

Introduction to OMM for MDs and DOs

- May 20, 2024 – May 23, 2024 Kirksville, MO
- NCOPPE & KCOM

The background of the slide features a large, stylized arrow pointing to the right. The arrow is composed of several overlapping chevron shapes in various shades of blue, ranging from a very dark navy blue to a lighter sky blue. On the left side of the slide, within the dark blue area of the arrow, is the ATSU logo and its full name.

ATSU

National Center for Osteopathic
Principles and Practice Education

Diagnosis of the Innominates and Pubes

Brian Degenhardt, DO

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4 CLASSES OF DIAGNOSTIC TESTS

- × Asymmetry
- × Restricted motion
- × Tenderness
- × Tissue texture abnormalities



EXAMINERS' PALPATORY PERCEPTIONS

- × Density, thickness
- × Moisture
- × Texture
- × Elasticity, turgor
- × Temperature, energy
- × Tension, motion
- × Differentiating anatomy and pathology



SOMESTHESIS



- ✖ Somatic sensibility, or somesthesia, refers to the primary qualities of contact or touch-pressure, form, texture and vibration, as well as more complex sensory experiences
 - + Spatial pattern, contour, and three-dimensional shape, and the senses of position and movement of the limbs at their joints (Mountcastle 2005)

EQUIPMENT VERSUS INSTRUMENTATION

- ✖ Instrument makes measurements in specific units
 - + Accelerometer
 - + Caliper/micrometer - displacement/distance
 - + Calorimeter - temperature
 - + Durameter - hardness
 - + Force/torque –strain (compressive, tensile, shear), stress (tensile, elastic, shear)
 - + Inclinator - shape
- ✖ Confidence in those measurements when the instrument is calibrated



ASSUMPTIONS THAT IGNORE CALIBRATION

- ✖ What is being done with one hand or at one moment is comparable to what is being done with the other hand or at a different moment
- ✖ Surface area, direction/vector of force, mechanics from one side can be equilibrated by the mechanics of the other side
- ✖ TART



KINESTHESIS

- ✖ Awareness of the position and movement of the parts of the body by means of sensory organs (proprioceptors, interoceptors) in the muscles and joints
- ✖ Osteopathic Manipulative Medicine = somesthesia + kinesthesia
 - + How does your performance of a test influence your test findings
 - + How does your own somatic dysfunction, pain, stress, sleep, anxiety, ... influence manual skills



OBSERVE THE WORLD AROUND YOU, VERSUS THE UNIVERSE WITHIN

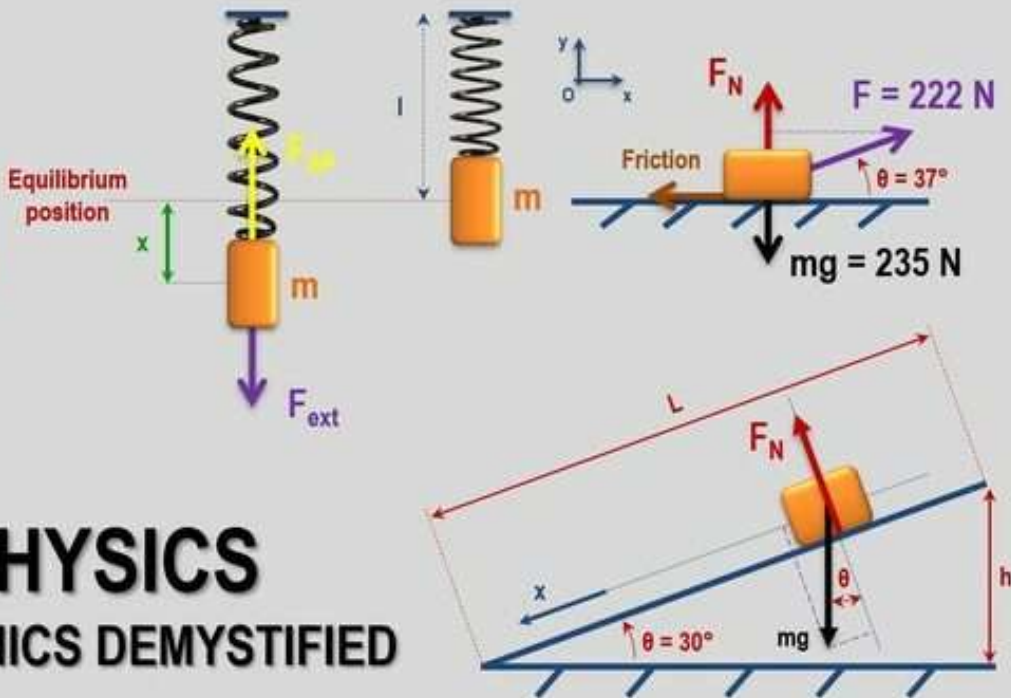



NEWTONIAN OMM



ESSENTIAL PHYSICS

NEWTONIAN MECHANICS DEMYSTIFIED



Speed 

Far less than 3×10^8 m/s

Comparable to 3×10^8 m/s

Size 
Far larger than 10^{-9} m
Near or less than 10^{-9} m

Classical
Mechanics

Relativistic
Mechanics

Quantum
Mechanics

Quantum
Field Theory

Objectives of this session

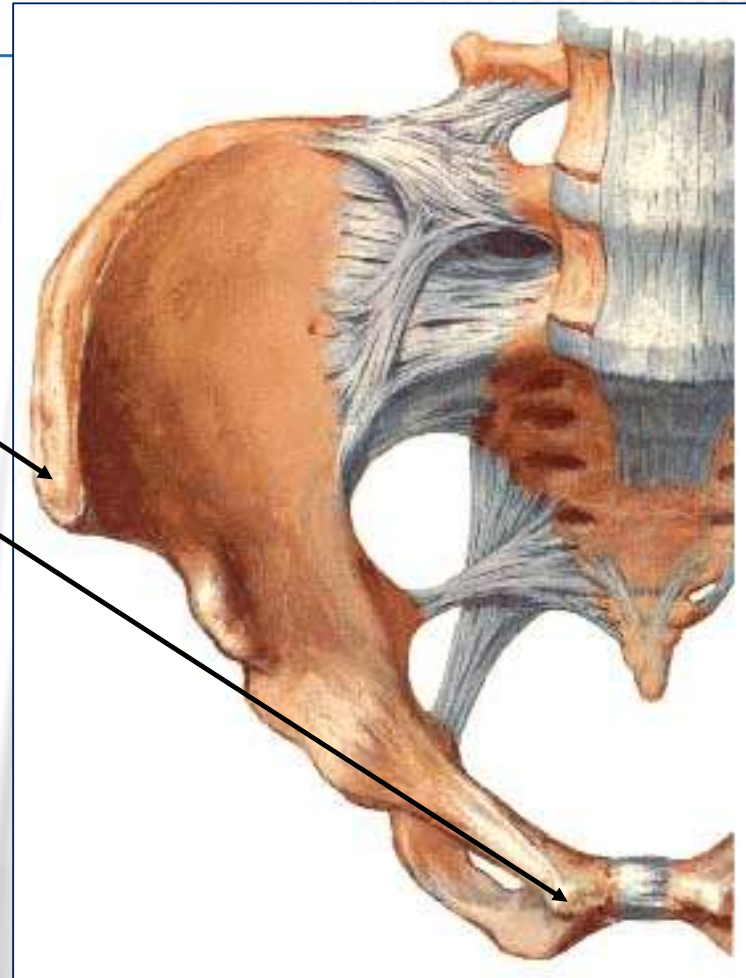
- Describe the lateralization tests used in the diagnosis of pelvic somatic dysfunction
- Be competent in the performance and interpretation of these lateralization tests
- Describe diagnostic findings of somatic dysfunction of the pubes & innominates
- Consider current evidence on accuracy of testing
- Demonstrate method of diagnosing somatic dysfunction of pubes & innominates

