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

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Sacrum 3-pole Diagnosis and Treatment

Pneumonia Hospital OMT

Chelsey Stull, DO

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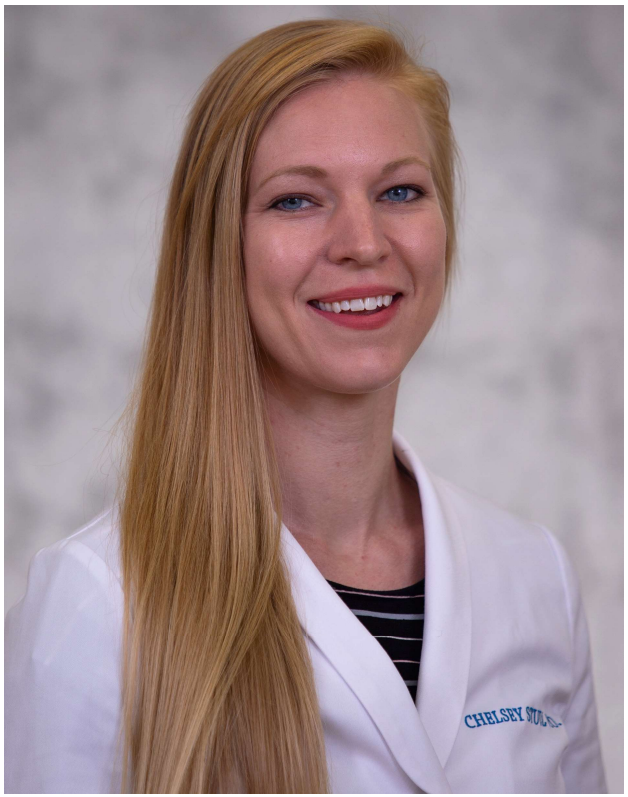

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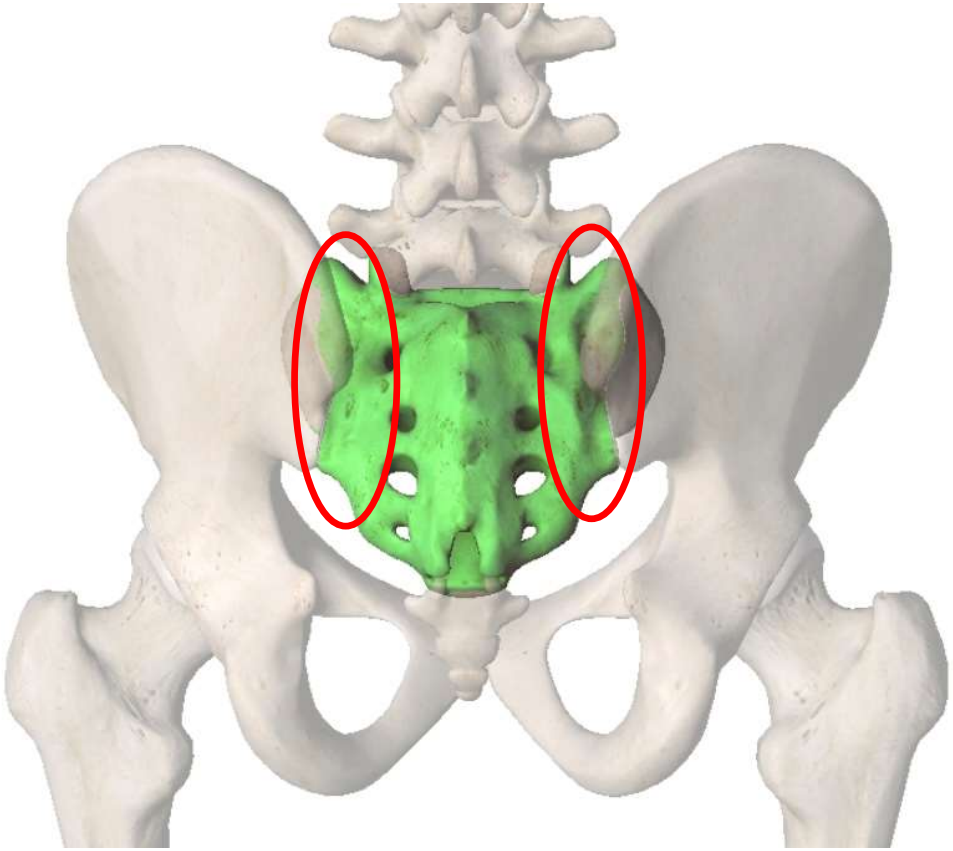
Articulations

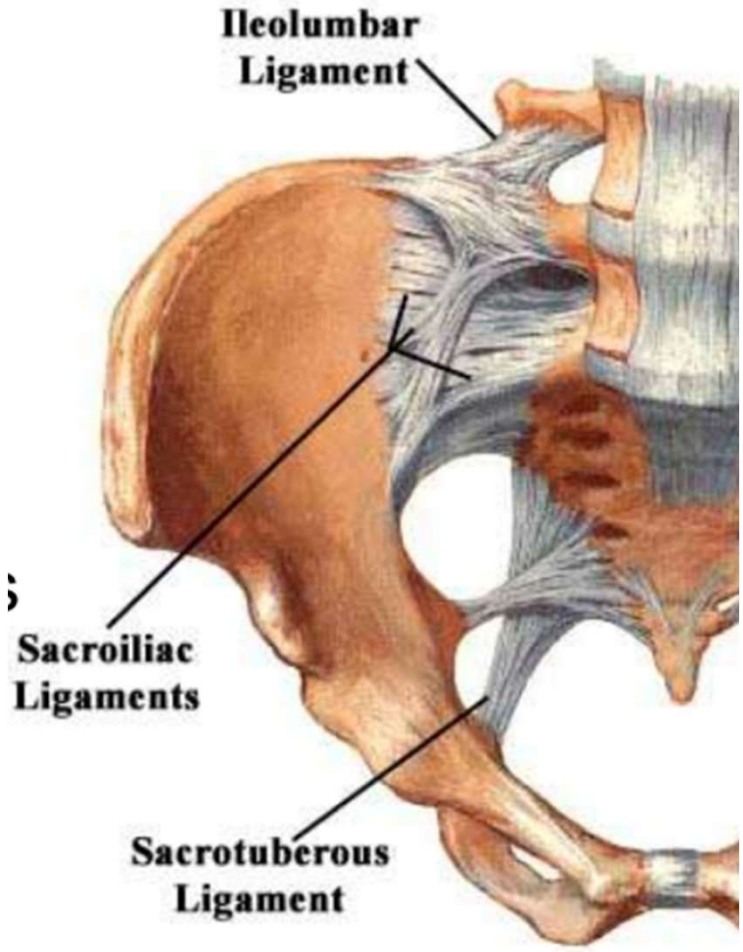
Lumbosacral Joint

Sacroiliac Joints (SIJs)

