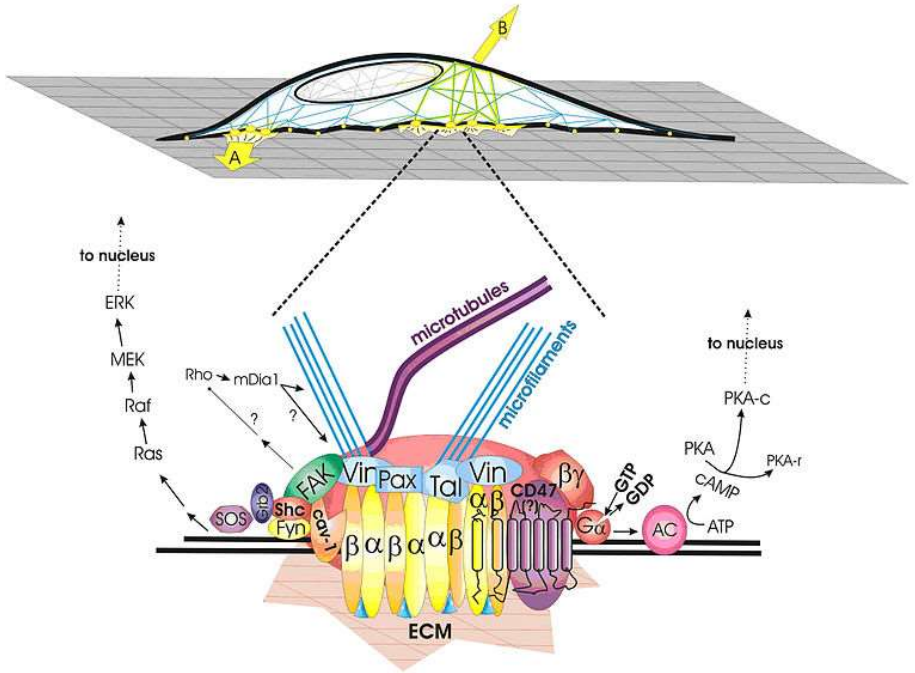


Mechanotransduction

- Fascia surrounds and invests most of the body's structures.
- Cells are affected by, and respond to, their environment
  - Both biochemical and biomechanical
- The extracellular matrix is connected to the cellular adhesion molecules, microtubules and microfilaments, and the nucleus. (mechanotransduction affects genetic regulation).
- Embryologic plasticity: Eg. Traumatized tendon with islands of cartilage - Genetic regulation affects fluid and nutritional exchange, cell health and programmed cell death.
- Osteopathic approaches can potentially influence nearly all anatomical structures: fascia, arteries, veins, nerves, viscera, bones, vertebral discs.

Mechanotransduction Process

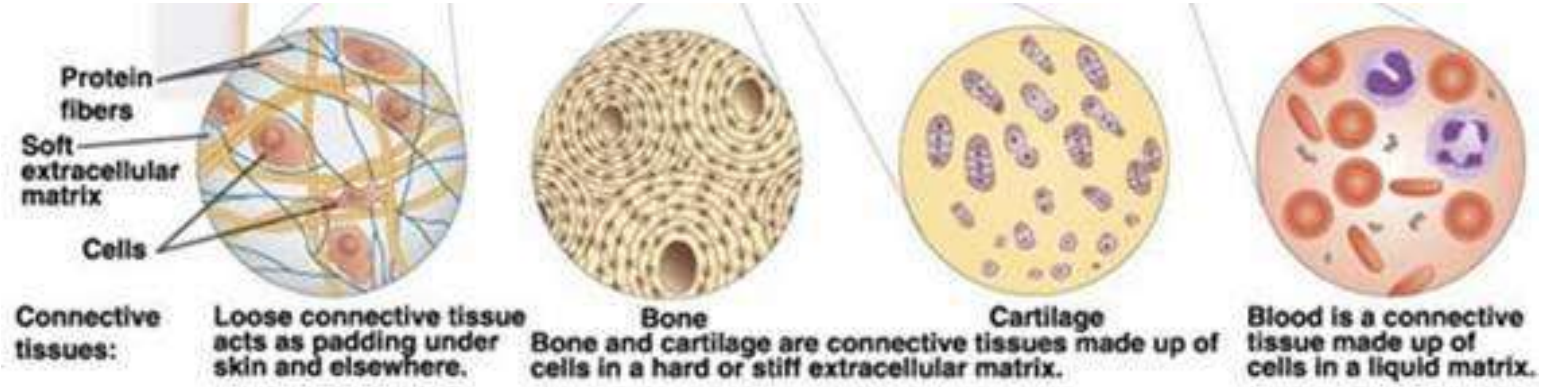
- A local force applied to integrins (arrows labeled A and B in top figure) through the extracellular matrix (ECM)
- Activates signal transduction at focal adhesion complex (show as cluster of molecules in bottom figure).
- This clustering triggers a cascade of reactions that alter the balance of anabolic / catabolic events within the cell.



http://web1.tch.harvard.edu/research/ingber/

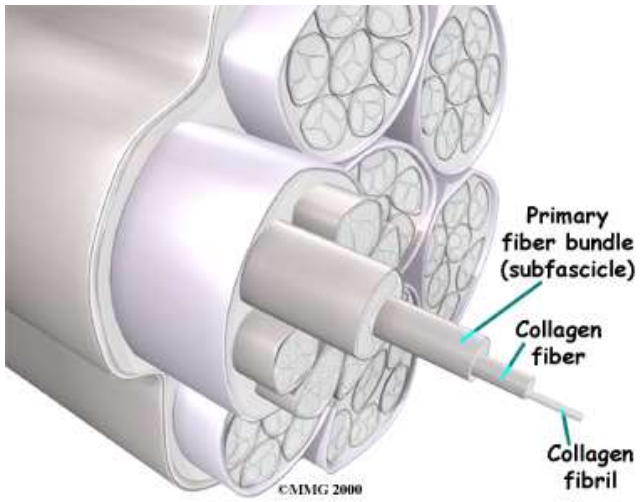
Connective Tissue Properties

- Connective tissue and muscle comprise 80% of the tissues of the body
- Connective tissues are viscoelastic material with properties of both viscous (fluid) materials and elastic materials
- When connective tissue is placed under a load the fibers will stretch until they reach the anatomic barrier



Connective Tissue Structure and Function

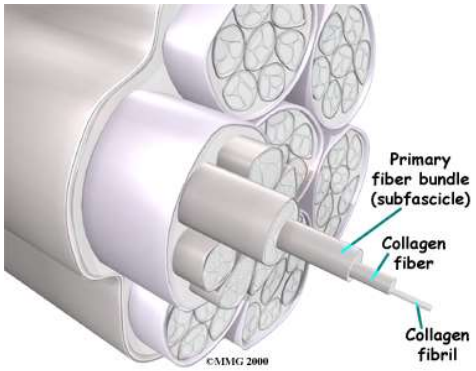
- Connective tissue includes collagen, fibrin, and reticulin that act as the body's reactor to motion and stress.
- Coupled with skeletal muscle, these produce particular properties of muscle function
- Force effects of connective tissue result from its structure, and determine how tissue responds to force in daily life, injury, or with OMT

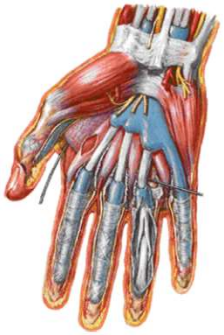


Wolff law of bone transformation: Function dictates Structure (internal architecture and external conformation)