LANDMARKS OF THE PELVIS

Major Landmarks

Anterior Superior Iliac Spine

Pubic tubercle

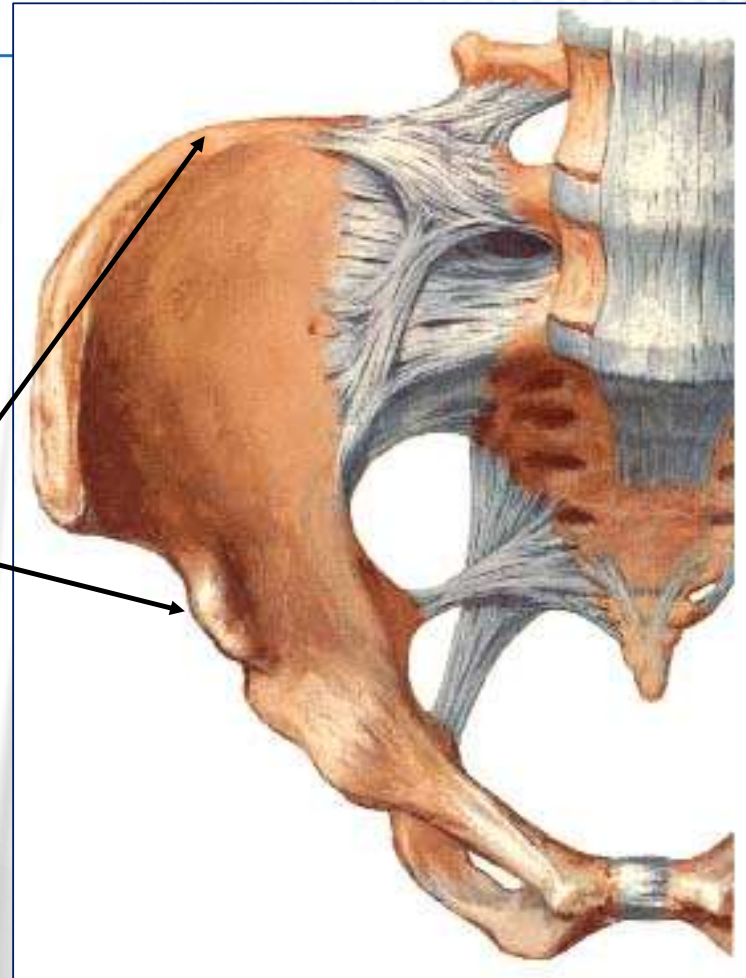


LANDMARKS OF THE PELVIS

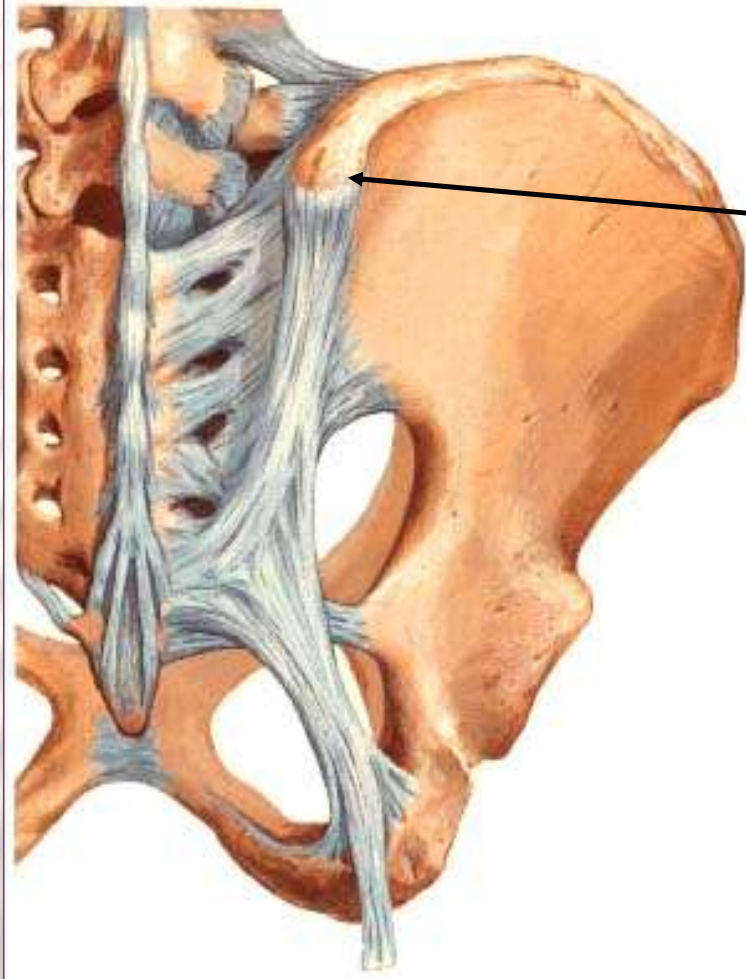
Minor Landmarks

Iliac Crests

Anterior Inferior Iliac Spine
(ASIS)



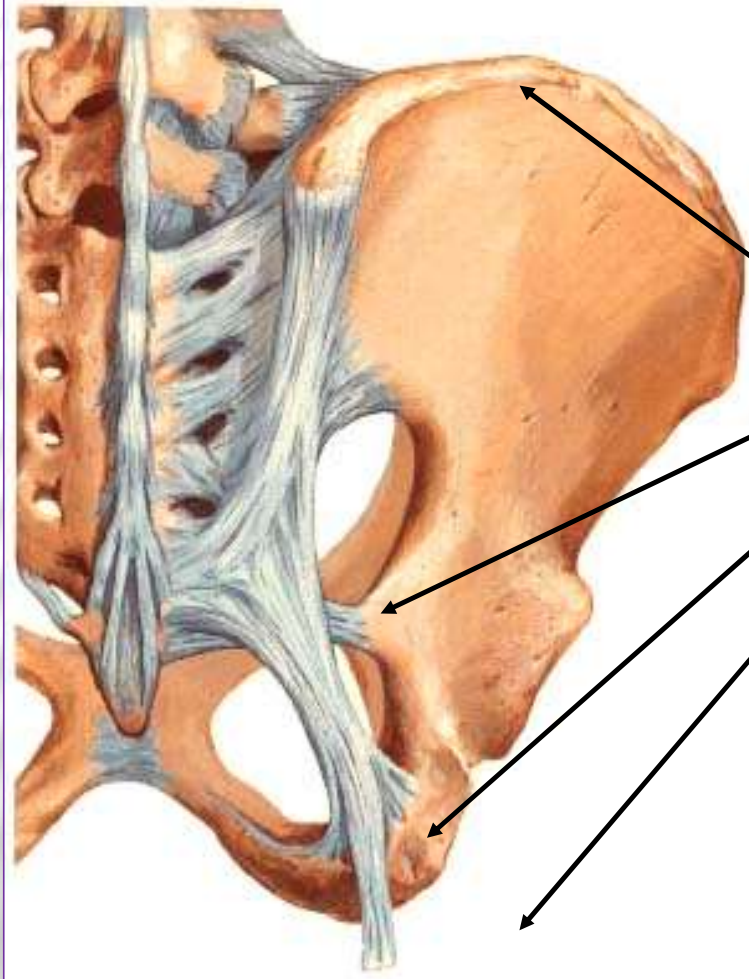
LANDMARKS OF THE PELVIS



Major Landmarks

Posterior superior iliac spine
(PSIS)

LANDMARKS OF THE PELVIS



Minor Landmarks

Iliac Crest

Ischial Spine

Ischial Tuberosity

Medial Malleoli

What are the lateralization tests used to diagnose somatic dysfunction in the pelvis?

- Standing Flexion Test
- Seated Flexion Test
- ASIS Compression Test

What are the reasons for performing these lateralization tests?

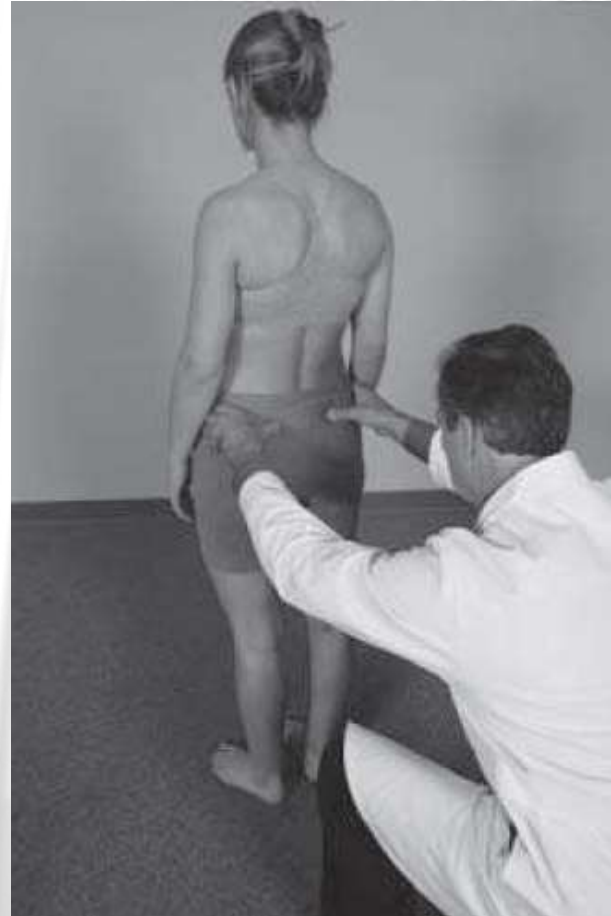
- We primarily perform these tests to identify the restricted side (the reference side) for pelvic and sacral diagnosis and treatment.
- These tests allow us to:
 - determine symmetry (or asymmetry) of motion between the innominates and the sacrum
 - check the resiliency of the sacroiliac joint
 - direct treatment specifically to the restricted side

Technique for the *Standing Flexion Test*

- Patient stands erect with the feet at no more than shoulder width apart
- Physician stands, sits or kneels behind the patient with their eyes at the level of the PSISs
- Physician places thumbs on the inferior slope of the patient's PSIS and maintains a firm pressure to ride with the bony landmarks (shift should not be due to skin, fascial or t-shirt drag!)
- Patient is instructed to actively bend forward and try to touch their toes
- Test is positive when asymmetry of the thumbs occurs (thumb on one PSIS moves at least one thumb breadth more cephalad at the end ROM)