Sacrococcygeal joint



Anterior Ligament Attachments



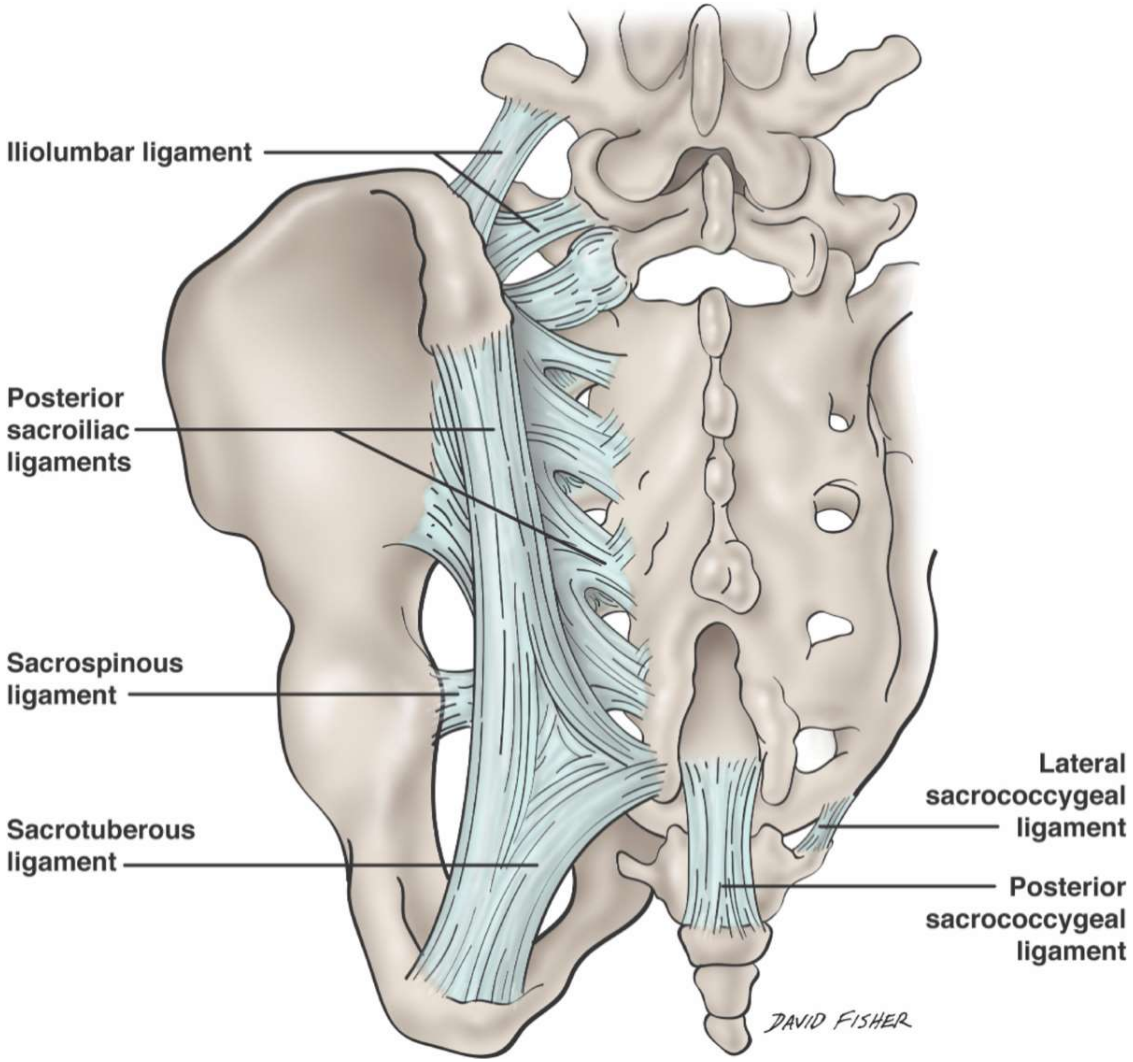
Posterior Ligament Attachments

Iliolumbar

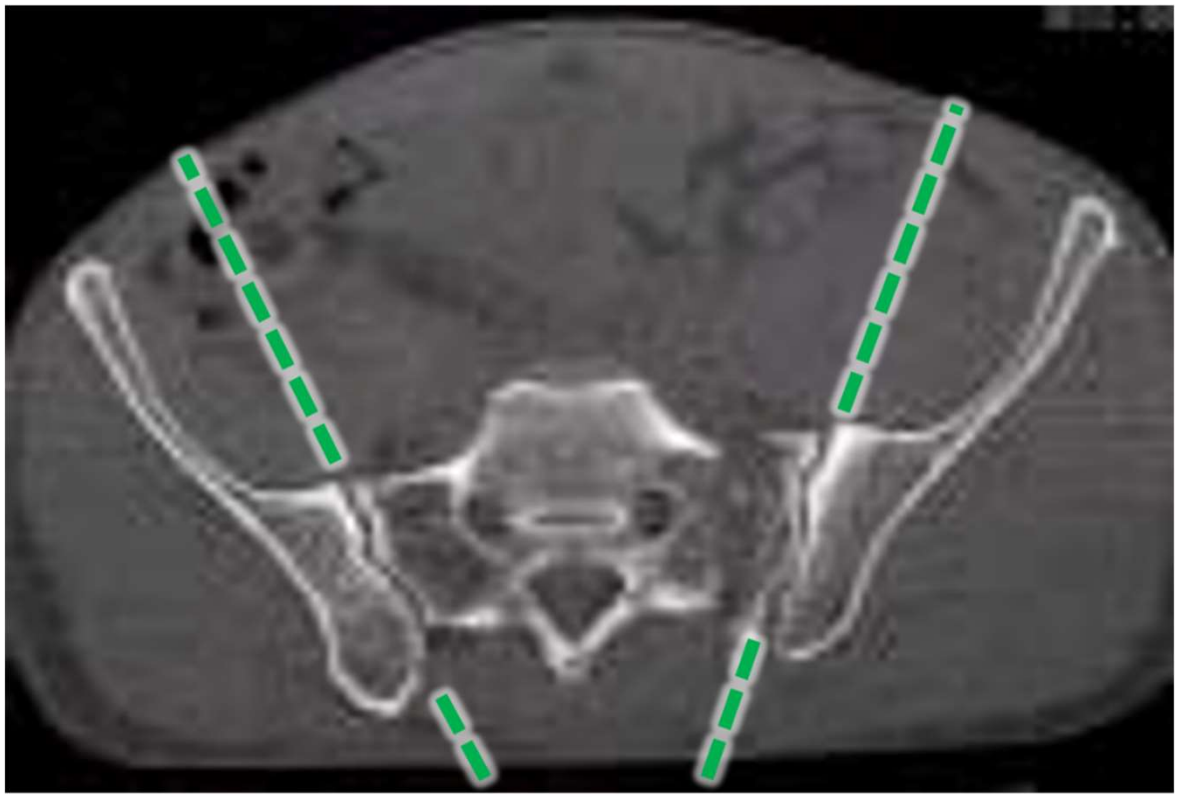
Sacroiliac

Sacrotuberous

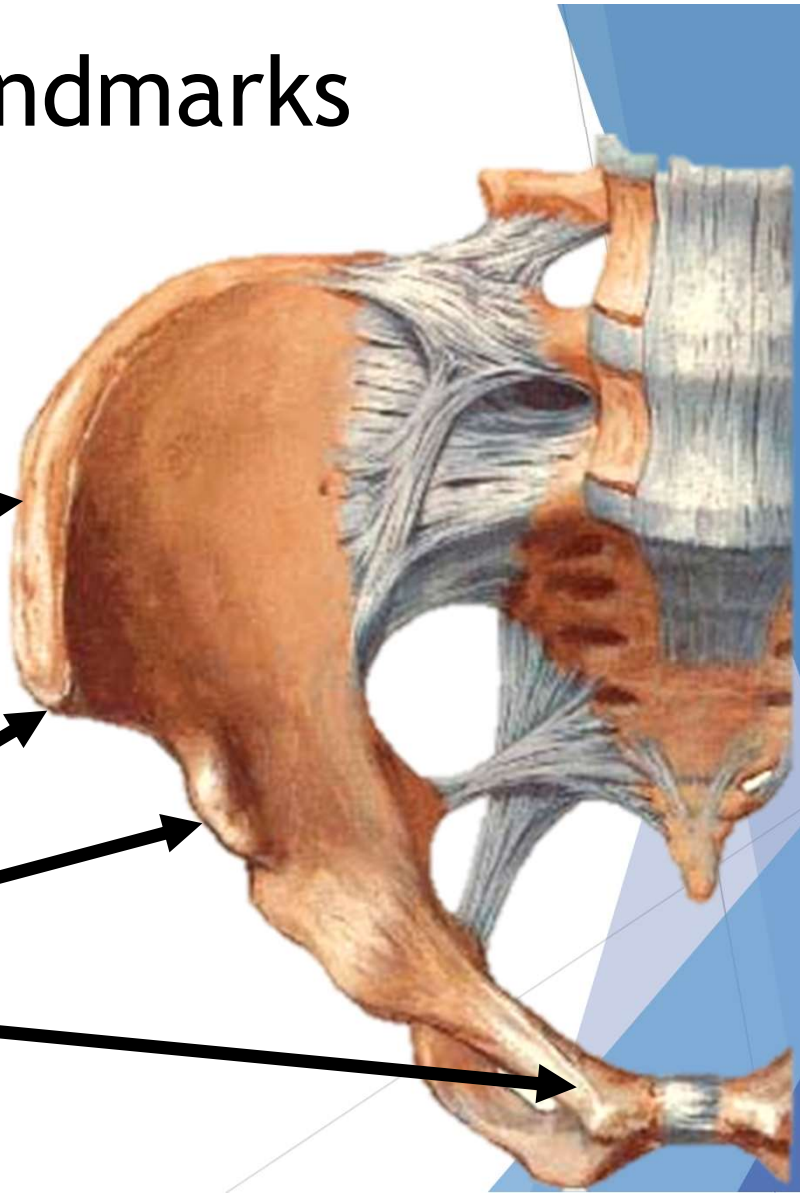
Sacrospinous



SIJ Angulation



Anterior Pelvic Landmarks



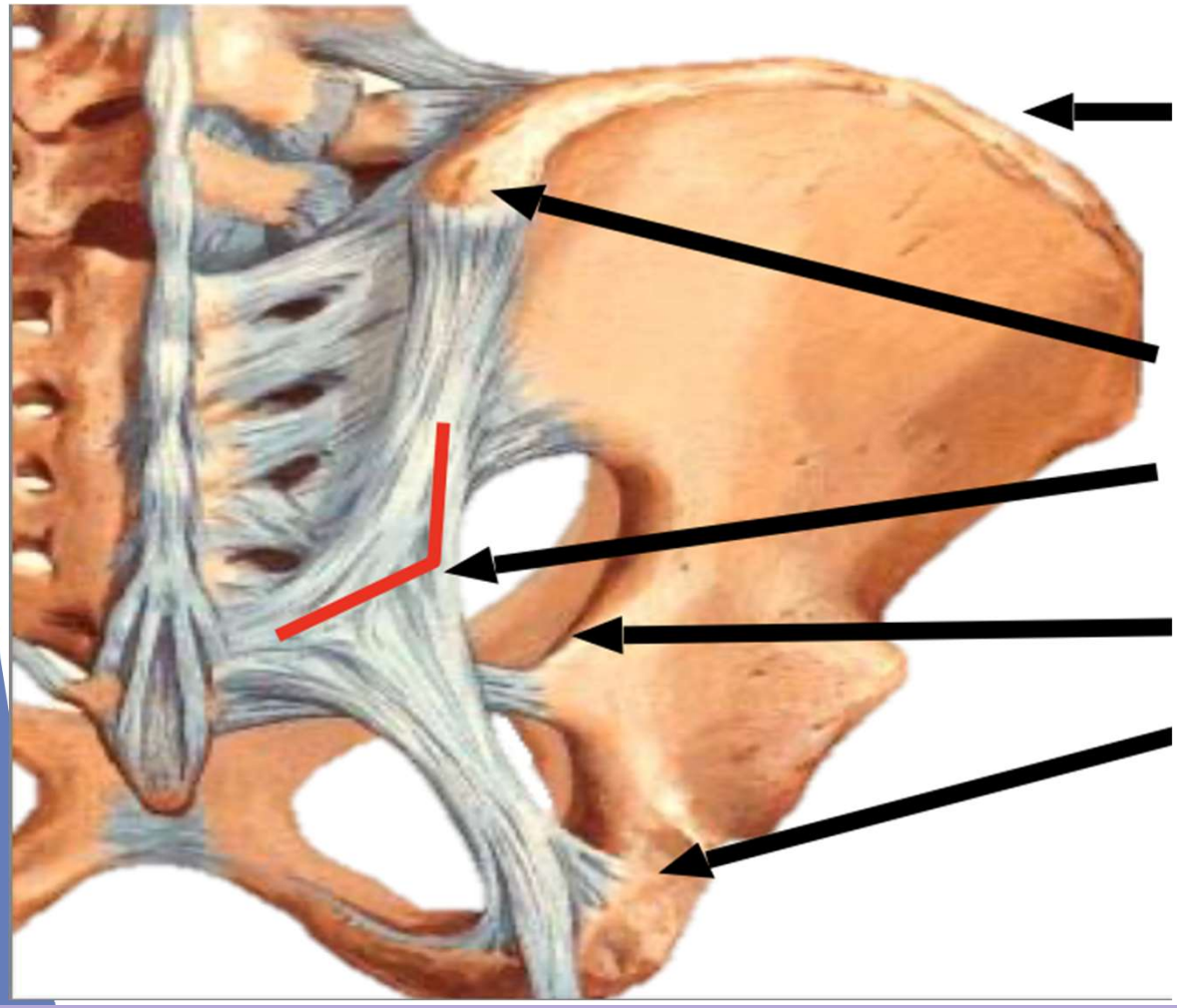
Iliac Crest

ASIS (Anterior superior iliac spine)