Foundations for Osteopathic Medicine 4th Edition, Ch 36

Physical Properties of Connective Tissues Coupled with Skeletal Muscle



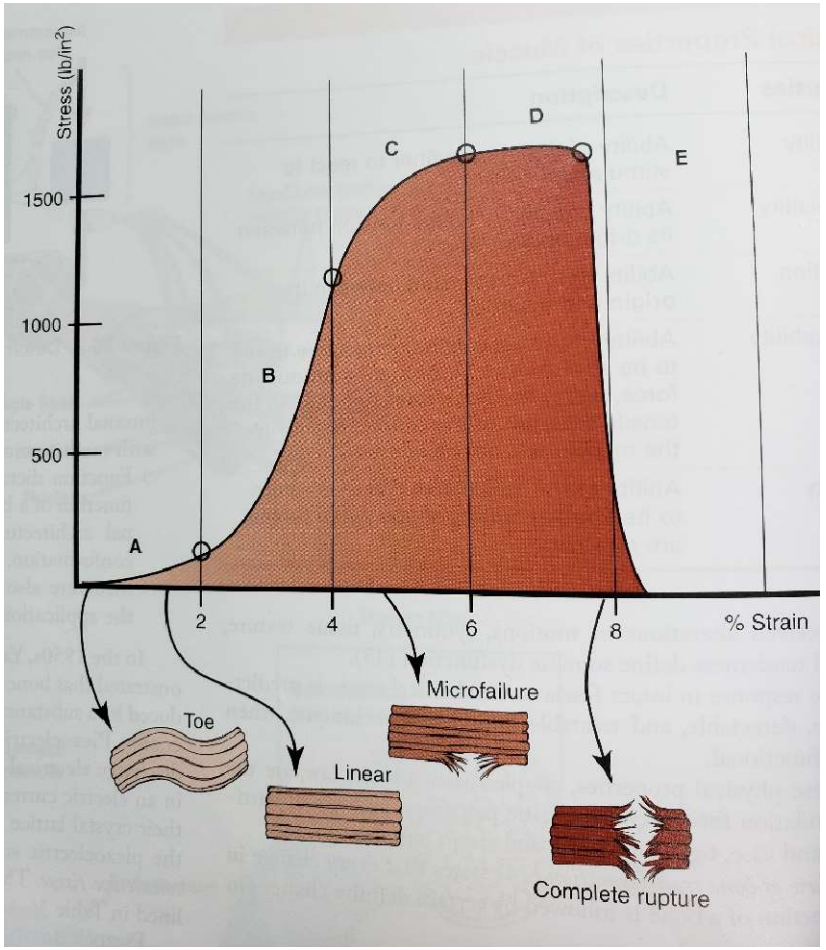


Irritability	Ability of the muscle fiber to react to stimulation
Contractility	Ability to actively create tension between the origin and insertion
Relaxation	The ability of the tissue to release or reduce tension between its origin and insertion
Distensability	Ability of tissue to be stretched and deformed without injury*
Elasticity	Ability of the connective tissue to return to its original resting shape when forces are removed

*force must not exceed tensile strength of the tissue

Force Effects in Connective Tissue

Plastic deformation	A stressed, formed, or molded tissue *preserves* its new shape
Elastic deformation	A stressed, formed, or molded tissue *recovers* its original shape
Viscosity	Ability of a solid to continually yield under stress with measurable rate of deformation
Creep	Continued deformation of a viscoelastic material under constant load over time
Stress	Effect of a force normalized over an area
Strain	A change in shape as a result of stress
Hysteresis	Response to loading and unloading of connective tissues: Restoration of final length of tissue occurs at a rate (to an extent less) than during deformation. Represents energy loss in connective tissue.



Hysteresis and Hooke's Law: Stress is proportional to Strain

Myofascial Release (MFR)

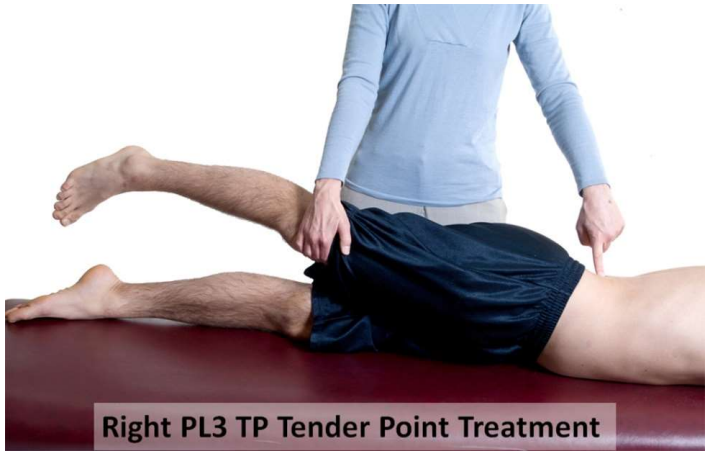
- First described by AT Still
- A system of Dx & Tx which engages continual palpatory feedback to achieve release of myofascial tissues.
- Indications
  - MFR is used to treat somatic dysfunctions involving myofascial tissues or other connective tissues.

Francis Feidler DO. Household Osteopath. 1906

"MFR Techniques harness the power of collagen through diagnosing and treating in the fascia, the largest collagen pool in the body"
–Judith A. O'Connell, D.O.

Myofascial Release Techniques

- Any technique that targets myofascial structures
  - Counterstrain
  - Facilitated positional release
  - Functional technique
  - Balanced ligamentous technique
  - Progressive inhibition of neuromuscular structures
  - Ligamentous articular strain
  - Percussion hammer
  - **Myofascial release**



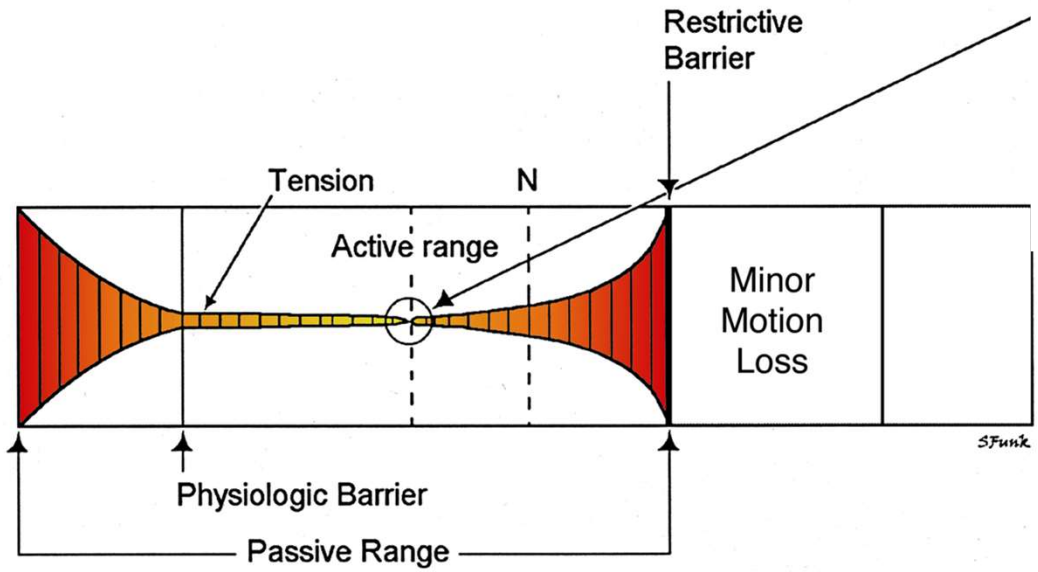
MFR Contraindications

Cautions and relative contraindications for local application in patients with:

- Fractures
- Open wounds
- Soft tissue or bony infections
- DVT (risk of embolism)
- Anticoagulation
- Disseminated or focal neoplasm
- Recent surgical wound (risk of dehiscence)
- Aortic aneurysm

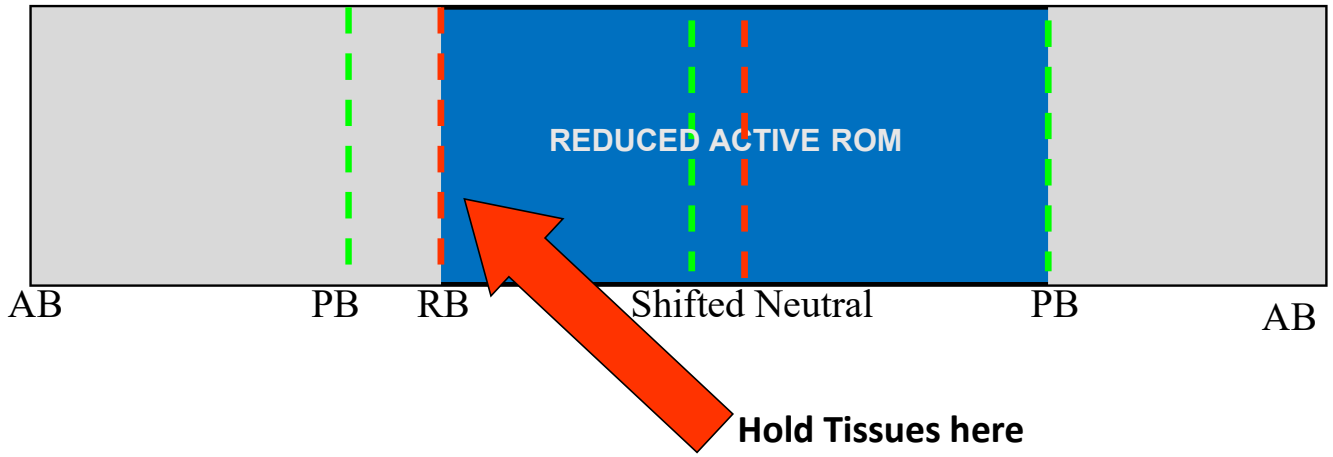
Diagnosis Preceding MFR

- Passive motion testing for a region, local tissues, or a joint is performed to identify a restrictive barrier and a position of ease.