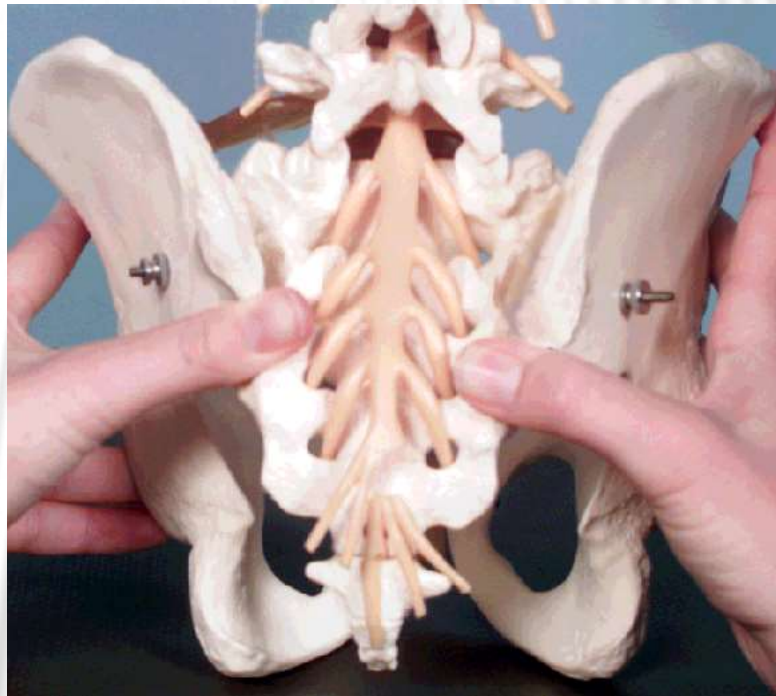
Technique for the *Standing Flexion Test*

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Technique for the *Standing Flexion Test*

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Technique for the *Standing Flexion Test*

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Technique for the *Standing Flexion Test*

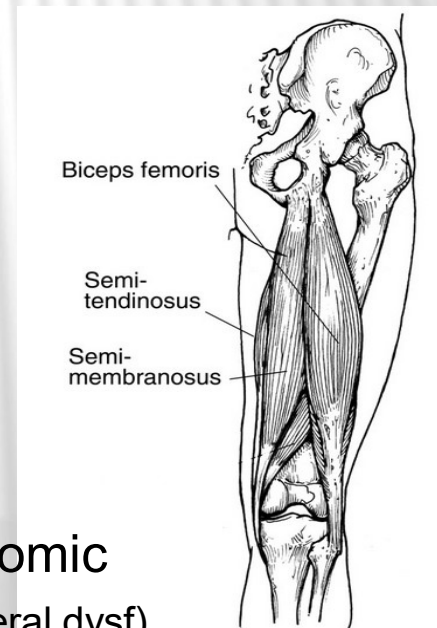
- Test is positive when asymmetry of the thumbs occurs (thumb on one PSIS moves at least one thumb breadth more cephalad at the end ROM)



What if the *Standing Flexion Test* is positive?

- This might indicate somatic dysfunction of the ipsilateral innominate or of the sacrum
- Note: a positive test tends to reflect *iliosacral* dysfunction (vs. *sacroiliac* dysfunction for the sitting test)
- However, this might indicate tension of the contralateral hamstrings (a *false positive*)
 - So you need:
 - to check for hamstring tightness,
 - treat the hamstrings if they are tight, and
 - then recheck the standing flexion test to see if it changes
- Furthermore, possible *false positive* if anatomic leg-length difference (short leg simulates + ipsilateral dysf)

possible
Board
Question



What if the **Standing Flexion Test** is negative?

- This might indicate that there is no somatic dysfunction of the innominates or of the sacrum
- However, this might indicate tension of the ipsilateral hamstrings on the side of the somatic dysfunction of the innominate or of the sacrum (a *false negative*)
 - so again, check the hamstrings,
 - treat the hamstrings if indicated, and
 - recheck the standing test to see if it becomes positive
- Furthermore, a negative test might also indicate bilateral somatic dysfunction of the innominates and/or the sacrum (a bilateral *false negative*)

Technique for the *Seated Flexion Test*

- Patient is seated on a low stool or side of a treatment table with the feet touching the floor and the knees just far apart to allow them to forward bend
- Physician stands, sits or kneels behind the patient with their eyes at the level of the PSISs
- Physician places thumbs on the inferior slope of the patient's PSIS and maintains a firm pressure to ride with the bony landmarks (shift should not be due to skin, fascial or t-shirt drag!)
- Patient is instructed to bend forward as far as possible
- Test is positive when asymmetry of the thumbs occurs (thumb on one PSIS moves at least one thumb breadth more cephalad at the end ROM)

Technique for the **Seated** Flexion Test

- Patient is seated on a low stool or side of a treatment table with the feet touching the floor
- Physician stands, sits or kneels behind the patient with their eyes at the level of the PSISs



Technique for the *Seated Flexion Test*

- Physician places thumbs on the inferior slope of the patient's PSIS and maintains a firm pressure to ride with the bony landmarks
- Patient is instructed to bend forward as far as possible



Technique for the *Seated Flexion Test*

- Test is positive when asymmetry of the thumbs occurs (thumb on one PSIS moves at least one thumb breadth more cephalad at the end ROM)



What if the **Seated Flexion Test** is positive?

- Since the seated position eliminates involvement of the hamstrings or an anatomic short leg, this test assesses *sacroiliac* function (i.e. it is a test for the sacrum moving on ilium) – vs. *iliosacral* function for the standing test
- So, a positive test indicates somatic dysfunction of the ipsilateral innominate or of the sacrum

What if the **Seated Flexion Test** is negative?

- This probably indicates that there is no somatic dysfunction of the innominates or of the sacrum
- Theoretically, however, a negative test might indicate bilateral somatic dysfunction of the innominates and/or the sacrum, hence a bilateral *false negative*

Technique for the ***ASIS Compression Test***

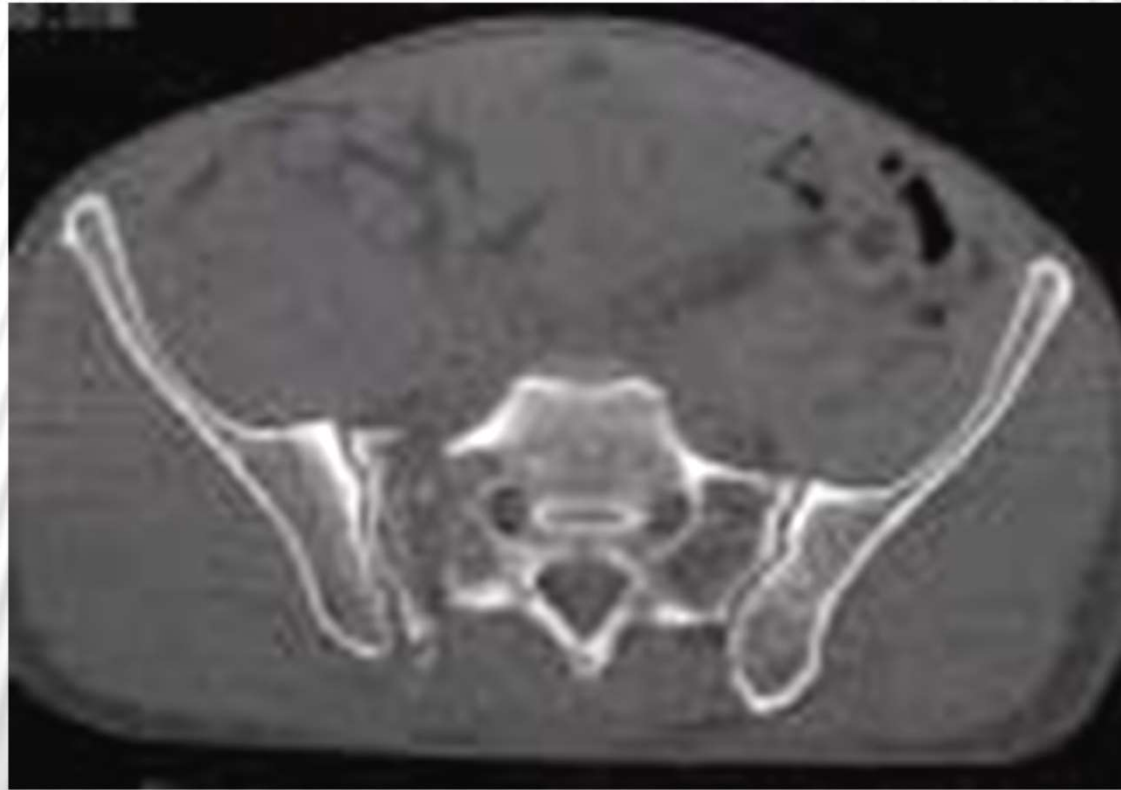
- Patient lays on the table in the supine position
- Physician stands at the side of the table facing the head
- Physician cups the ASIS on each side with their palm
- Physician applies a posterior-medial pressure on one ASIS while stabilizing the other, gliding the ilium along the SI joint
(note: can “load” both sides to begin with to stabilize the pelvis, and then check compression on each side individually)
- Test both sides
- Test is positive when there is noted to be restriction to motion at the ipsilateral sacroiliac joint