AIIS (Anterior inferior iliac spine)

Pubic Tubercle

Posterior Pelvic and Sacral Landmarks



Iliac crest

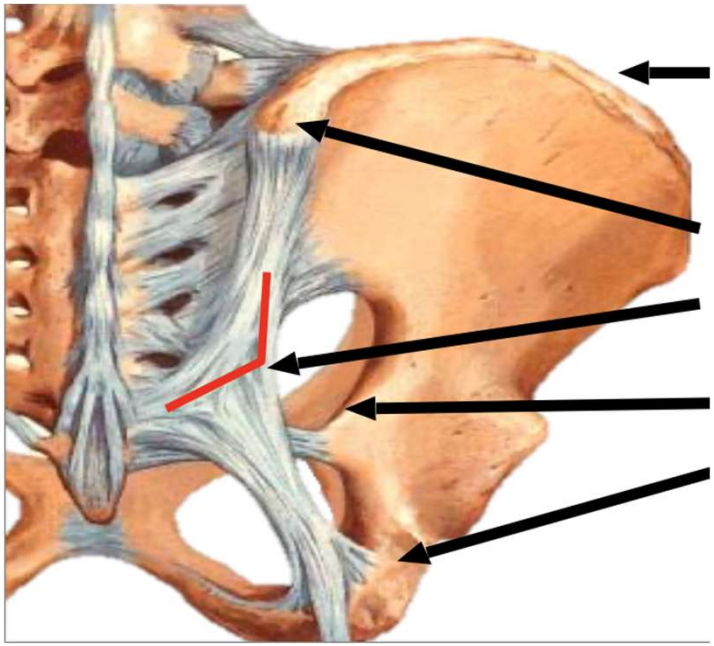
Posterior Superior Iliac Spine (PSIS)

Inferolateral angle of the Sacrum

Ischial Spine

Ischial tuberosity

Practice Finding Pelvic Landmarks



Iliac crest

Posterior Superior Iliac Spine (PSIS)

Inferolateral angle of the Sacrum

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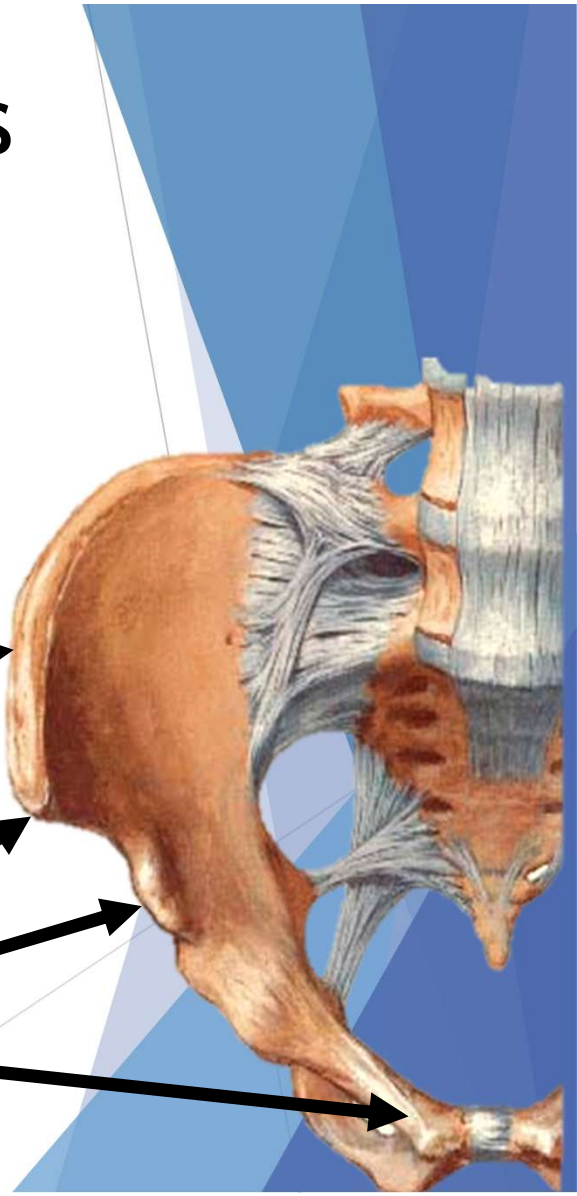
Ischial tuberosity



Iliac Crest

ASIS (Anterior superior iliac spine)

AIIS (Anterior inferior iliac spine)

Pubic Tubercle

Indications of SIJ Somatic Dysfunction

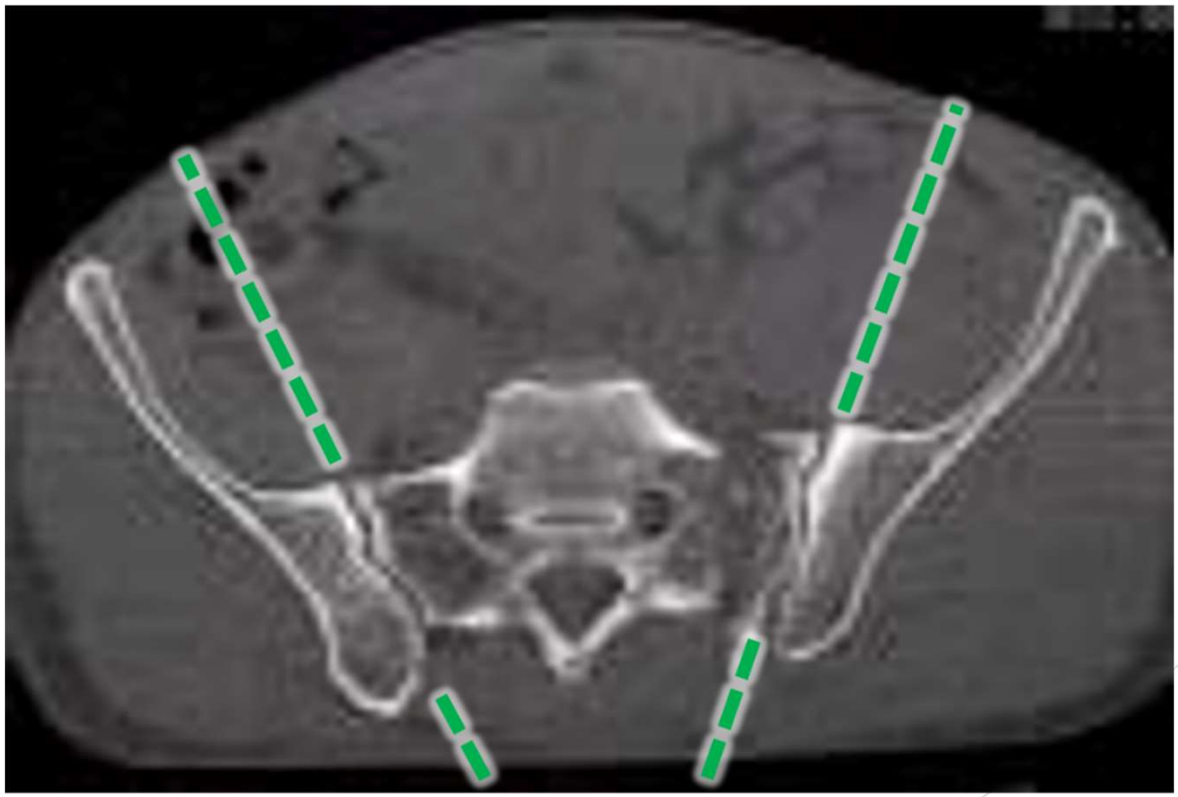
Restriction of motion
Asymmetry
Tenderness
Tissue Texture Changes

Assessing for SIJ Somatic Dysfunction

1. ASIS Compression Test
   -short lever, compression posteriorly directly on ASIS

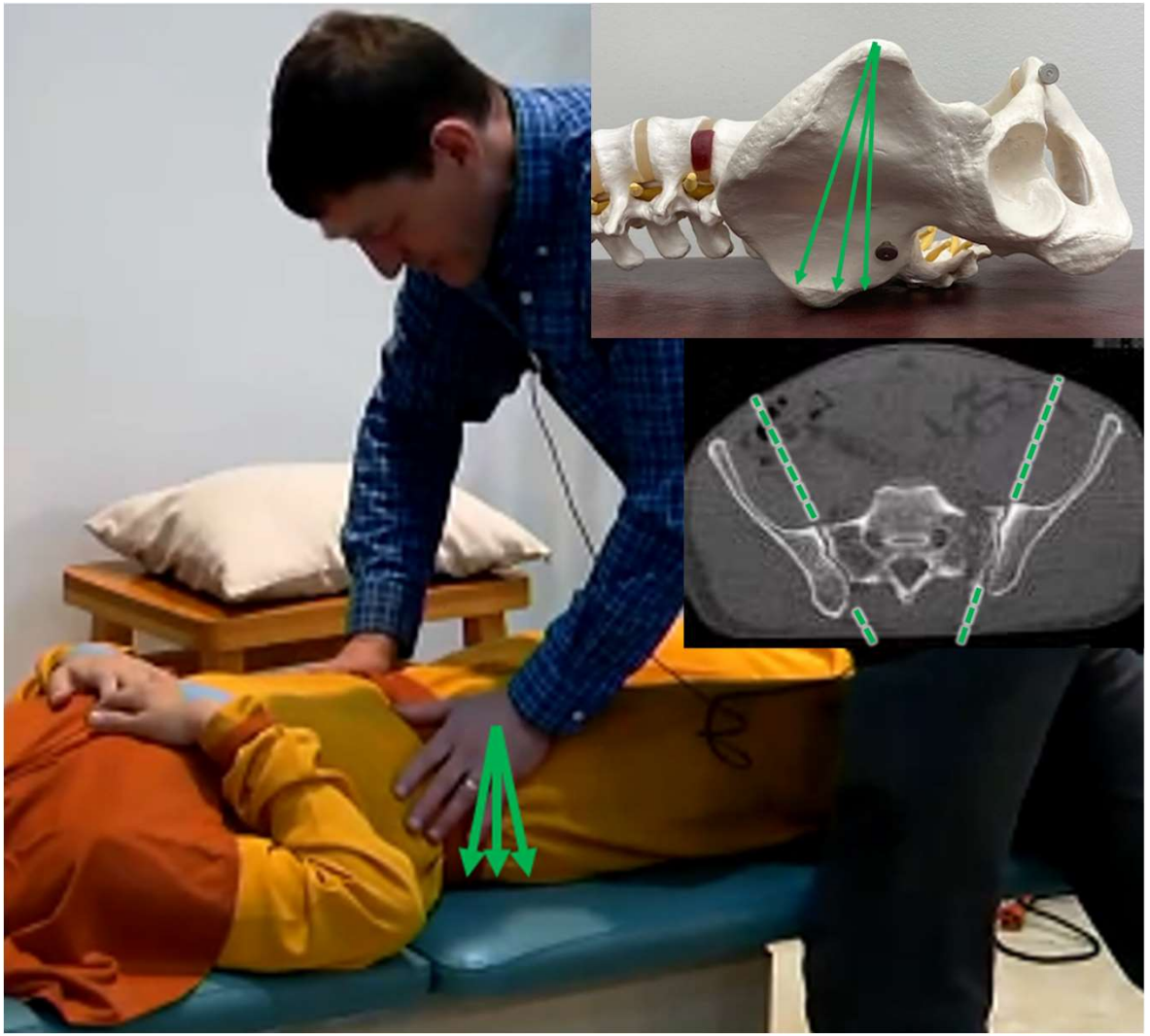
2. Direct Palpation of Posterior SIJ at 3 poles
   -Long lever, compression thru femur during hip flexion