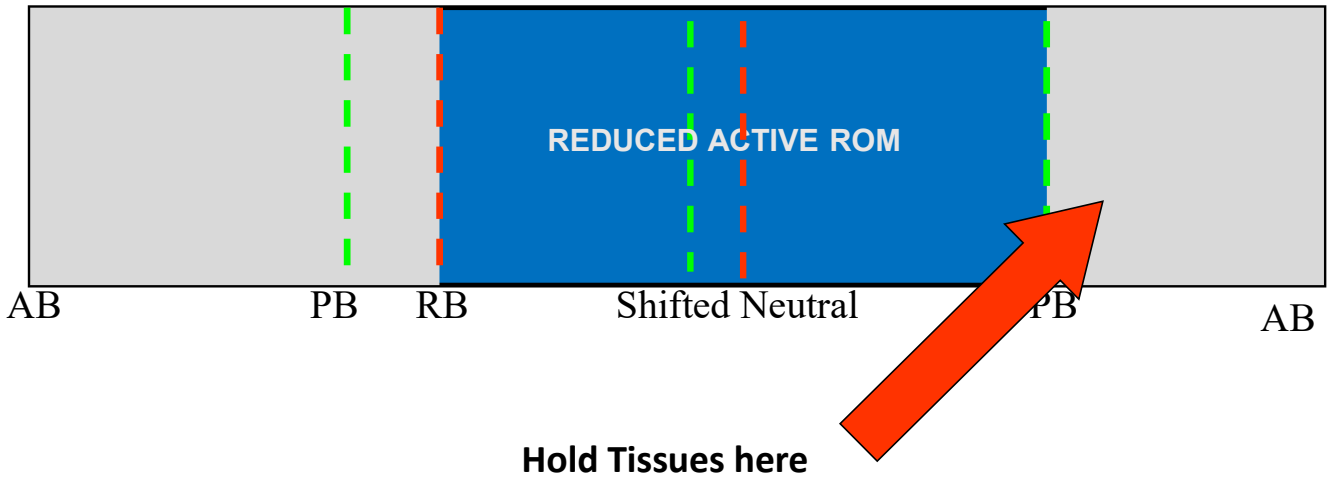
Direct MFR

- The dysfunctional myofascial tissues are loaded and restrictive barrier is engaged with a constant, directional force.
- Movement of a patient by the physician into the restriction for all planes, applying steady force until tissue release or fascial unwinding is completed.
- **After determining the direction of myofascial tension, hold the tissues firmly against soft tissue resistance.**



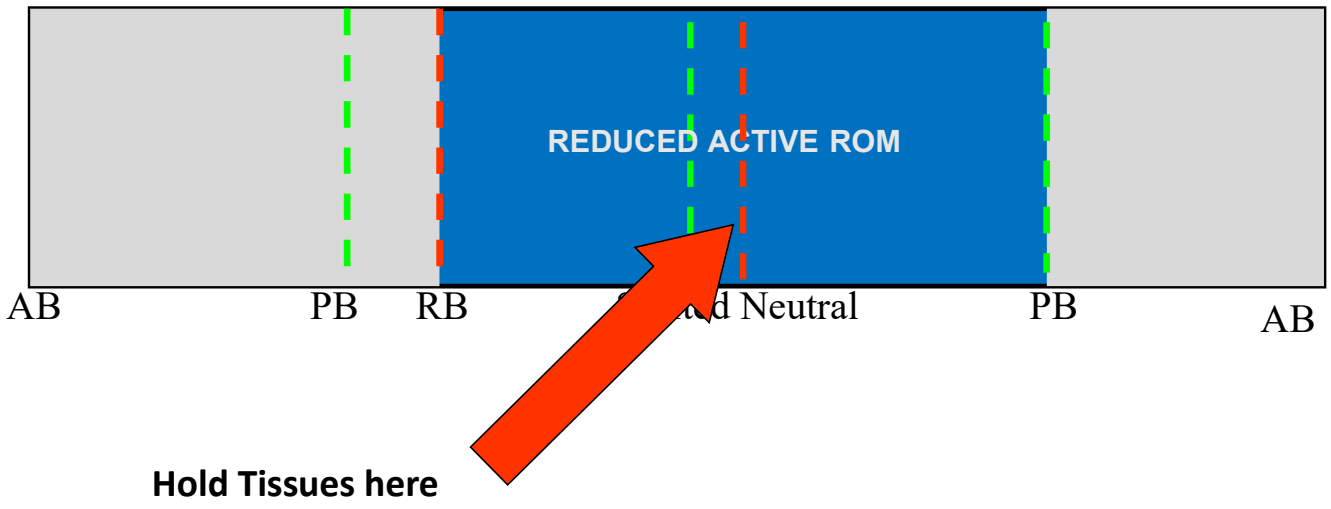
Indirect MFR

- The dysfunctional myofascial tissues are loaded and then guided towards the position of greatest ease, and engaged with directed pressure.
- Movement of a patient by the physician into the position of ease for all planes until desired tissue release or fascial unwinding has occurred.
- **After determining the direction of myofascial tension, exaggerate the position of ease.**



Balance Ligamentous Tension

Position tissues at shifted neutral position



Exaggeration techniques

Indirect MFR

HVLA

Articulatory

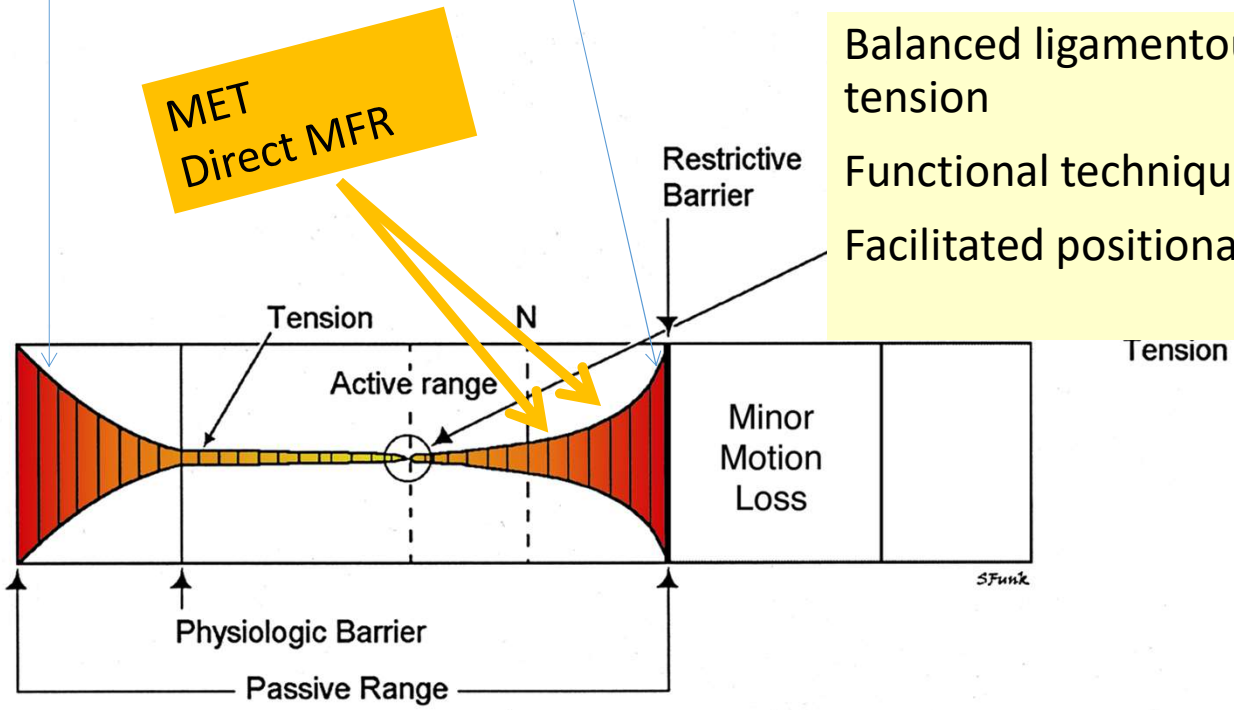
MET

Direct MFR

Balanced ligamentous tension

Functional technique

Facilitated positional release



Direct MFR: After determining the direction of myofascial tension, hold the tissues firmly against soft tissue resistance.