Technique for the ***ASIS Compression Test***

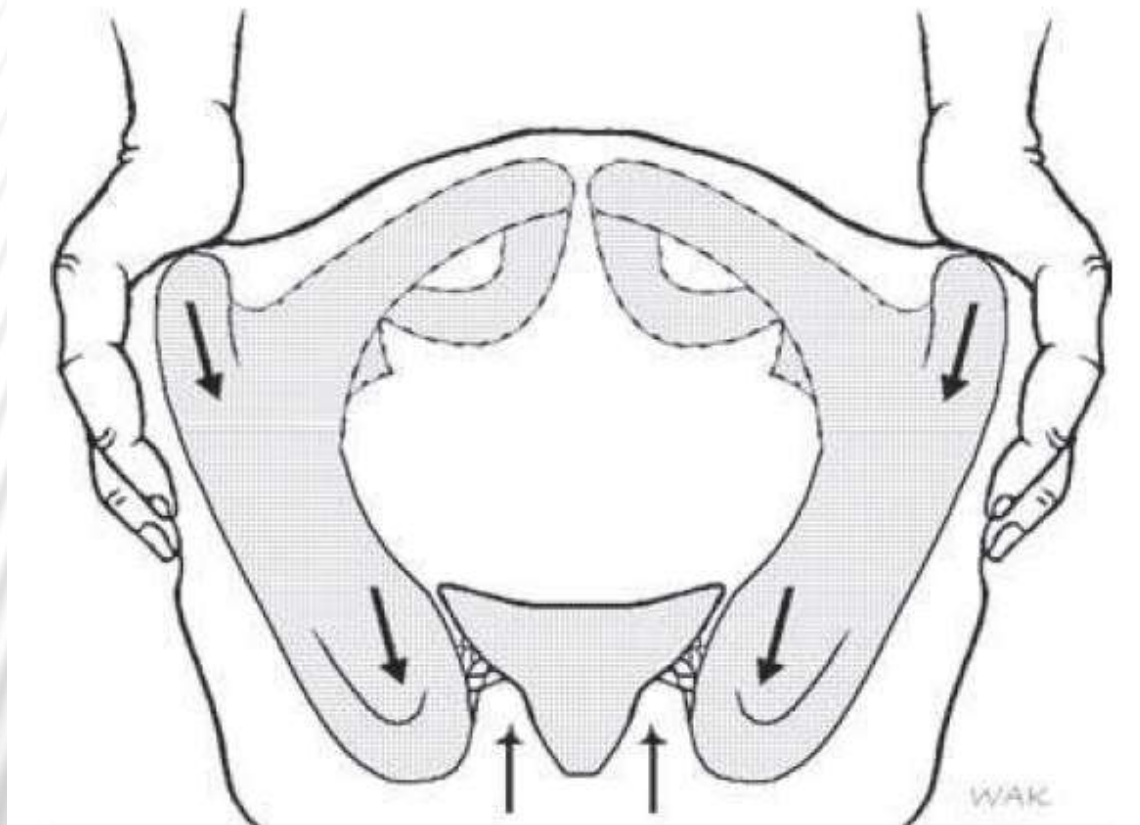
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Technique for the ***ASIS Compression Test***



Technique for the ***ASIS Compression Test***



Technique for the ***ASIS Compression Test***

- Physician applies a posterior-medial pressure on one ASIS while stabilizing the other
- Test both sides
- Test is positive when there is noted to be restriction to motion at the ipsilateral sacroiliac joint



Interpretation of the ***ASIS Compression Test***

- Allows evaluation of the pelvis without the influence of the lower extremities or of spinal weight bearing
- There should be give or resilience bilaterally as innominate glides on the sacroiliac joint
- Somatic dysfunction on the side of compression produces resistance to springing and a sense of decreased resilience
- This is a screening test to localize somatic dysfunction to one side or other of the pelvis (innominate and/or sacrum)
- It can be used to confirm the findings of the seated flexion test or standing flexion test if questionable
- Bilateral positive test is possible: decreased resilience bilaterally is not a negative test

Important Diagnostic Comments

- Once you have lateralized the patient to one side, other findings are named in relation to the restricted side in comparison to the other side (i.e. you name the dysfunction in relation to the lateralized side) – for example: if lateralized to the right: then *right* ilium with *anterior* rotation vs. *left* ilium with *posterior* rotation
- After you perform your lateralization tests you assume that there is a restriction of motion or dysfunction on the lateralized side. The other side is then assumed to be “normal” in comparison to the lateralized side. The “normal side” is referred to as the non-lateralized side.
- So, basically we are comparing the dysfunctional side (lateralized side) to the normal side (non-lateralized side).



Lateralization Tests			
	Positive		Neg.
	Right	Left	
Standing flexion			
Seated flexion			
ASIS Compression			

	Use Arrows or Abbreviations		
	Right	Left	Equal
Major Landmarks			
ASIS			
Sup./Inf.			
Med./Lat.			
PSIS			
Sup./Inf.			
Pubic Symphysis			
Sup./Inf.			
Ant./Post.			
Tenderness			
Minor Landmarks			
Ischial Tuberosity			
Sup./Inf.			
Lat./Med.			
Iliac Crest			
Sup./Inf.			
Malleoli			
Sup./Inf.			

DIAGNOSE PELVIS: PERFORM LATERALIZATION TESTS

Innominate (Os Coxae) Dx: _____

Pubic Diagnosis: _____

Sacral Diagnosis: _____

L5 Diagnosis: _____

L5 is uncompensated (maladapted) when L5 and sacral base are rotated in the same direction.

LAB SESSION – PRACTICING LATERALIZATION TESTS

SOMATIC DYSFUNCTION OF THE PELVIS

DIAGNOSIS OF THE INNOMINATES AND PUBES

FOM III P 588-89

DIAGNOSIS OF THE INNOMINATES AND PUBES

- Lateralization tests determine the dysfunctional side
- Ensure the patient is symmetric by the use of the hip lift (hip flop) maneuver
- Ensure your patient does not have the arm or arms over the head but rather arms resting comfortable on the abdomen or along their side in a neutral position
- Use components of tissue texture abnormalities, tenderness, asymmetry and restricted motion to make your diagnosis
- Use Major Landmarks to establish your diagnosis and use Minor Landmarks to enhance/confirm your data base
- Use proper posterior medial vectors with motion testing
- In general obtain all of your diagnostic data before making your final diagnostic conclusions

Innominate Rotations

- ✓ During gait – as normal, biomechanically expected motions
- ✓ The innominates rotate in opposite directions of each other (anteriorly or posteriorly) around a transverse axis through the SIJs (sacro-iliac joints)
 - ✓ Posterior rotation normally occurs with hip flexion (hamstrings lengthened & tighter)
 - ✓ Anterior rotation normally occurs with hip extension (quadriceps lengthened and tighter)

Innominate Rotations

- ✓ As somatic dysfunction
 - ✓ An entire innominate is rotated in a direction anterior or posterior around a transverse axis through the SIJ (sacro-iliac joint)
 - ✓ It maintains this position at rest
 - ✓ T.A.R.T findings are present

- ✓ The dysfunction is found on the side of the positive lateralization test(s) – standing or seated flexion test or ASIS compression test.

Anteriorly Rotated Innominate Som. Dys.

Clinical Correlations:

- ✓ Complaints may include sacroiliac pain, ipsilateral hamstring tightness and spasm, and sciatica.

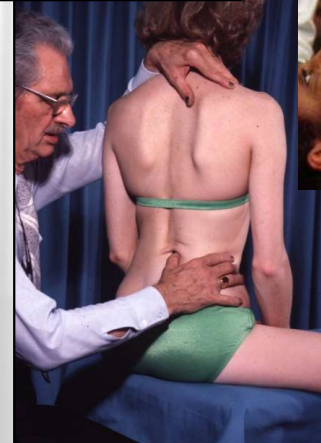
Palpatory findings may include:

- ✓ tissue texture changes at the ipsilateral inferior lateral angle of the sacrum
- ✓ iliolumbar ligament tightness



4 CLASSES OF DIAGNOSTIC TESTS

- ✖ Tissue texture abnormalities
- ✖ Asymmetry
- ✖ Restricted motion
- ✖ Tenderness



EXAMINERS' PALPATORY PERCEPTIONS

- × Density, thickness
- × Moisture
- × Texture
- × Elasticity, turgor
- × Temperature, energy
- × Tension, motion
- × Differentiating anatomy and pathology



SOMESTHESIS



- ✖ Somatic sensibility, or somesthesia, refers to the primary qualities of contact or touch-pressure, form, texture and vibration, as well as more complex sensory experiences
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EQUIPMENT VERSUS INSTRUMENTATION

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ASSUMPTIONS THAT IGNORE CALIBRATION

- ✖ What is being done with one hand or at one moment is comparable to what is being done with the other hand or at a different moment
- ✖ Surface area, direction/vector of force, mechanics from one side can be equilibrated by the mechanics of the other side
- ✖ TART