SIJ Angulation



ASIS Compression Test – Short lever

1. Patient position is supine. Physician stands at side of table facing head
2. Contact ASIS's with palms of each hand
3. Apply posteromedial compressive/springing force on one ASIS while stabilizing the other ASIS
4. Glid ilium posterior and medial relative to sacrum at SIJ, keeping in mind SIJ angle
5. Positive side = side with restriction of motion

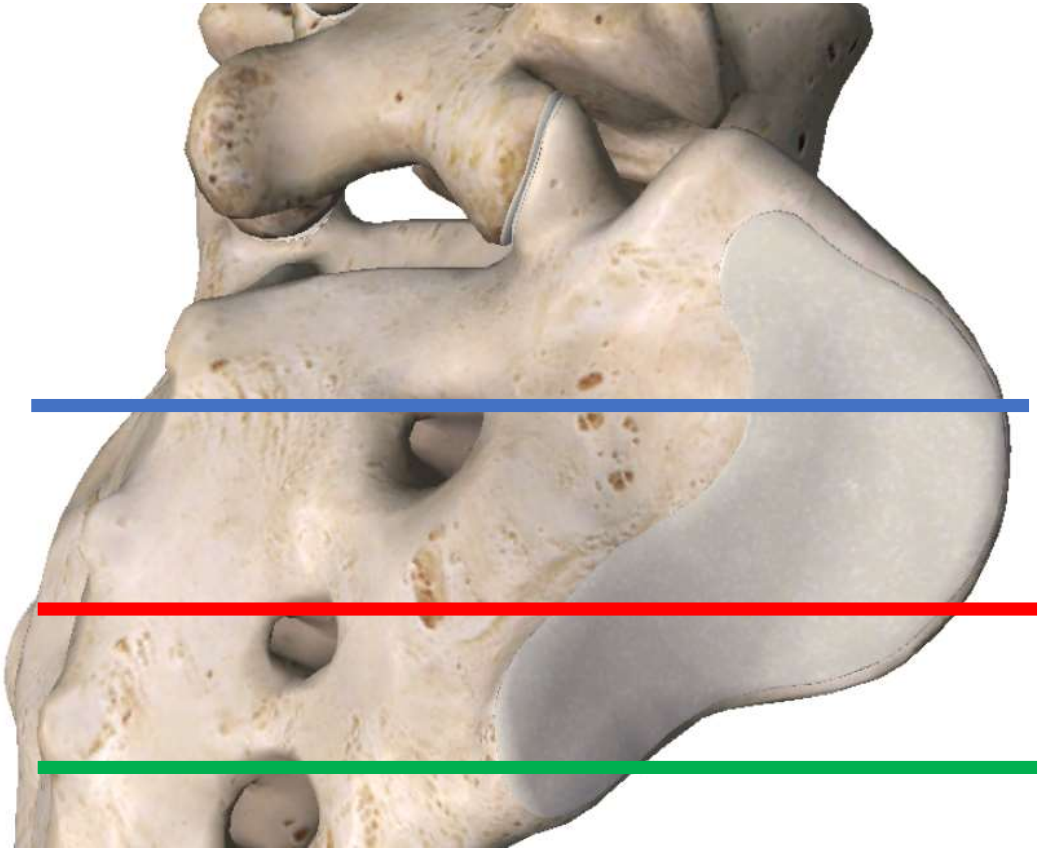


3-poles of the Sacrum

Superior Pole

Middle Pole

Inferior Pole

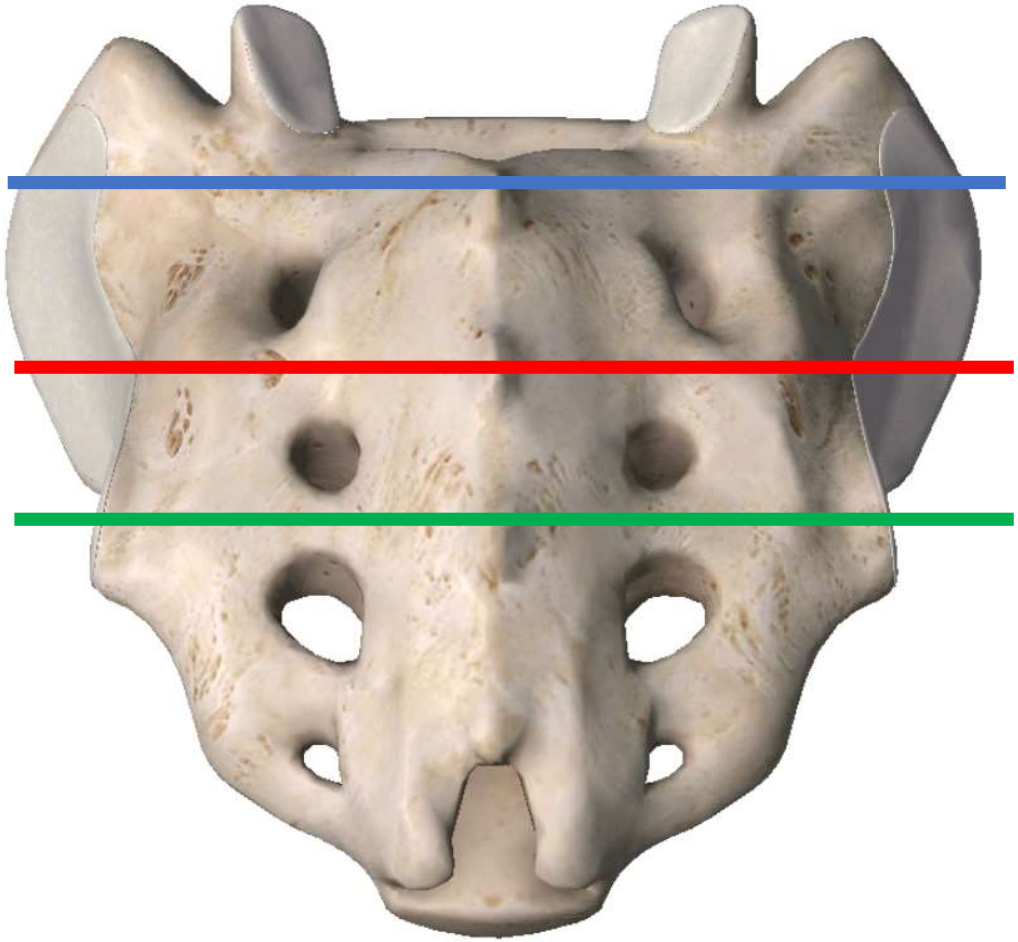


Palpation of Sacral Poles – long lever

Index Finger

Middle Finger

Ring Finger



Palpation of Sacral Poles – long lever

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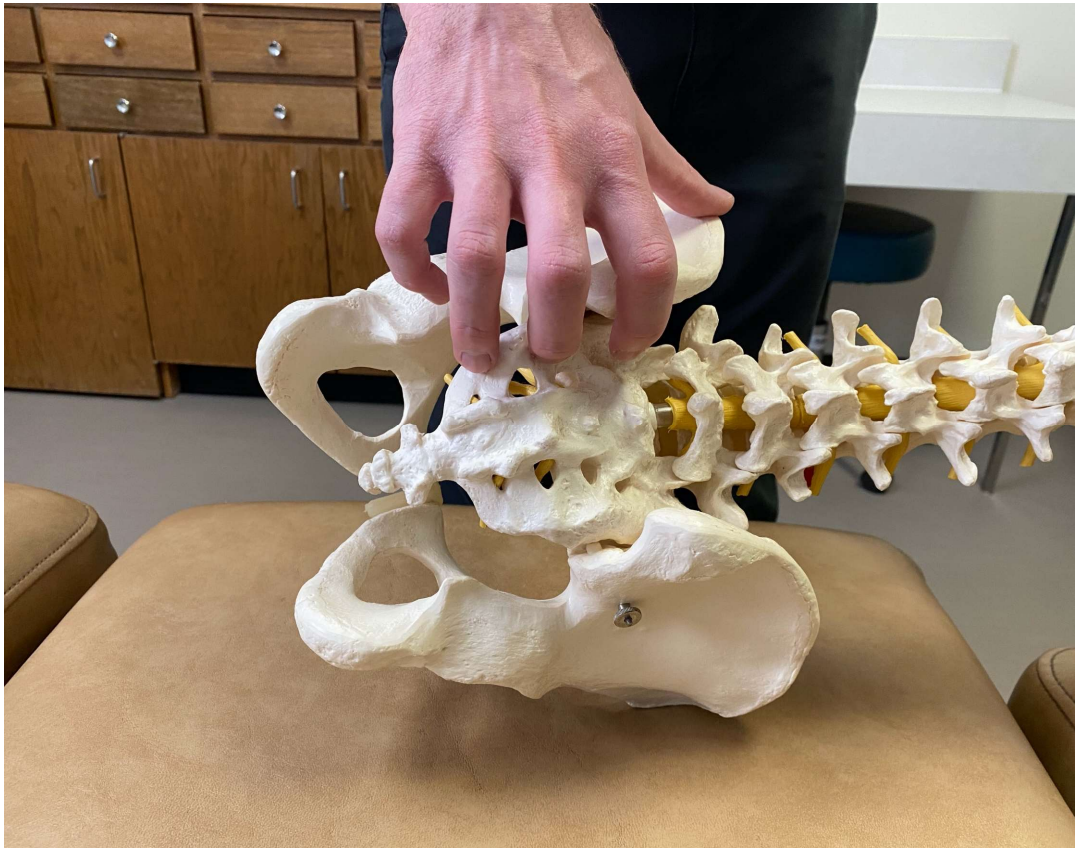
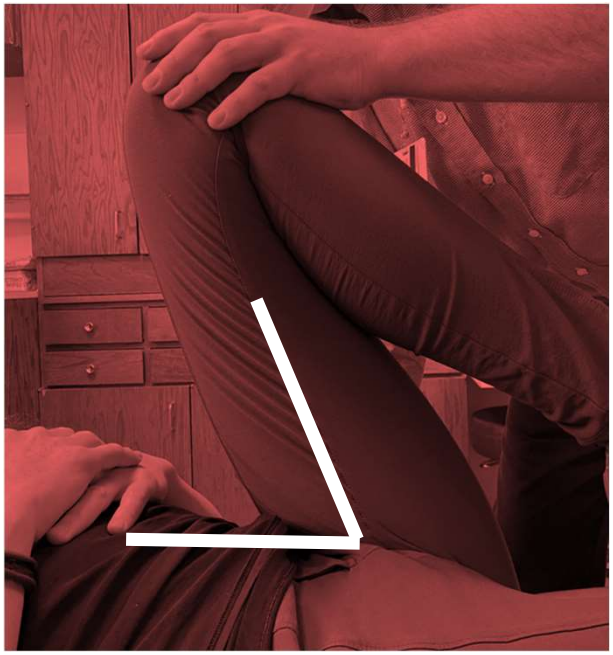


Palpation of Sacral Poles – long lever