MFR: Release Enhancing Maneuvers

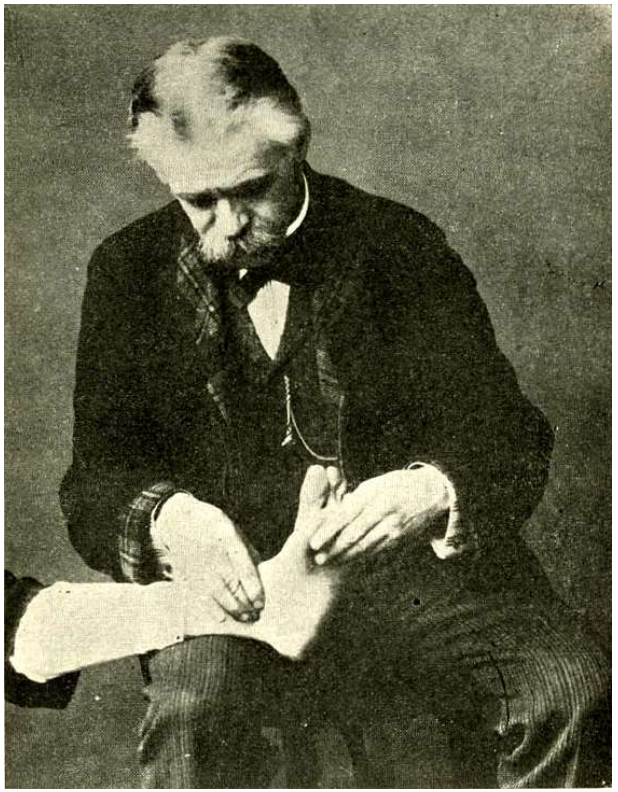
- May increase or decrease tension of the myofascial structures
- Goal is to increase and/or speed up the response of the myofascial structures while performing the technique
- Sometimes referred to as Integrated Neuromusculoskeletal Release (INR) to emphasize the reflexive influence between the biomechanics of the musculoskeletal system with the peripheral and central neural control mechanisms

MFR Release Enhancing Maneuvers

- Patient instructed to perform motor actions
  - Eye, tongue, jaw, head/neck, or limb movements
- Regional compression, distraction, torsion, or oscillation
- Respiratory cooperation - Hold in phase which encourages either increased or decreased tissue tension
- Deep respiration – Full respiratory cycle
- Breath holding to point of air hunger – triggers general relaxation of soft tissues
- Coughing or sniffing on command – respiratory impulse for release of restrictions

Myofascial Release

1. Positon tissues as appropriate barrier(s)
2. Maintain firm, but gentle pressure. The tissues will then begin to creep due to viscoelastic properties.
3. Follow the tissues as they move to maintain pressure at the direct or indirect motion barrier.
4. May take 15-120 seconds of stretch
5. Continually reassess the treatment position until release is felt or balanced motion is obtained
6. Release may occur as a sudden give/relaxation in the tissue tension or the motion (creep) stops
7. Reassess to determine efficacy
8. Repeat as needed to affect different tissue layers

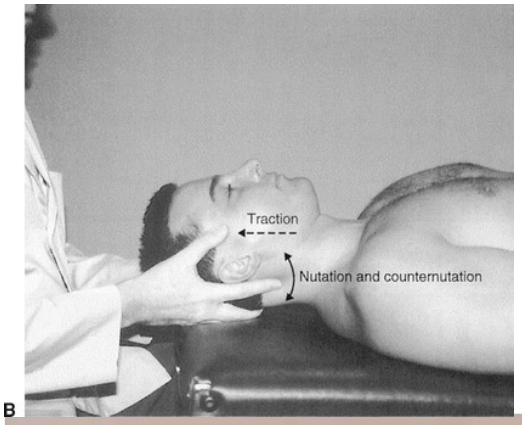


Summary

- Indirect myofascial release starts at physiological barrier opposite the direct barrier – indirect barrier
- Balanced ligamentous tension starts at shifted neutral position
- Direct myofascial release starts at direct pathophysiological barrier – direct barrier
- Constantly reassess and hold tissue at barrier to allow fascial unwinding (creep) to occur
- Integrated neuromuscular release uses voluntary patient motion to facilitate the fascial unwinding
- Recheck when motion stops

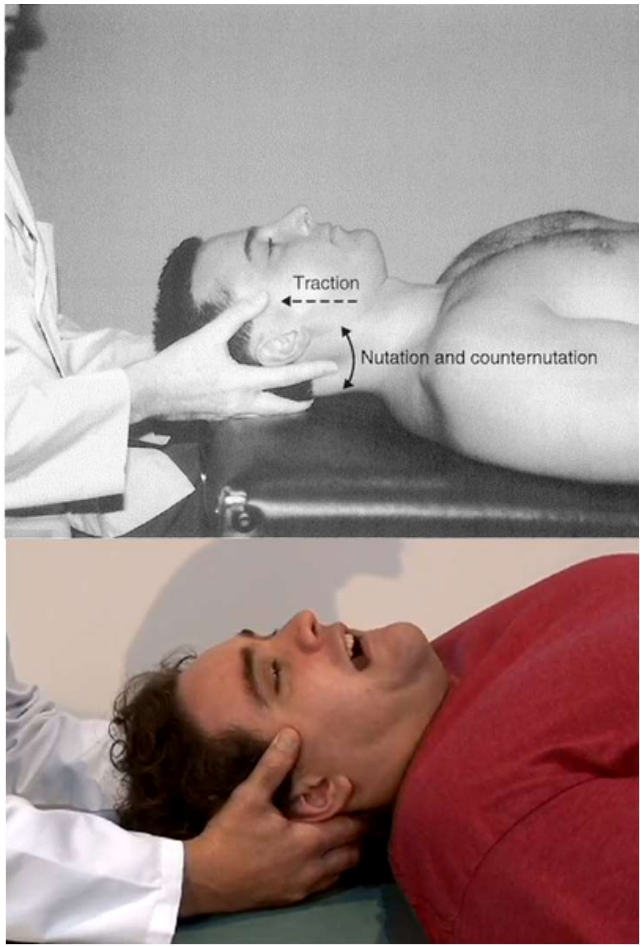
- Questions?