KINESTHESIS

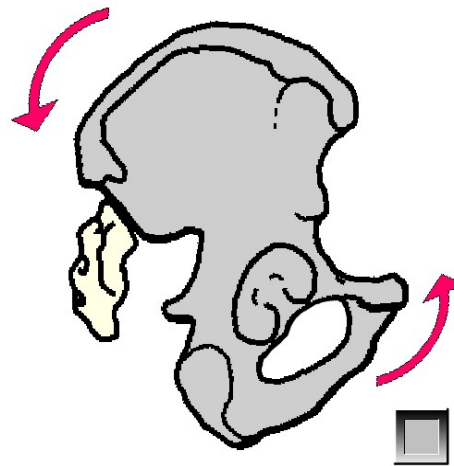
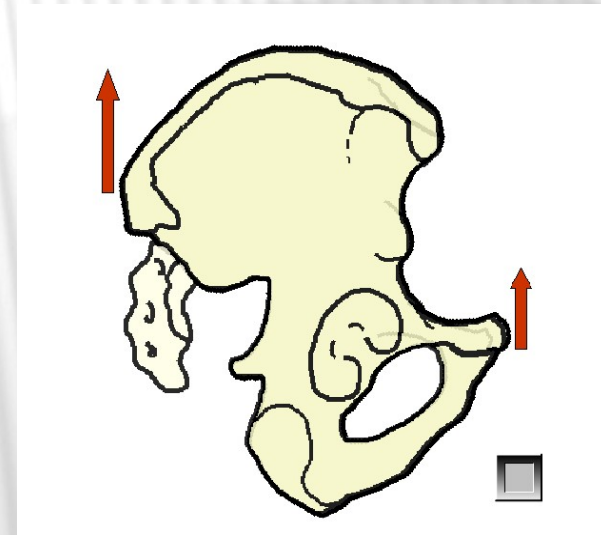
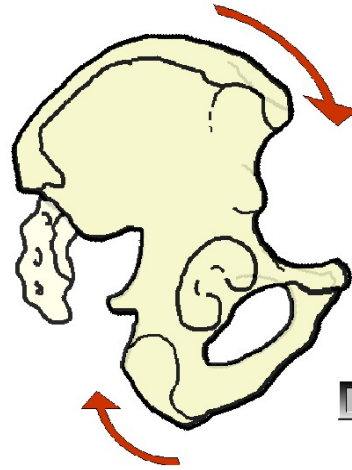
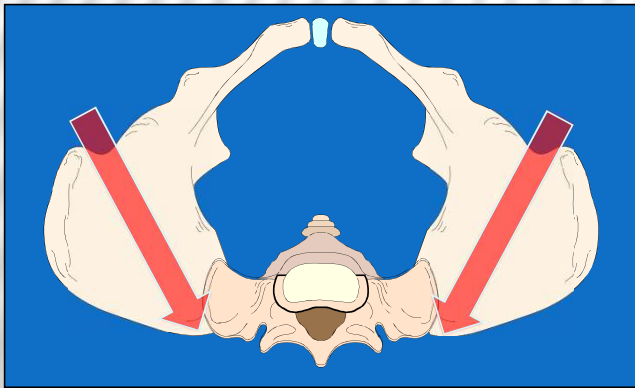
- ✖ Awareness of the position and movement of the parts of the body by means of sensory organs (proprioceptors, interoceptors) in the muscles and joints
- ✖ Osteopathic Manipulative Medicine = somasthesis + kinesthesis
 - + How does your performance of a test influence your test findings
 - + How does your own somatic dysfunction, pain, stress, sleep, anxiety, ... influence manual skills



OBSERVE THE WORLD AROUND YOU, VERSUS THE UNIVERSE WITHIN



Mitchell Pelvis Mechanics



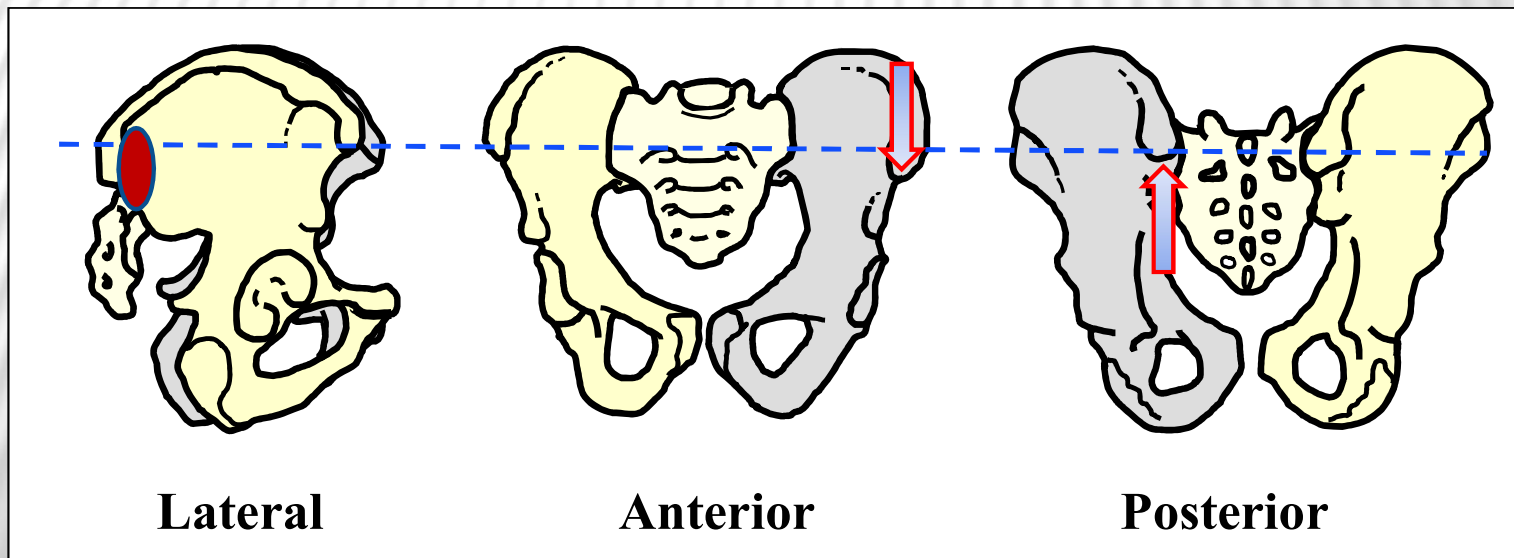
Anteriorly Rotated Left Innominate

Left ASIS anterior

Left ASIS inferior

⊕ Left
lateralization

Left PSIS superior



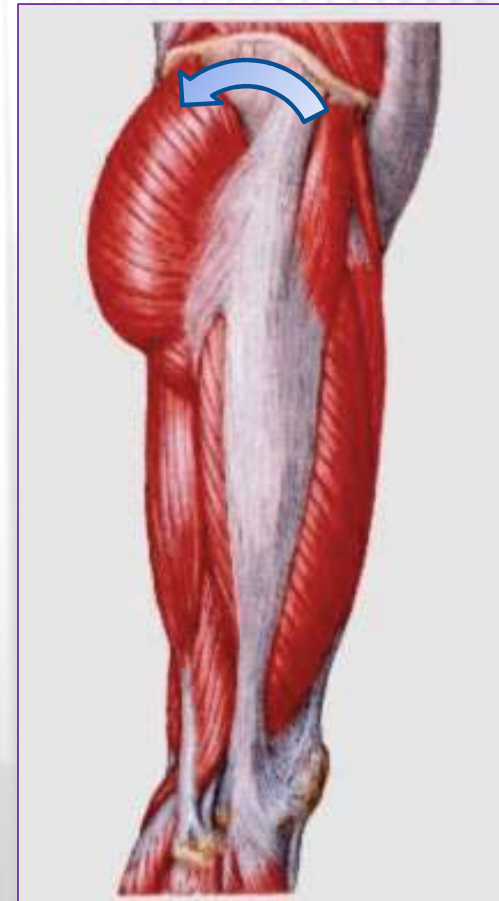
Posteriorly Rotated Innominate Som. Dys.

Clinical Correlations:

- ✓ Complaints may include sacroiliac, inguinal or groin pain secondary to rectus femoris dysfunction
- ✓ medial knee pain secondary to sartorius dysfunction.
- ✓ Anterior knee pain due to rectus femoris tension

Palpatory findings may include:

- ✓ tissue texture changes at the ipsilateral sacral sulcus
- ✓ inguinal ligament tenderness.



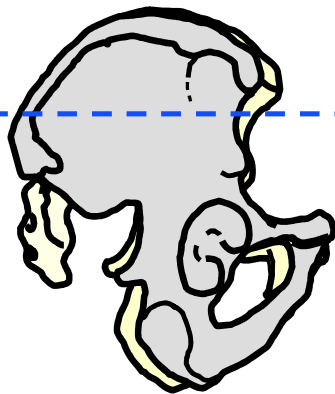
Posteriorly Rotated Right Innominate

Right PSIS posterior

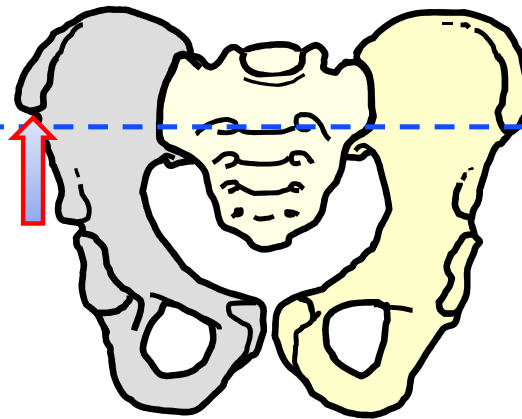
⊕ Right
lateralization

Right ASIS superior

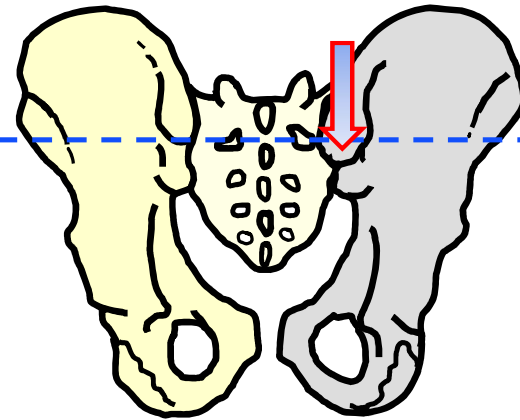
Right PSIS inferior



Lateral



Anterior



Posterior

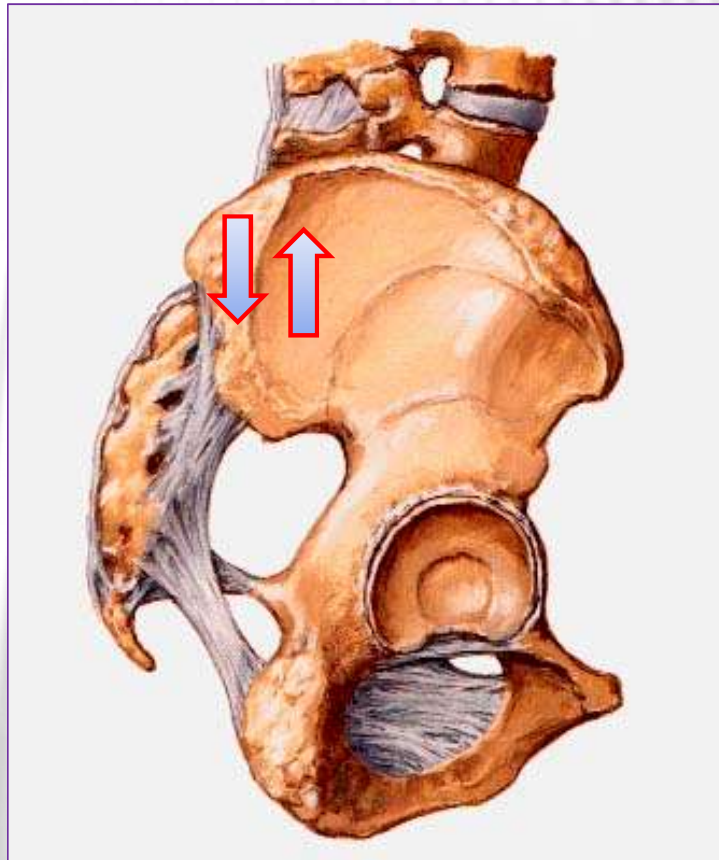
Innominate Shears

Clinical Correlations:

- ✓ Complaints may include sacroiliac or pelvic pain.

Palpatory findings:

- ✓ tissue texture changes at the ipsilateral sacroiliac joint
- ✓ Tissue texture findings at the ipsilateral pubes.



Innominate Shears (Subluxation)

- ✓ An entire innominate has shifted superiorly or inferiorly without rotation relative to the sacrum
- ✓ Small amount of sup/inf glide occurs with hip abduction or adduction
- ✓ The dysfunction is found on the side on the positive standing flexion test or ASIS compression test

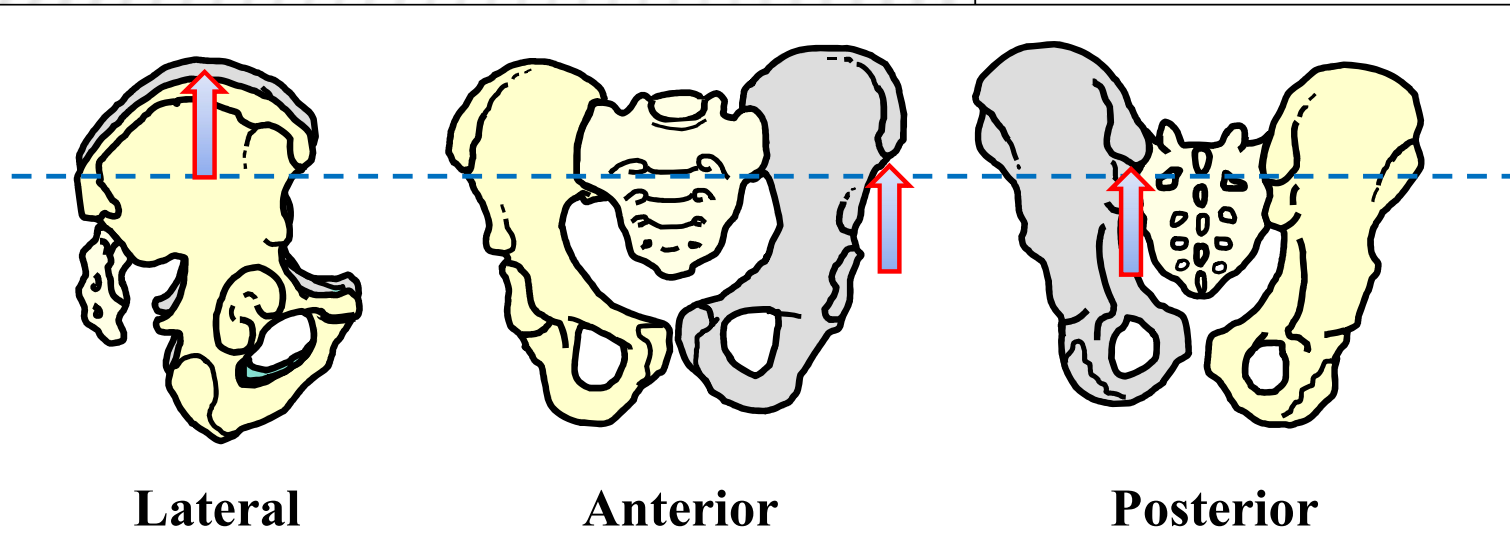
Left Superior Innominate Shear

Left Iliac Crest superior

Left ASIS superior

⊕ Left
lateralization

Left PSIS superior



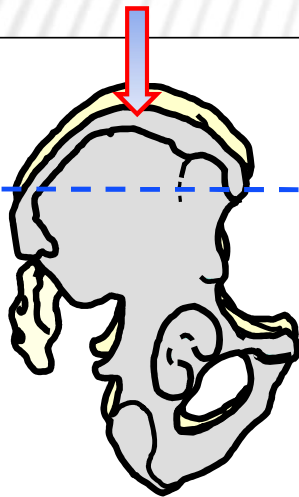
Right Inferior Innominate Shear

Right Iliac Crest inferior

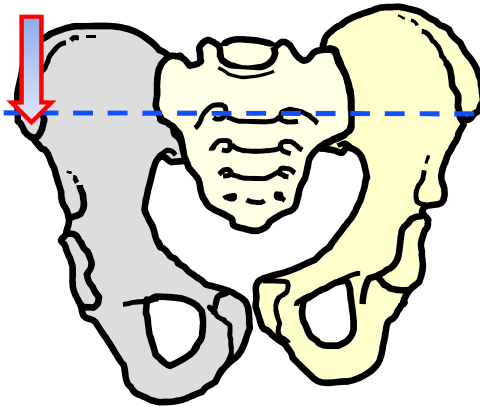
Right ASIS inferior

⊕ Right lateralization

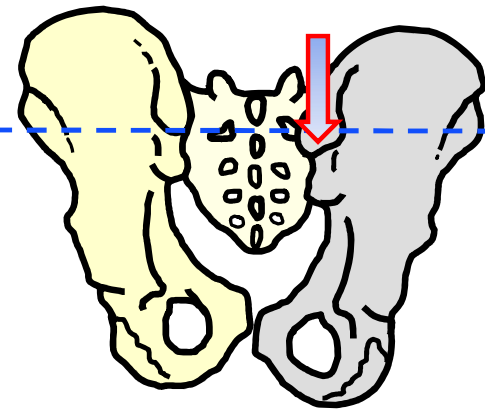
Right PSIS inferior



Lateral



Anterior



Posterior

Innominate Flares

- ✓ During pulmonary ventilation – as normal, biomechanically expected motion
- ✓ As Somatic Dysfunction - An entire innominate is rotated medially (inflare) or laterally (outflare) around a vertical axis relative to the sacrum.
- ✓ Inflare occurs with internal rotation of the hip
- ✓ Outflare occurs with external rotation of the hip
- ✓ The dysfunction is found on the side on the positive standing flexion test or ASIS compression test.

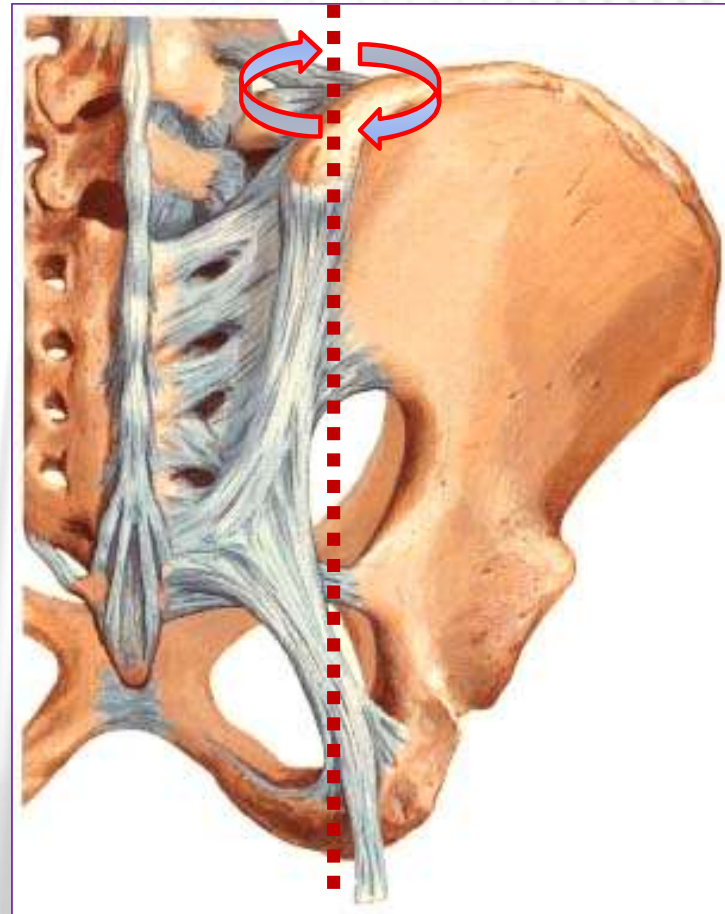
Innominate Flares

Clinical Correlations:

- ✓ Complaints may include pelvic pain or sacroiliac pain.