Augmenting hip flexion engages different pole of the SIJ

Superior Pole

Middle Pole



Inferior Pole

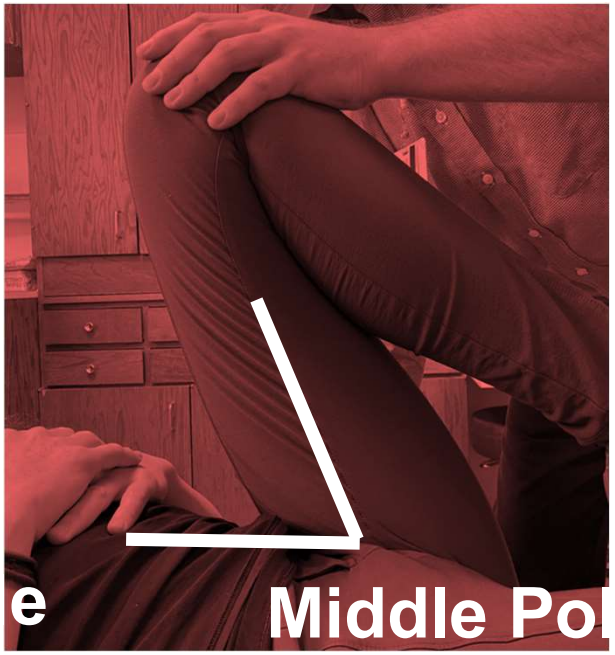
Palpation of Sacral Poles – long lever

1. Patient is supine
2. Palpate the SIJ with index, middle, ring finger

3. Flex hip to specific angels to activate each pole along the SIJ. Palpate with fingers at SIJ to assess for motion with varying amounts of flexion
    1. Less flexion – superior pole
    2. Middle flexion – middle pole
    3. Most flexion – inferior pole

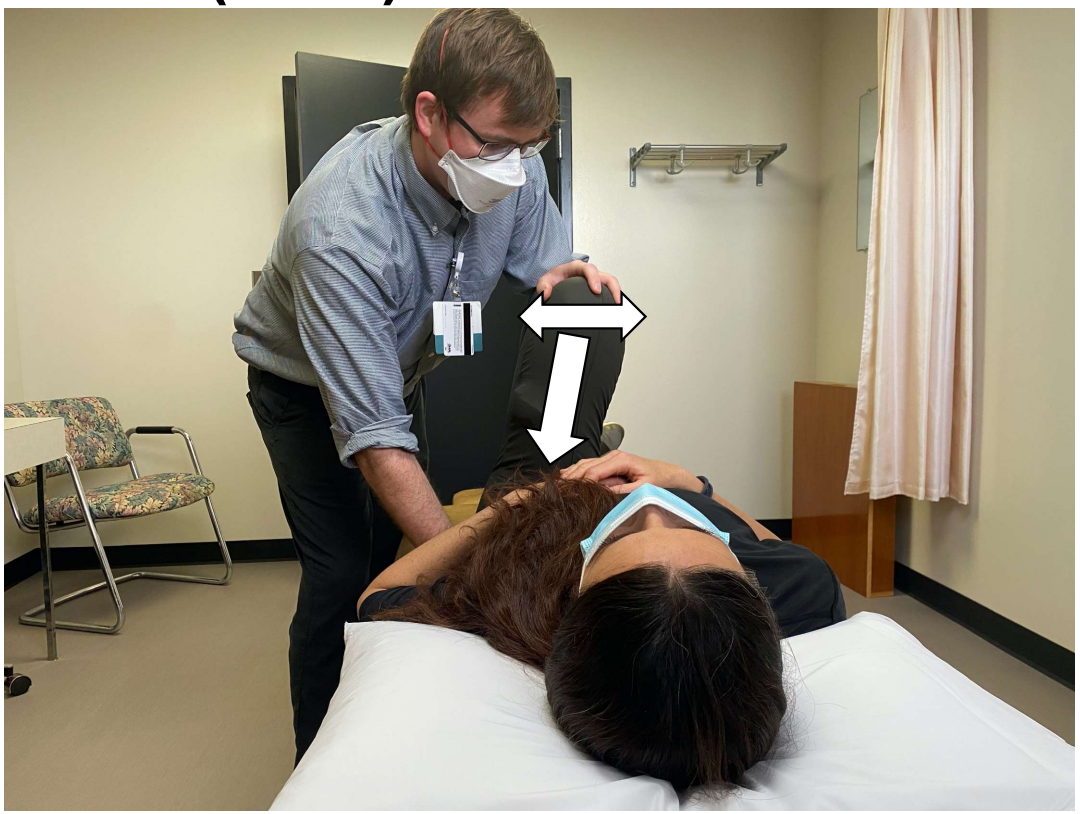
4. Compress Femur through the acetabular joint into the SIJ to assess restriction at each pole

5. Can also assess restriction in different planes by adduction and abduction of the hip



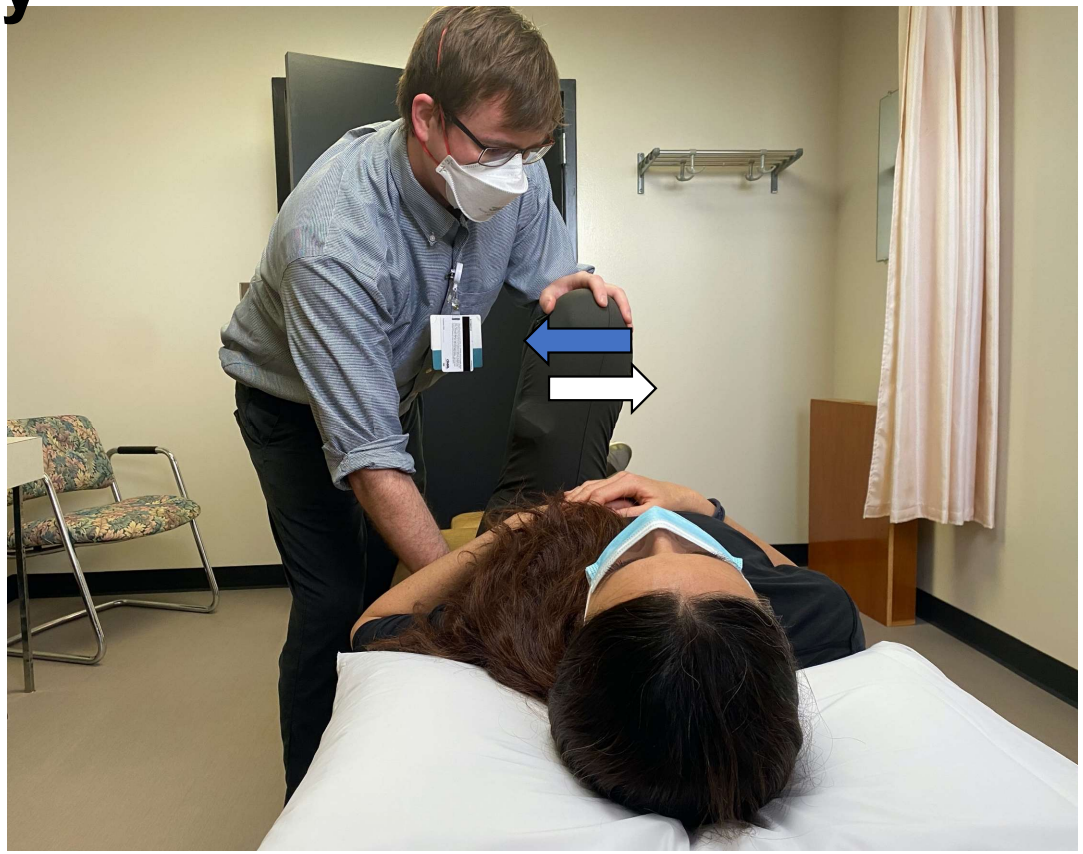
SIJ Pole Somatic Dysfunction treatment with Direct Myofascial Release (MFR)