MFR Technique Intro – Lab Session



Craniocervical Junction Myofascial Release Diagnostic Exercise

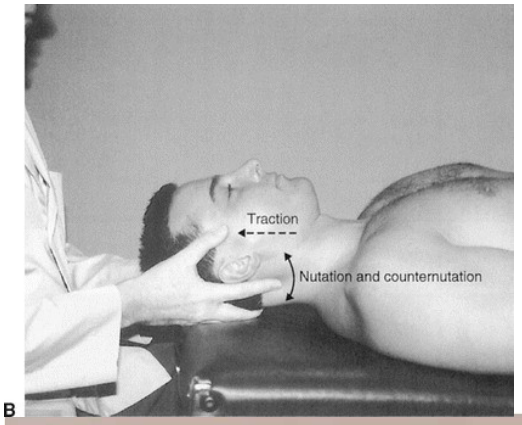
- Basiocciput hand position allows focus at OA, AA, C2
- Notice both facet joint tension and muscular tension
- Overlapping hand position allows focused twist, traction, sidebending and translation
- Check for ***Preference*** of Motion:
  - Rotation
  - Sidebending / Translation
  - Nutation and Counternutation (Flexion and Extenstion)



Craniocervical Spine Myofascial Release

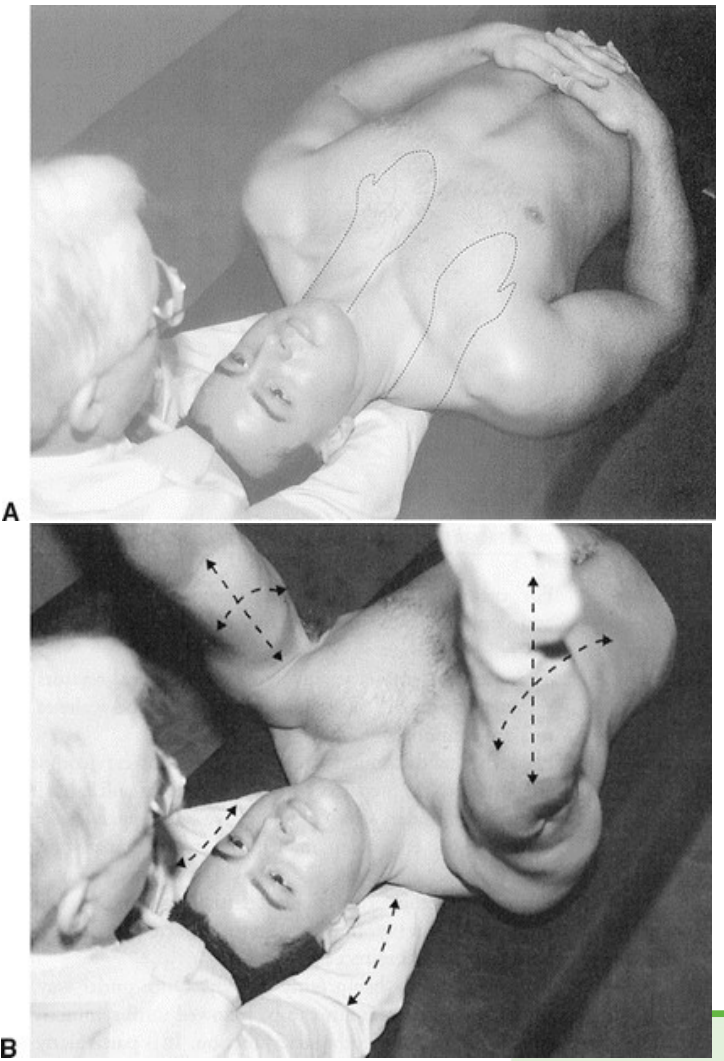
- Release Enhancing Maneuvers
  - Patient instructed to perform motor actions
    - Move upper extremities (C5-T1)
    - Deep respirations and sniffing (Phrenic N.-C3-5)
    - Coughing (CN-X, Phrenic, Spinal motor n.)
    - Eye movements (CN-III, IV, VI)
    - Jaw movements (CN-V)
    - Smile, frown, close eyes (CN-VII)
    - Move shoulders (trapezius) (CN-XI)
    - Tongue movements (CN-XII)
- 15-120 seconds, direct or indirect
- recheck

From: **Myofascial Release Figure 36.7**
Foundations of Osteopathic Medicine: Philosophy, Science, Clinical Applications, and Research, 4e, 2018



Craniocervical Junction Myofascial Release RECHECK

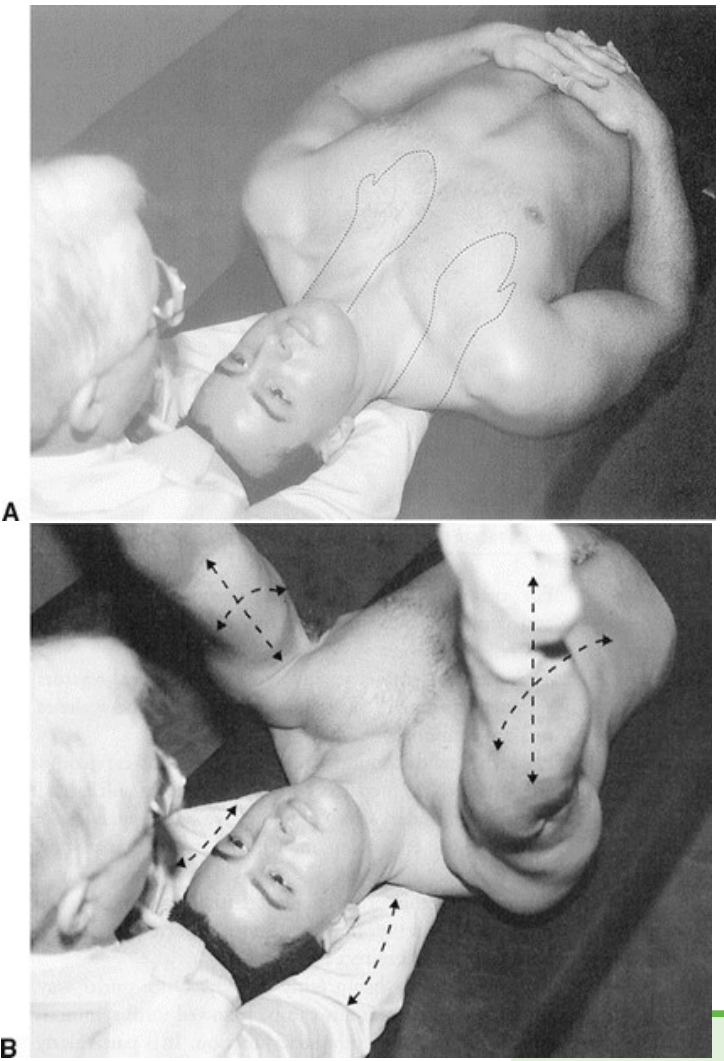
- Basiocciput hand position allows focus at OA, AA, C2
- Notice both facet joint tension and muscular tension
- Overlapping hand position allows focused twist, traction, sidebending and translation
- Check for ***Preference*** of Motion:
  - Rotation
  - Sidebending / Translation
  - Nutation and Counternutation (Flexion and Extenstion)



Myofascial Release: Thoracic and rib technique – Diagnostic Exercise

- Patient supine, physician seated at head.
- Arms beneath thoracic cage posteriorly with flat of hand and fingers contacting paraspinal surface.
- Whole hand contact from erector spinae to rib cage
- Diagnosis: Notice tension and asymmetries between the left and right hands.

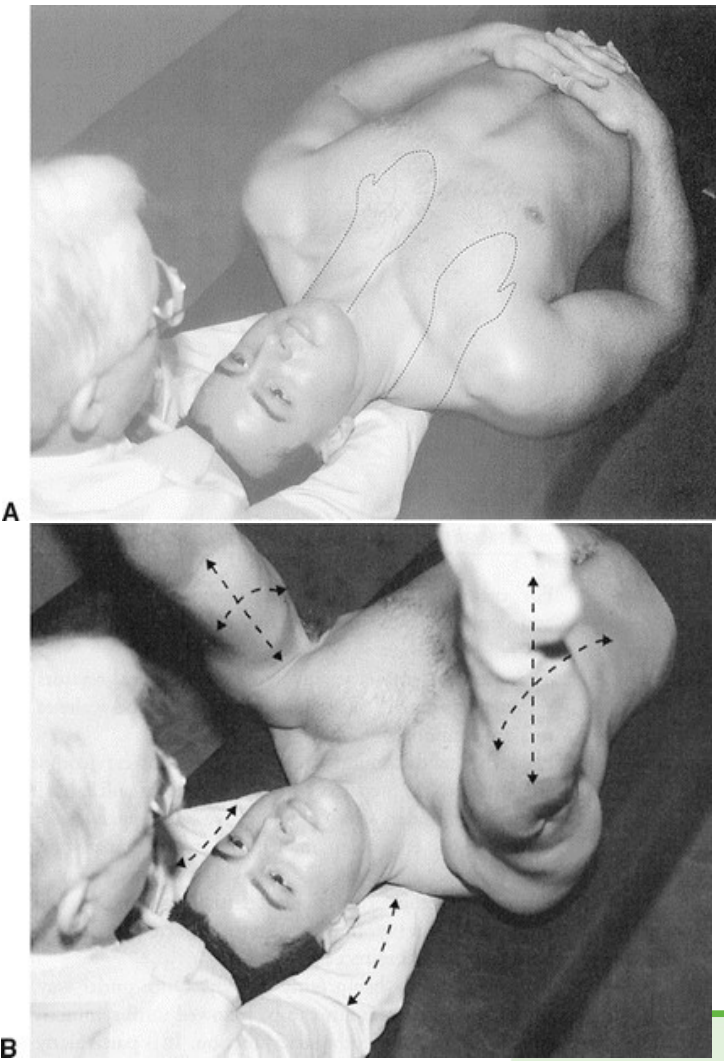
From: **Myofascial Release Figure 36.8**