Palpatory findings may include:

- ✓ muscular tension anteriorly with an outflare
- ✓ muscular tension posteriorly with an inflare

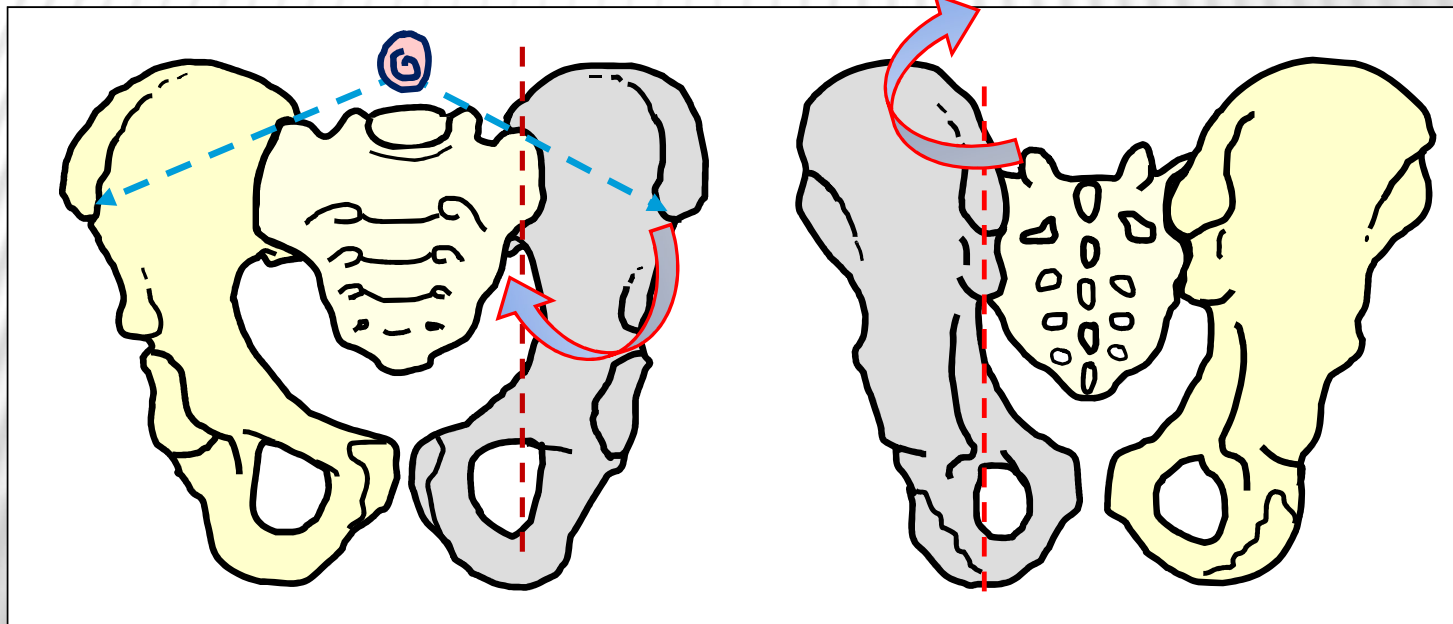


Left Innominate Inflare

Left ASIS medial
Medial motion is possible

⊕ Left
lateralization

Left PSIS lateral

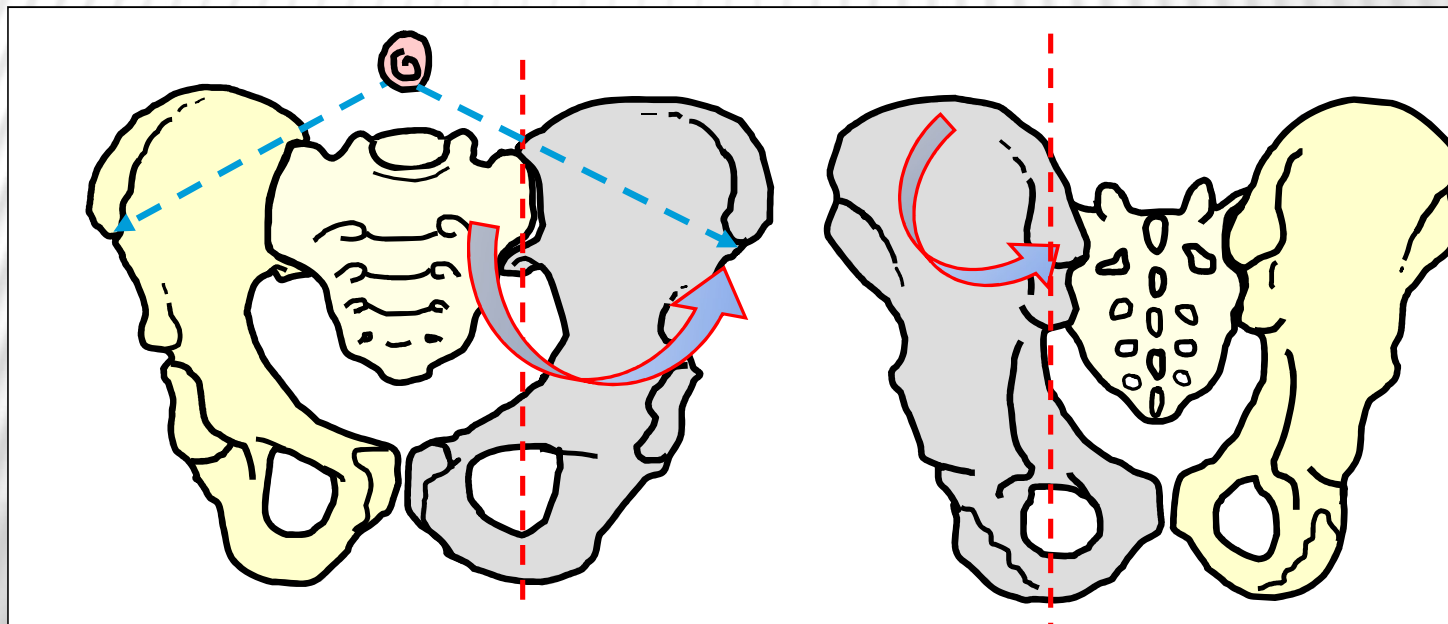


Left Innominate Outflare

⊕ Left lateralization

Left ASIS lateral
Lateral motion is possible

Left PSIS medial



BEST DIAGNOSTIC PRACTICE

- ✖ Dominate Eye In Center
- ✖ Eyes level with the patient
- ✖ Shoulder's square
- ✖ Arm's symmetric angle



Lateralization Tests			
	Positive		Neg.
	Right	Left	
Standing flexion			
Seated flexion			
ASIS Compression			

	Use Arrows or Abbreviations		
	Right	Left	Equal
Major Landmarks			
ASIS			
Sup./Inf.			
Med./Lat.			
PSIS			
Sup./Inf.			
Pubic Symphysis			
Sup./Inf.			
Ant./Post.			
Tenderness			
Minor Landmarks			
Ischial Tuberosity			
Sup./Inf.			
Lat./Med.			
Iliac Crest			
Sup./Inf.			
Malleoli			
Sup./Inf.			

DIAGNOSE PELVIS: INNOMINATE ROTATIONS, SHEARS, INFLARE AND OUTFLARE

➤ **Innominate (Os Coxae) Dx:** _____

Pubic Diagnosis: _____

Sacral Diagnosis: _____

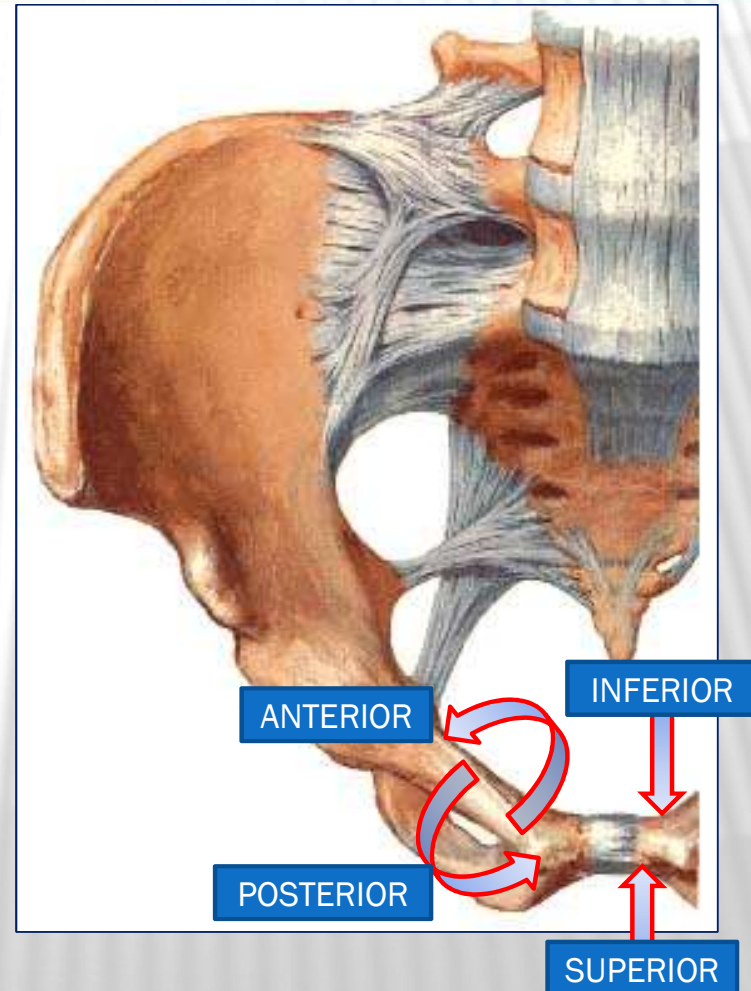
L5 Diagnosis: _____

L5 is uncompensated (maladapted) when L5 and sacral base are rotated in the same direction.