1. Flex hip until increased tension at the restricted sacral Pole is palpated
2. Add compression thru the femur to hand palpating at posterior SIJ
3. Add Adduction or Abduction to direct barrier
4. Hold in that position until change in tissue is sensed
5. Can add enhancing maneuvers during hold:
    1. Deep Breathing
    2. Arching Lumbar Spine
    3. Flattening Lumbar Spine
6. Reassess with ASIS compression test or long lever 3-pole testing on most restricted side



SIJ Pole Somatic Dysfunction treatment with Direct Muscle Energy

1. Position patient to where there is increased tension (the barrier) at the sacral pole of interest.
2. Instruct patient to push their knee laterally with a slowly increasing force.
3. **Be sure the patient is matching your resistance. Not over powering.**
4. Hold for 3-5 seconds
5. Have patient slowly decrease resistance until relaxations. Be sure to match this transition.
6. Allow muscles to fully relax
7. Reposition patient to where there is new increased tension (new barrier)
8. Reassess with ASIS compression test or long lever 3-pole testing on most restricted side



Quick and effective treatments of Hospitalized patients – Pneumonia Evidence Based Medicine

Efficacy of osteopathic manipulation as an adjunctive treatment for hospitalized patients with pneumonia: a randomized controlled trial

Osteopathic Medicine and Primary Care 2010, **4**:2 doi:10.1186/1750-4732-4-2

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Hospitalized Elderly Patients with Pneumonia (Noll et al 2010)

- Multi-site (n=7)
- Patients over 50 years of age
- Hospitalized with pneumonia (n= 406) were randomized to one of three groups:
  - Conventional care only (CCO) (n=135)
  - CCO plus OMT 2x/day (n=135)
  - CCO plus light touch (LT) sham OMT 2x/day (n=136)

- Noll DR, et al. Efficacy of osteopathic manipulation as an adjunctive treatment for hospitalized patients with pneumonia: a randomized controlled trial. Osteopathic Medicine and Primary Care 2010, 4:2; available online at http://www.om-pc.com/content/4/1/2.

Hosp. Elderly Patients with Pneumonia

- 20 osteopathic neuromusculoskeletal (OMM) specialists and 64 resident physicians from 12 specialties administered the protocols
- Physicians managing the patients were blinded to the patients' group allocation
- 1st OMT or LT within 24 hours of admission
- OMT: thoracolumbar soft tissue, rib raising, doming of the diaphragm myofascial release, cervical spine soft tissue, suboccipital decompression, thoracic inlet myofascial release, thoracic lymphatic pump, and pedal lymphatic pump

Hosp. Elderly Patients with Pneumonia Results:

- Intention-to-treat analysis (n=387)
  - No significant difference between groups
- Per Protocol analysis (n=318)
  - Decreased median length of stay (p=.01) OMT v. CCO
  - OMT group (3.5 [3.2-4.0] days)
  - CCO group (4.5 [3.9-4.9] days)
  - LT group (3.9 [3.5-4.8] days) v. OMT not significantly different

Hosp. Elderly Patients with Pneumonia Results:

- Per Protocol Analysis (continued):
- Duration of intravenous antibiotics (p=.05) lower for OMT versus CCO, but not versus LT
- Death or respiratory failure (p=.006) lower for OMT versus CCO, but not versus the LT group

Direct Myofascial Release Reminders

1. Gently position the tissue at the restrictive barrier in all three planes of motion. – Flexion/Extension, Sidebending, Rotation
2. Hold at the restrictive barrier until the tissue begins to yield or release.
3. As the tissues release, maintain constant tension in order to maintain contact with the shifting restrictive barrier.
4. Reassess

MOPSE OMT

1. rib raising
2. diaphragm myofascial release
3. thoracic inlet myofascial release
4. cervical spine soft tissue
5. suboccipital decompression
6. thoracolumbar soft tissue
7. thoracic lymphatic pump
8. pedal lymphatic pump

MOPSE OMT

1. rib raising
2. diaphragm myofascial release
3. thoracic inlet myofascial release
4. cervical spine soft tissue
5. suboccipital decompression
6. thoracolumbar soft tissue
7. thoracic lymphatic pump
8. pedal lymphatic pump

Functional Anatomy

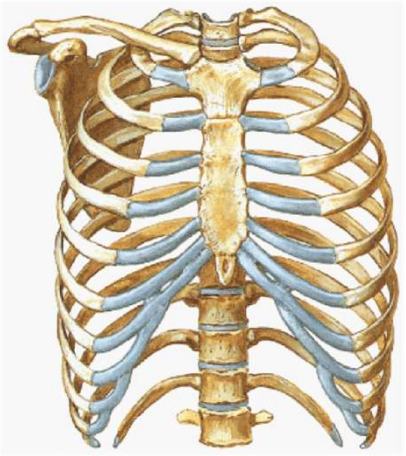
When treating lymphatic system remember to also:

1. Open the thoracic inlet to allow proper drainage of the thoracic duct
2. Open abdominal diaphragm for Cisterna Chyli
3. Decompress the OA for vagus nerve

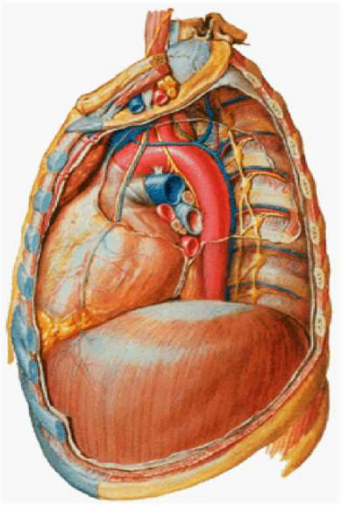
THORACIC INLET

Anatomical Thoracic Inlet:

- **T1, right and left 1st ribs, and manubrium**



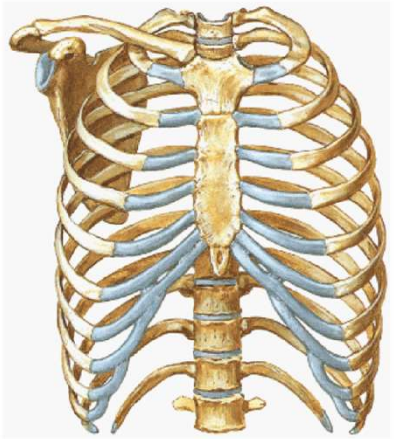
- **Right and left lymph ducts must have unhindered passage for drainage to the venous system**



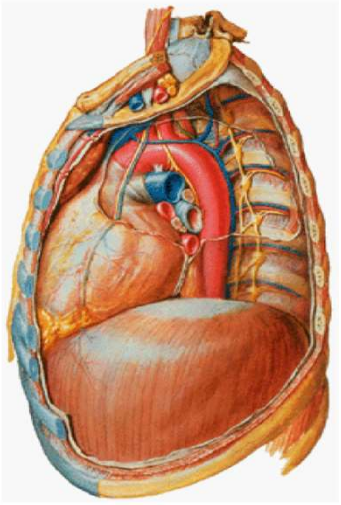
THORACIC INLET (cont.)

Functional Thoracic Inlet:

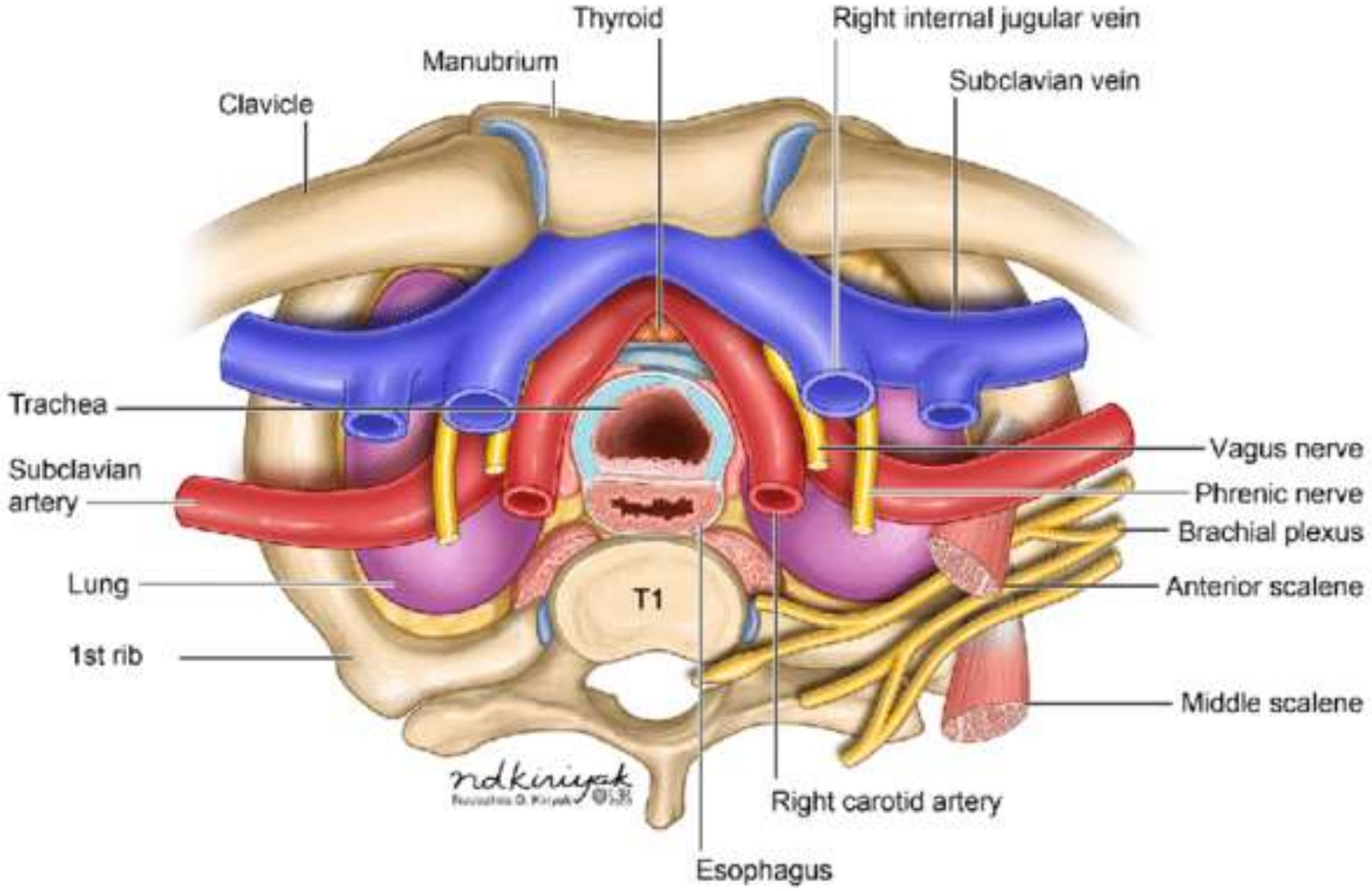
- **T1-4, ribs 1 & 2 bilaterally, and manubrium**