Myofascial Release: Thoracic and rib technique – Diagnostic Exercise, Slide 2

- Patient supine, physician seated at head.
- Arms beneath thoracic cage posteriorly.
- Whole hand contact from erector spinae to rib cage.
- Diagnosis: Notice tension and asymmetries with:
  - Deep respiration
  - Upper limb movements
  - Lower limb movements

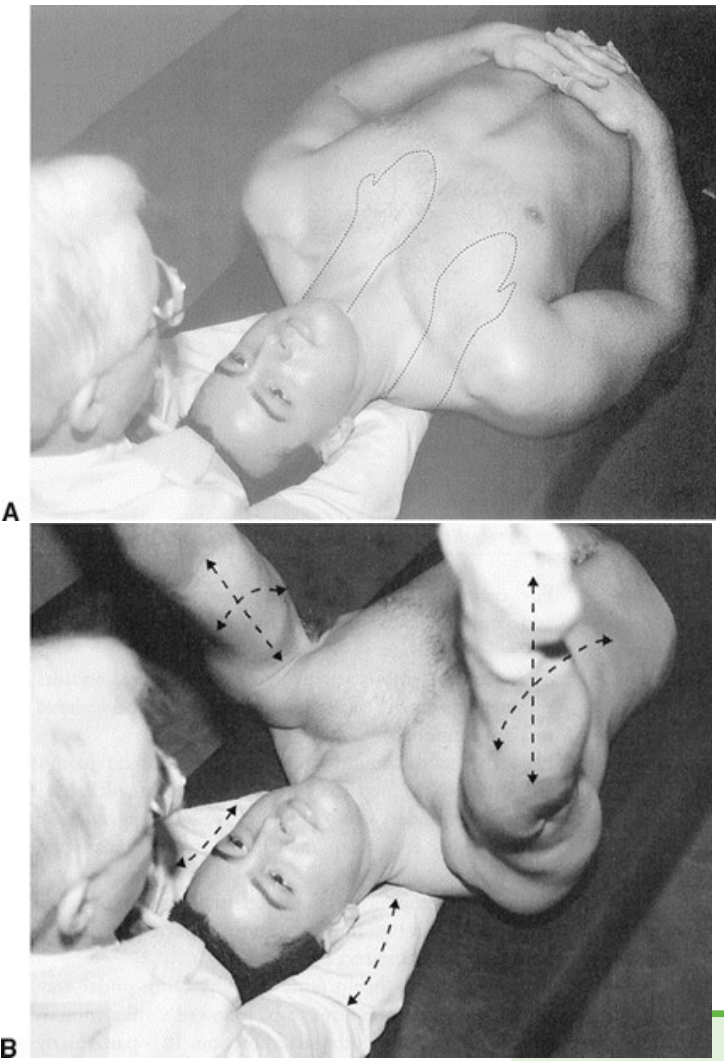
From: **Myofascial Release Figure 36.8**



Myofascial Release: Thoracic and rib technique

- Whole hand contact from erector spinae to rib cage
- Diagnosis: Notice tension and asymmetries with:
  - Deep respiration
  - Upper limb movements
  - Lower limb movements
- Treatment: Use the same for release enhancing maneuvers

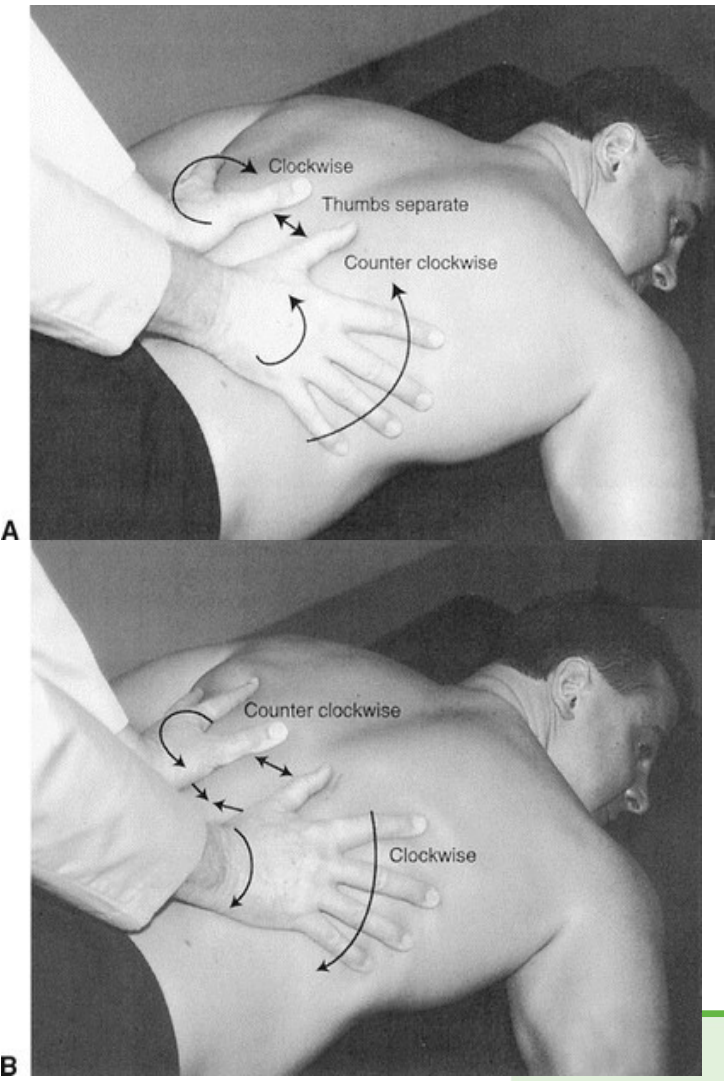
From: **Myofascial Release Figure 36.8**



Myofascial Release: Thoracic and rib technique – Re-Check

- Patient supine, physician seated at head.
- Arms beneath thoracic cage posteriorly.
- Whole hand contact from erector spinae to rib cage.
- Diagnosis: Notice tension and asymmetries with:
  - Deep respiration
  - Upper limb movements
  - Lower limb movements

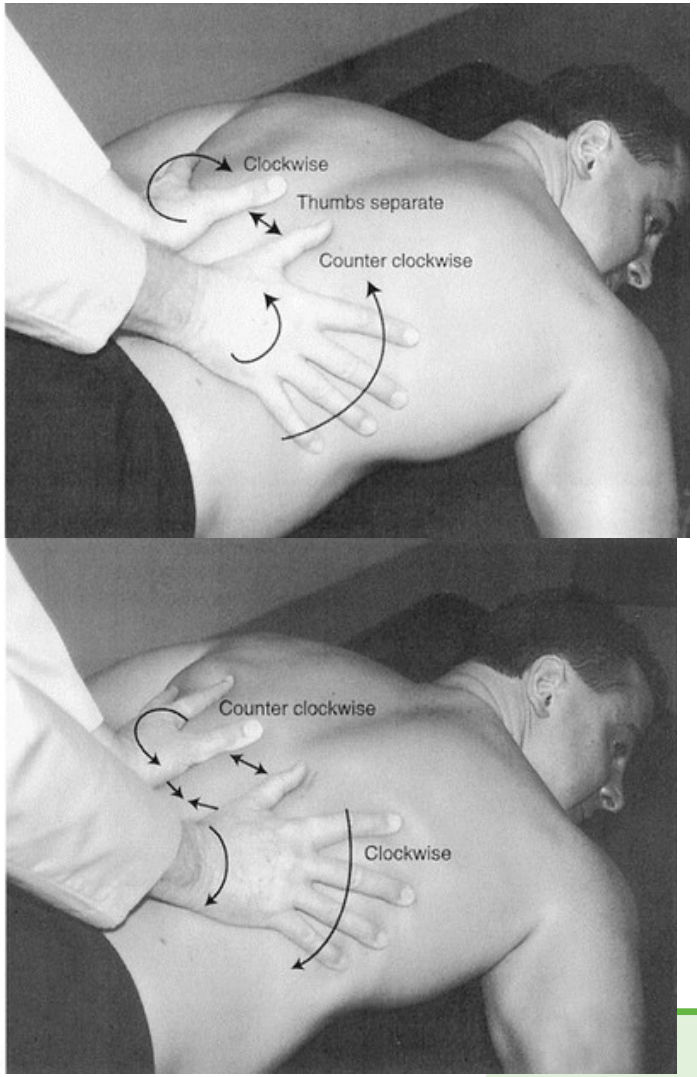
From: **Myofascial Release Figure 36.8**



Myofascial Release: Thoraco-Lumbar, Diagnostic Exercise

- Patient prone, physician stands at side of table.
- Place widely open hands over thoracolumbar junction, with flat of hands and fingertips over body surface.
- Identify superficial and deep tightness and looseness patterns
- Identify asymmetry of tension between left and right hands

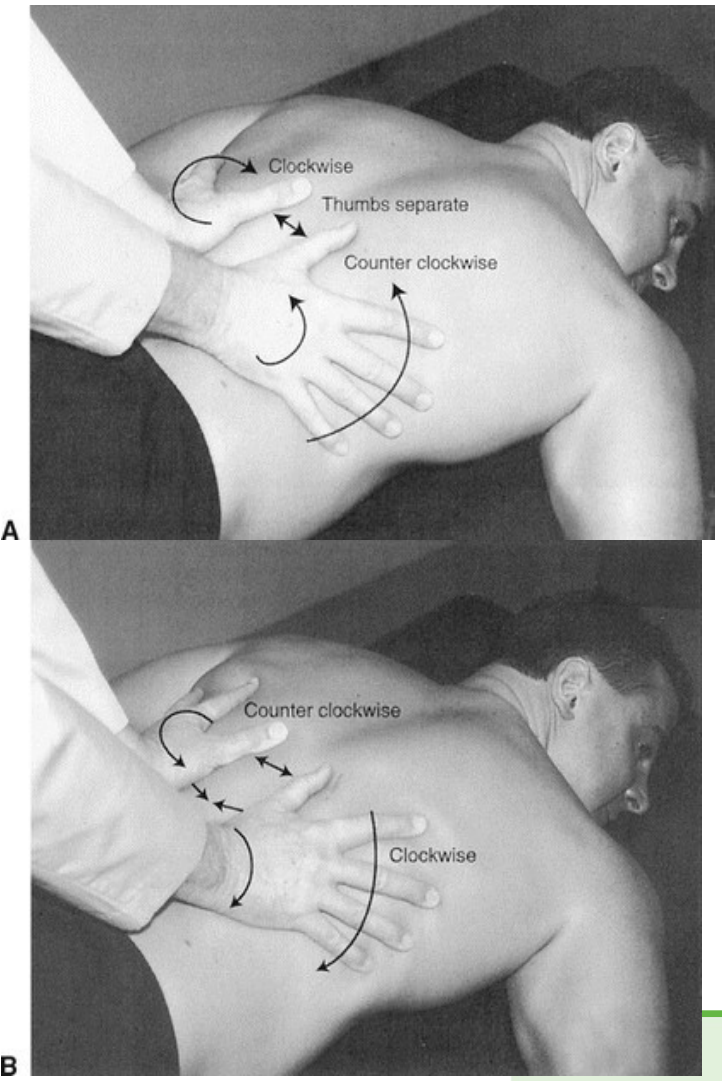
From: **Myofascial Release Figure 36.9**



Myofascial Release: Thoraco-Lumbar, Diagnostic Exercise, Part 2:

- Identify superficial and deep tightness and looseness patterns
- Compression, traction, and twist
- Keeping pressure on tissues, test preference of fascial motion:
  - Clockwise and Counterclockwise rotation
  - Superior and Inferior fascial glide
  - Medial and Lateral fascial glide

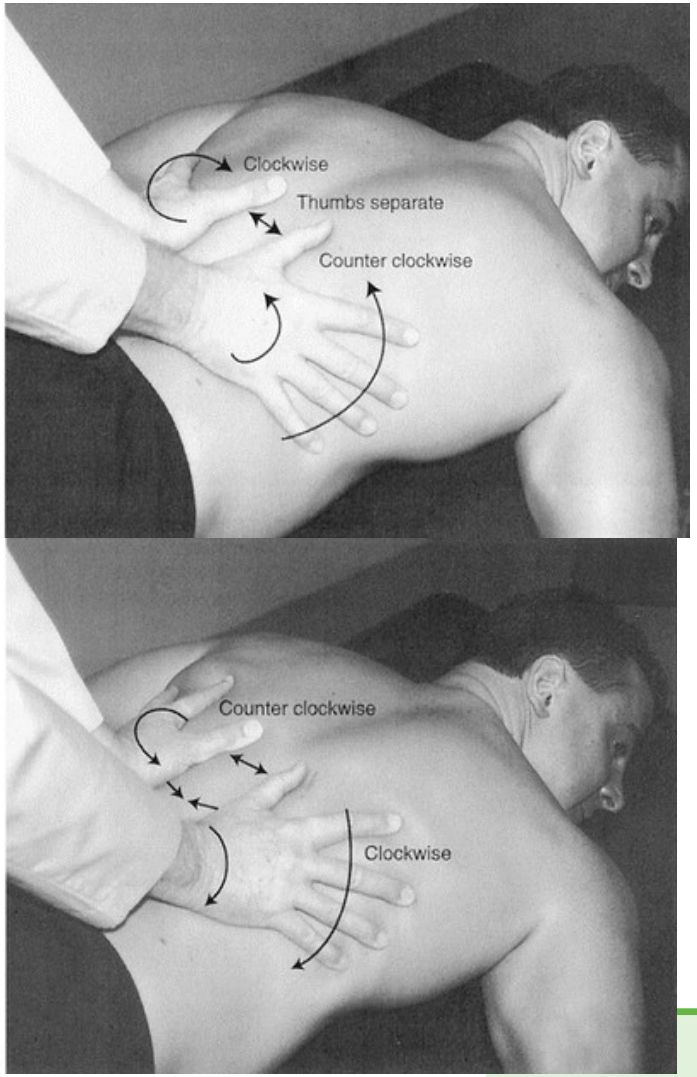
From: **Myofascial Release Figure 36.9**



Myofascial Release: Thoraco-Lumbar technique

- Place widely open hands over thoracolumbar junction
- Identify superficial and deep tightness and looseness patterns
- Compression, traction, and twist
- Release enhancing maneuvers:
  - Deep respiration
  - Upper limb movements
  - Lower limb movements

From: **Myofascial Release Figure 36.9**



Myofascial Release: Thoraco-Lumbar, Re-Check

- Identify superficial and deep tightness and looseness patterns
- Compression, traction, and twist
- Keeping pressure on tissues, test preference of fascial motion:
  - Clockwise and Counterclockwise rotation
  - Superior and Inferior fascial glide
  - Medial and Lateral fascial glide

From: **Myofascial Release Figure 36.9**

Prone Sacrum – MFR Diagnostic Exercise:

Place patient in prone position

Place one hand on the sacrum (finger pointing cephalad)

Place the other hand over top (fingers pointing caudad)

Apply light to medium pressure anteriorly to desired depth

Active motion testing: Monitor motion as patient takes deep breaths

Passive motion testing: Monitor motion by applying sacral flexion, extension, and rotation