- **Somatic dysfunction can affect somatic, parasympathetic & sympathetic nerves, Sibson's fascia & great vessels**



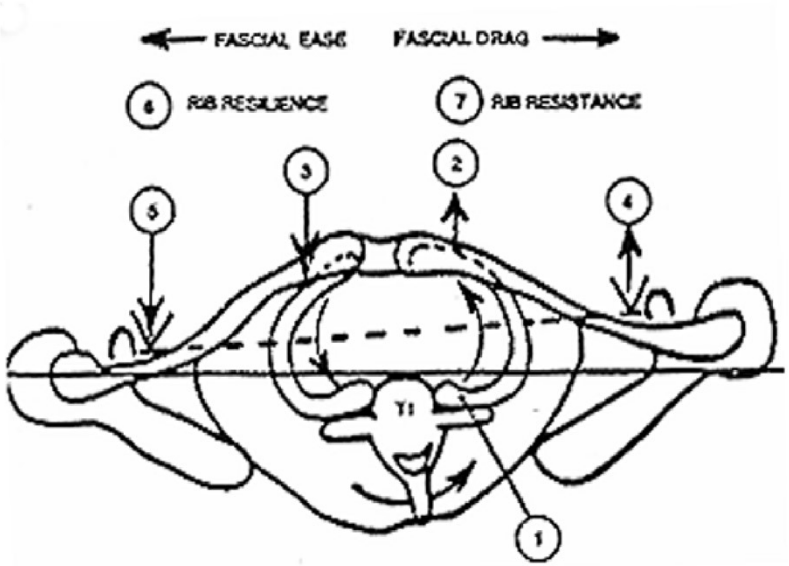
Thoracic Inlet



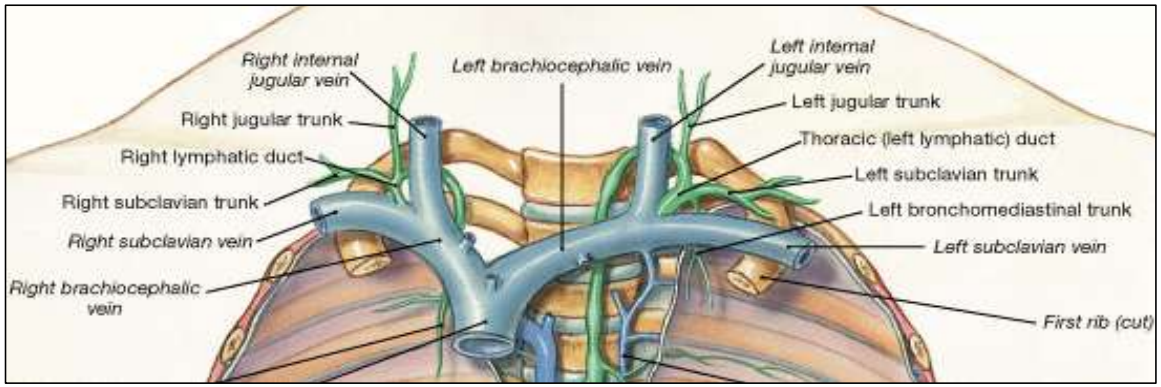
Fascial Preference of Thoracic Inlet

- **Side bends & rotates same direction usually**

- **Sidebending:**
  -check 1st rib at costotransverse junct.
  -push inf. on shoulders



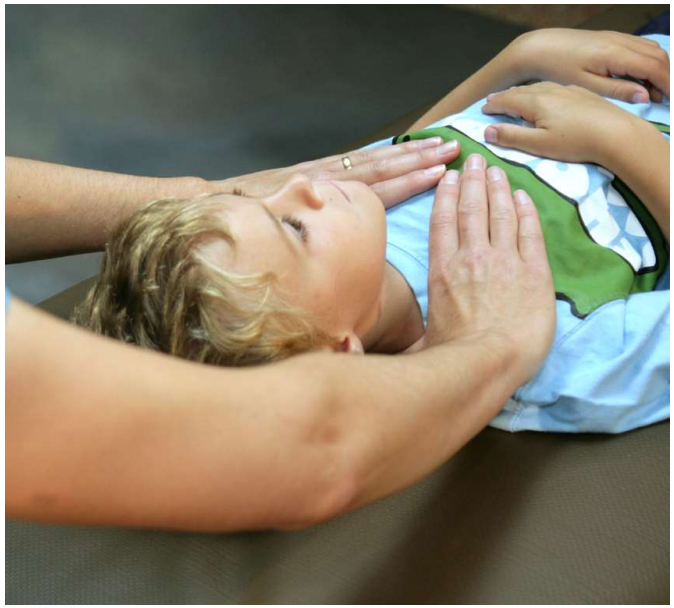
- **Rotation:**
  -compare depths of infraclavicular space
  -coracoclavicular angle depths
  -springiness of ribs



Thoracic Inlet Diagnosis

Diagnosis

- Palpate the thoracic inlet bilaterally then assess for passive motion restriction
    1. Apply alternating inferior pressure to each side of the thoracic inlet to determine passive sidebending motion restriction
    2. Apply rotational motion to the right and left to determine passive rotational motion restriction
    3. Apply anterior and inferior motion (flexion) and compare to posterior and inferior motion (extension) to determine passive flexion or extension motion restriction



Direct Myofascial Thoracic Inlet Release

Open Terminal lymphatic drainage

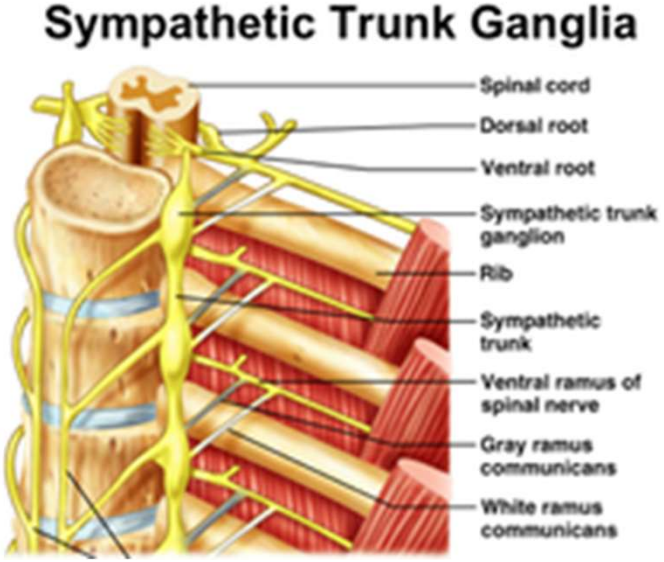
1. With the patient supine, the physician places his fingers over the thoracic inlet with the thumbs posterior
2. Assess for motion preference
3. Carry the fascia to the direct fascial barrier in the following planes: rotation, sidebending, flexion/extension
4. Maintain tissue tension at direct motion barrier, but allow myofascial unwinding to occur
5. When tissues stop, reassess and repeat as needed

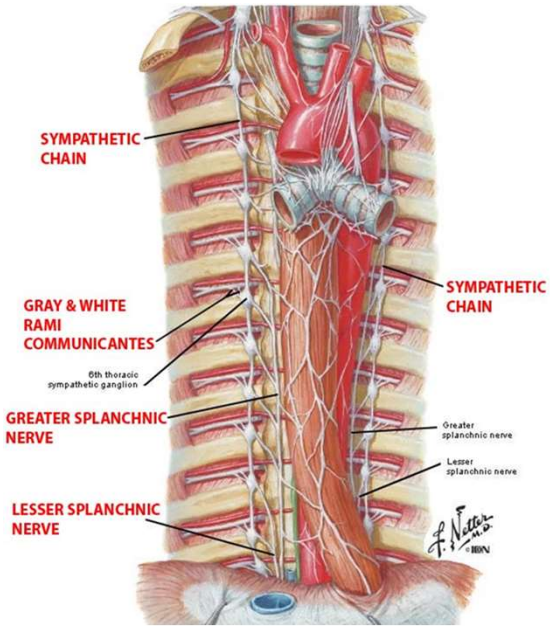
Rib Raising Techniques: Effects on Respiratory Efforts and Lymphatics

- Free restrictions of thoracic spine and rib cage
- Improved respiratory excursion of rib cage
  - Minimizes the amount of work required for thoracic expansion during respiration
- Improved lymphatic pumping mechanism of the thoracic cage
- Autonomic/sympathetic/lymphatic
  - Reduce constriction of larger lymphatic vessels