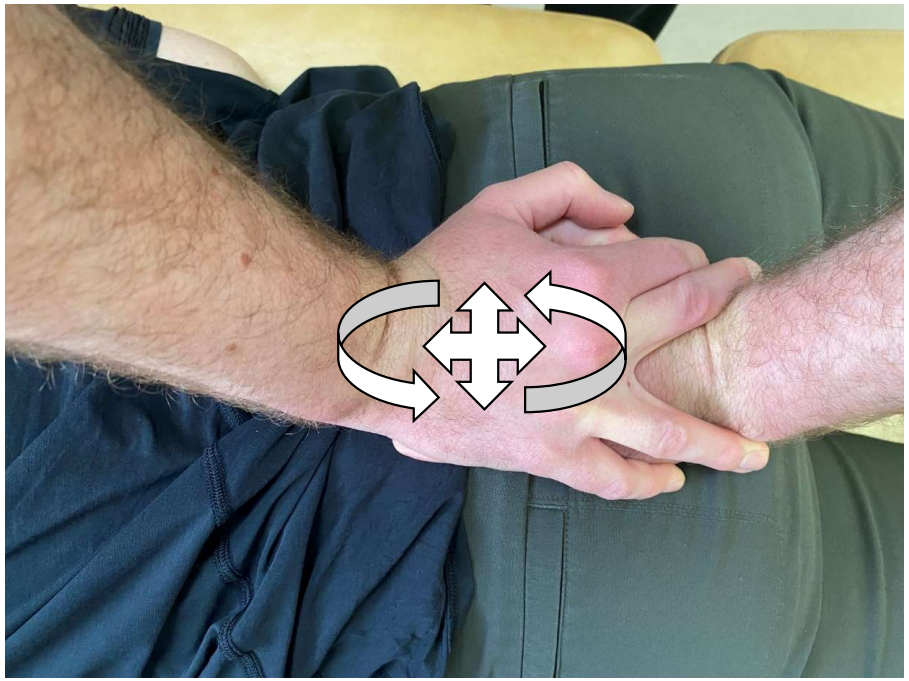
Tx of Sacrum with MFR in prone position

1. Load tissues anteriorly to desired depth
2. Glide tissues superiorly-inferiorly; laterally left or right, rotation clockwise/counterclockwise.
3. Hold until change in tissue is sensed

3b. Release Enhancing Maneuvers:

- Respiratory efforts (deep breathe, cycle, hold)
- Extend Back by coming up on elbows
- Abduction of the humerus in the coronal plane
- Flex and Straighten knees

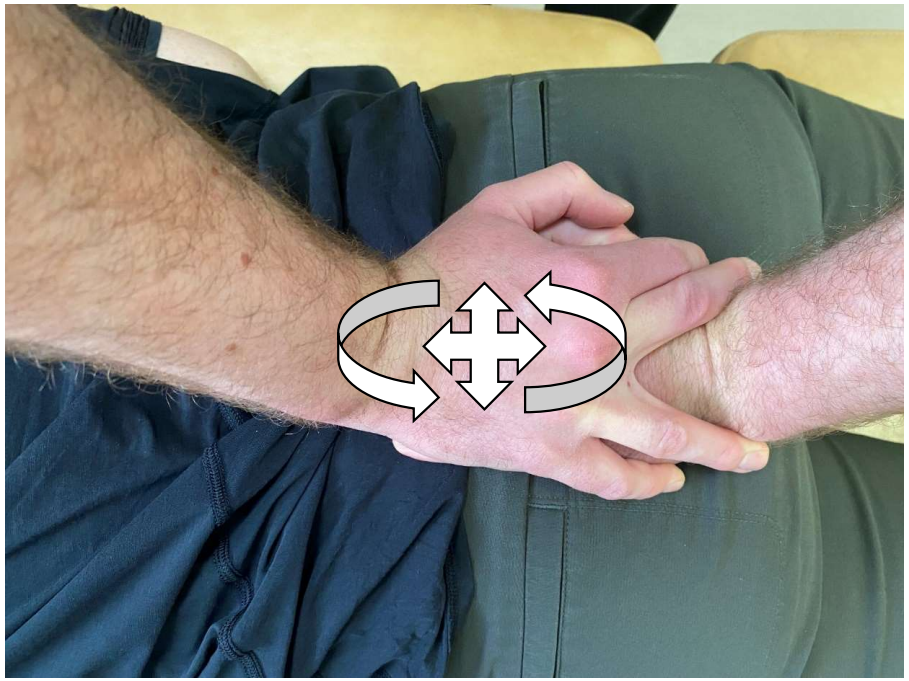
4. Reassess



Tx of Sacrum with MFR in prone position

Add Release Enhancing Maneuvers:

- Respiratory efforts (deep breathe, cycle, hold)
- Extend Back by coming up on elbows
- Abduction of the humerus in the coronal plane
- Flex and Straighten knees



Prone Sacrum – Reassess:

Place one hand on the sacrum (finger pointing cephalad)

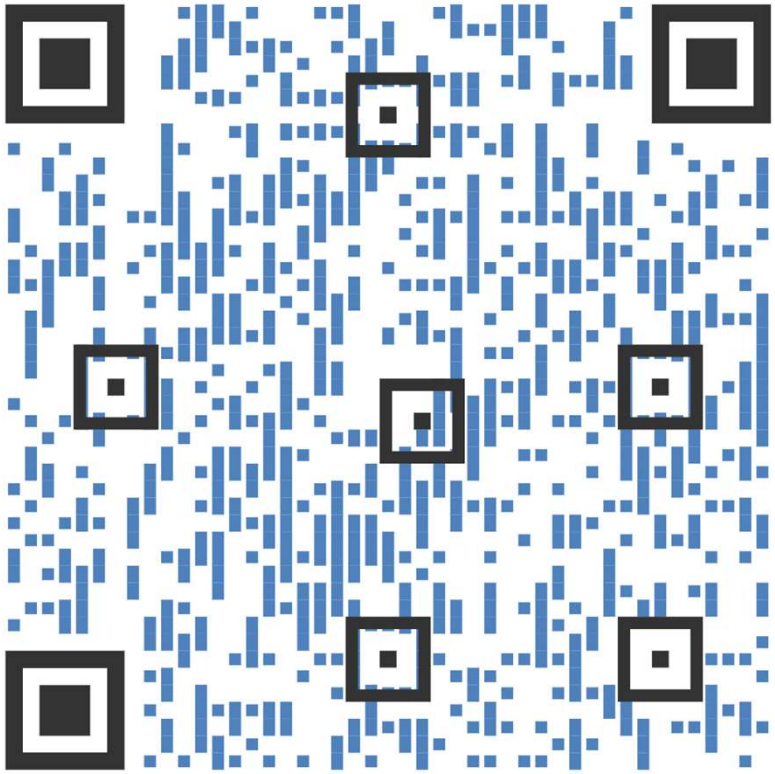
Place the other hand over top (fingers pointing caudad)

Apply light to medium pressure anteriorly to desired depth

Active motion testing: Monitor motion as patient takes deep breaths

Passive motion testing: Monitor motion by applying sacral flexion, extension, and rotation

Session Evaluation



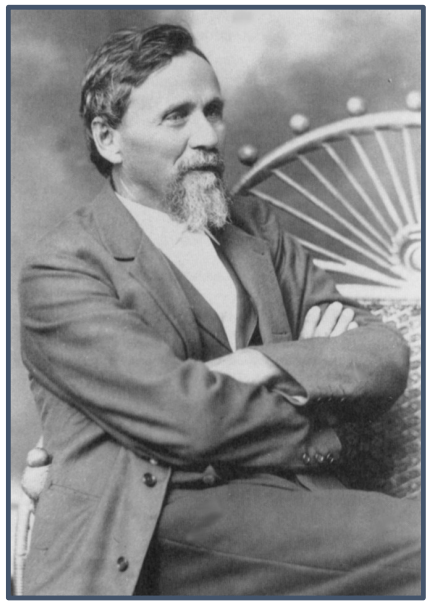
Grievance Policy

All grievances should be in writing and should specify the nature of the grievance. Initially, all grievances should be directed to MAOPS Executive Director, who will then forward said grievance to the Education & Convention Committee. All grievances will receive an initial response in writing within 30 days of receipt. If the participant does not receive a satisfactory response, then they can submit a complaint in writing to the Bureau of Osteopathic Education of the AOA at 142 East Ontario Street, Chicago, IL 60611.

The End ---- Thank You!

“To find health should be the object of the doctor. Anyone can find disease.”

– A.T. Still, Founder of Osteopathy



References

1. Seffinger, M. A. (ed.): *Foundations for Osteopathic Medicine* 4th Edition, Wolters Kluwer, Philadelphia, 2018. Ch 36, pp 835- (especially figures 37.7-36.9).
2. Glossary of Osteopathic Terminology, AACOM, 2016 edition. Available in the back of the FOM4, or online at www.aacom.org
3. Wilson-Pauwels, L., Sandoz Course Cranial Nerves, BC Decker Inc, Hamilton, Ontario, 1988