Rib Raising Techniques: Effect on Sympathetics

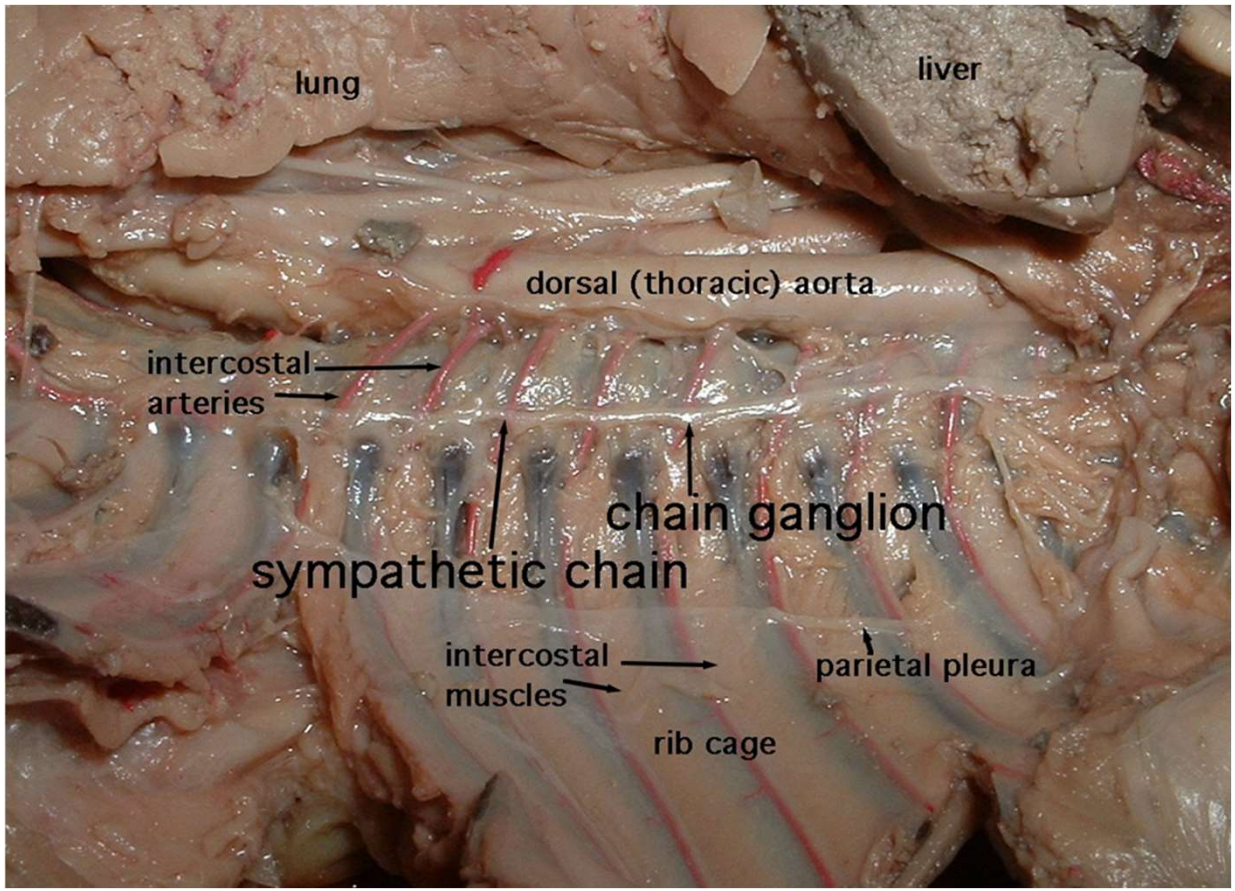
- Sympathetic chain ganglia located just anterior to the rib heads
- Ganglia can be affected by lifting the rib heads
- Technique may initially be stimulatory, but results in a decreased or normalized activity of the sympathetics





Functional Anatomy

Cephalad



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Anterior to Posterior view, organs moved to the side.

Rib Raising

- Improve respiratory biomechanics and lymphatic drainage and normalize sympathetic tone to the lungs

1. Place hands posteriorly on rib angles
2. Physician lifts the rib angles anteriorly as a group until anterior motion of the chest wall is observed.
3. They hold up the ribs until the surrounding tissues relax. They then allow the ribs to fall posteriorly. Rib raising may be applied once or rhythmically for several cycles.
4. Move hands up and down to treat entire rib cage until chest cage motion has improved
5. Repeat on other side

Functional Anatomy

When treating lymphatic system remember to also:

1. Open the thoracic inlet to allow proper drainage of the thoracic duct
2. Open abdominal diaphragm for Cisterna Chyli
3. Decompress the OA for vagus nerve

Open the Abdominal Diaphragm

1. Patient is supine and the physician stands at the side of the table.
2. Physician grasps the lateral sides of the patient's rib cage with their palms with the fingers spread apart.
3. Patient's respiration is observed and palpated to determine which hemidiaphragm is most restricted.
4. Physician carries the rib cage into left/right rotation to the point of maximum ligamentous tension (facial barrier). They then add components of left/right sidebending and flexion/extension until all three planes are at the fascial barrier.
5. Patient is instructed, "Take some deep breaths." The physician maintains the abdominal diaphragm at the fascial barrier in three planes while resisting the inhalation effort on the side that has the best motion, forcing the restricted side of the diaphragm to move.
6. Recheck.

Functional Anatomy

When treating lymphatic system remember to also:

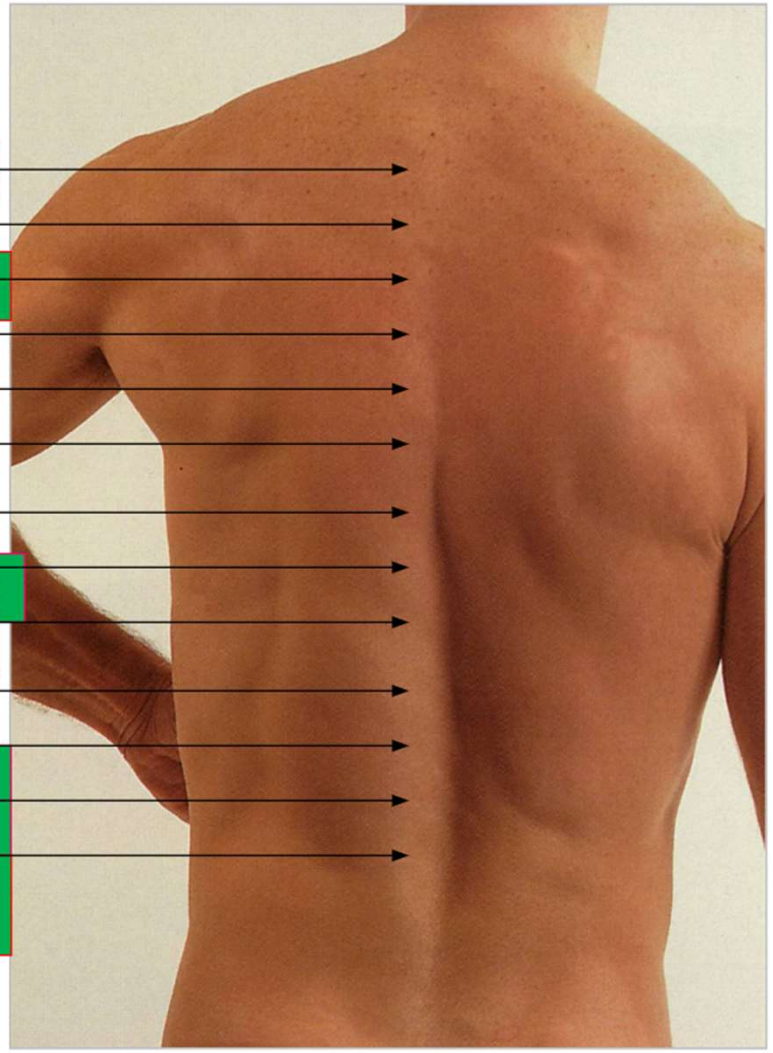
1. Open the thoracic inlet to allow proper drainage of the thoracic duct
2. Open abdominal diaphragm for Cisterna Chyli
3. Decompress the OA for vagus nerve

OA Decompression

1. With your hands parallel, curl your fingertips into the patient's suboccipital musculature along the superior or inferior nuchal line.
   A. Asking the patient to nod their head helps obtain access to the area.
2. Apply anterior pressure with fingerpads in the direction of patient's orbits
3. Allow the patient's head to rest on your fingertips so as to apply steady pressure to the suboccipital musculature until the tissue softens
4. Physician then applies traction while their elbows are moved medially. This moves the fingers laterally to widen the foramen magnum along its entire margin and decompress the tension in the occiput

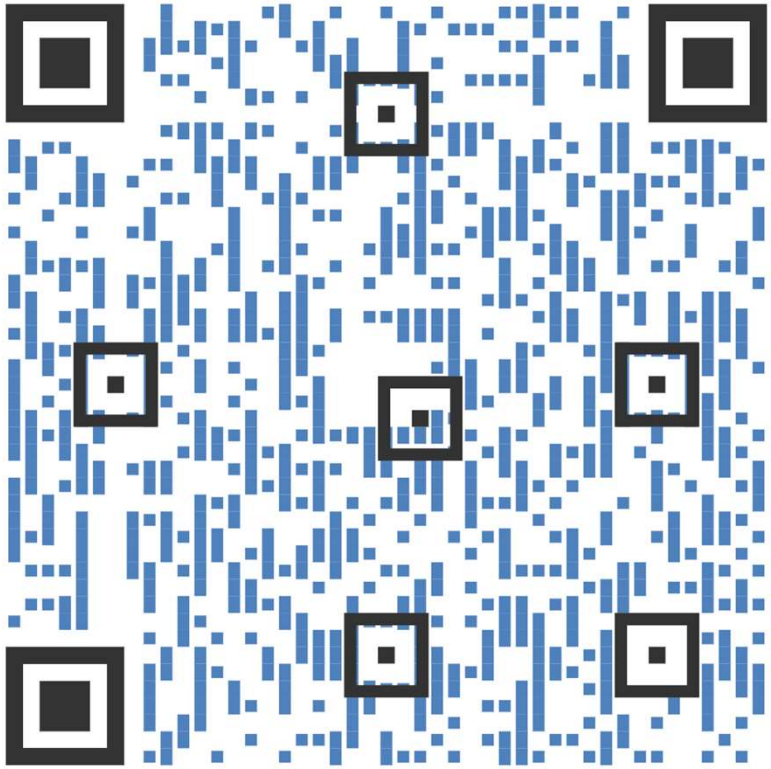
Somatotopic Relationships to Sympathetic Function

- T1-4 Head and Neck
- T1-6 Heart, Lungs
- T2-8 Upper Extremity
- T2-8 Esophagus
- T5-9 Upper GI System
- T10-11 Mid GI System
- T10-Kidney
- T 10-11-Ovaries, Testes
- T11-L1 Upper Ureter
- T12-L2 Bladder
- T12-L2 Lower GI System
- T12-L2 Uterus, Prostate
- T11-L2 Lower Extremity



Session Evaluation

ATSU
A.T. STILL UNIVERSITY



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.