PUBIC SYMPHYSIS DYSFUNCTIONS

Clinical Correlations:

- Complaints may include pain at the pubic symphysis or associated structures
- Palpatory findings include tenderness, altered tissue texture and restricted motion of the pubic bone(s)



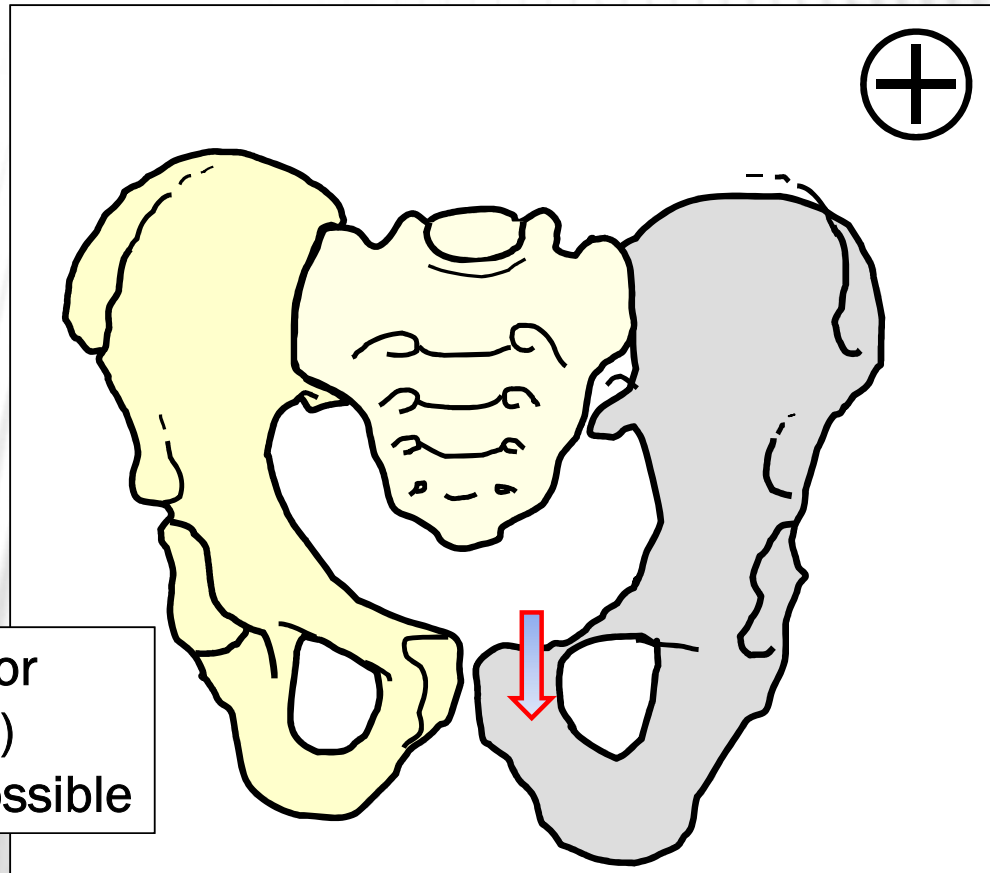
Vertical Pubic Shears

- ✓ One pube or ramus is displaced superior or inferior relative to the other pube
- ✓ The ASIS and the PSIS appear equal
- ✓ The dysfunction is found on the side of the positive lateralization test – seated or standing flexion test or ASIS compression test

Left Inferior Pubic Shear

⊕ Left
lateralization
Tenderness

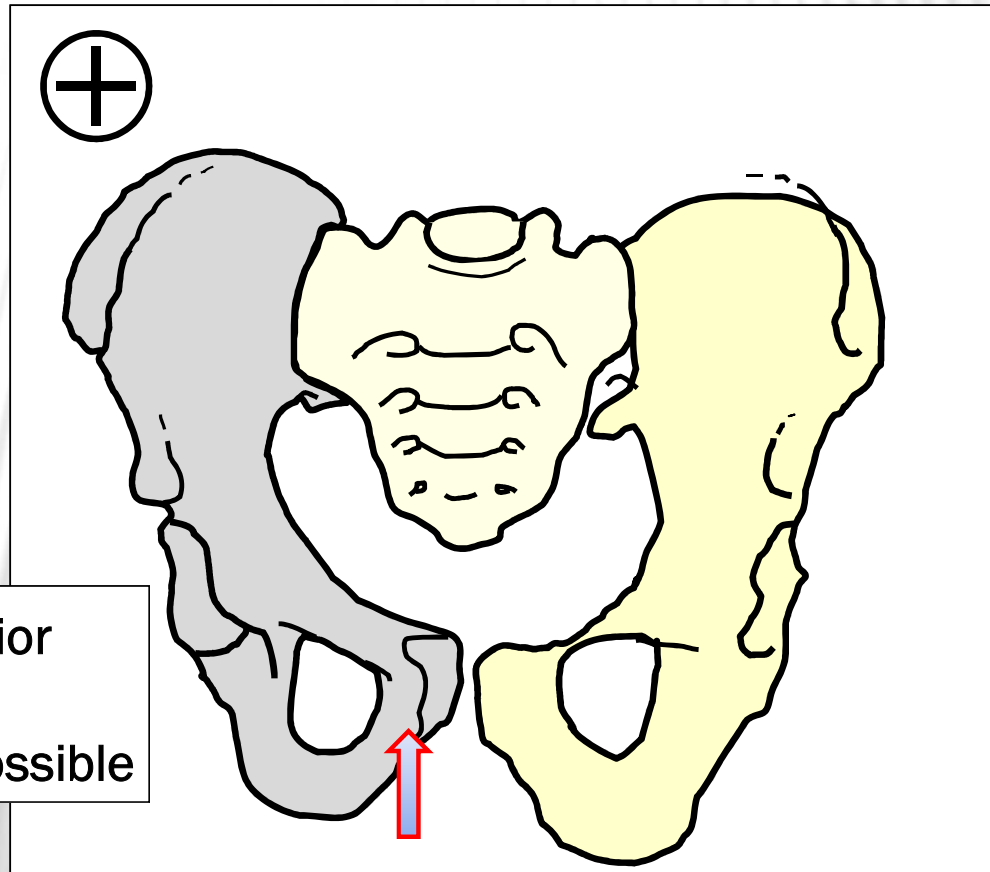
Left pube inferior
Step off (down)
Inferior motion is possible



Right Superior Pubic Shear

⊕ Right
lateralization
Tenderness

Right pube superior
Step off (up)
Superior motion is possible



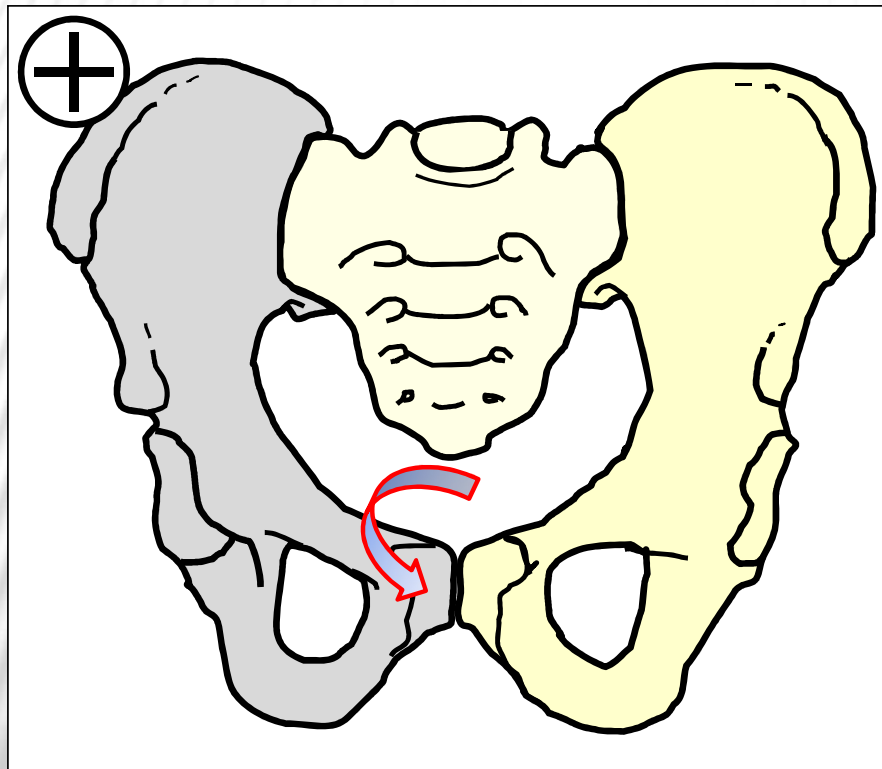
Anterior or Posterior Pubic Shears

- ✓ One pube or ramus is displaced anterior or posterior relative to the other pube
- ✓ The ASIS and the PSIS appear equal
- ✓ The dysfunction is found on the side of the positive lateralization test – seated or standing flexion test or ASIS compression test

Pubic Symphysis Compression

- ✓ Both pubic rami are displaced medially
- ✓ Lateralization tests may not be contributory
- ✓ The ASIS and the PSIS Iliac Crests and Ischial Tuberosities may appear equal
- ✓ Tenderness, tissue texture abnormalities and restricted motion present bilaterally

Right Anterior Pubic Shear

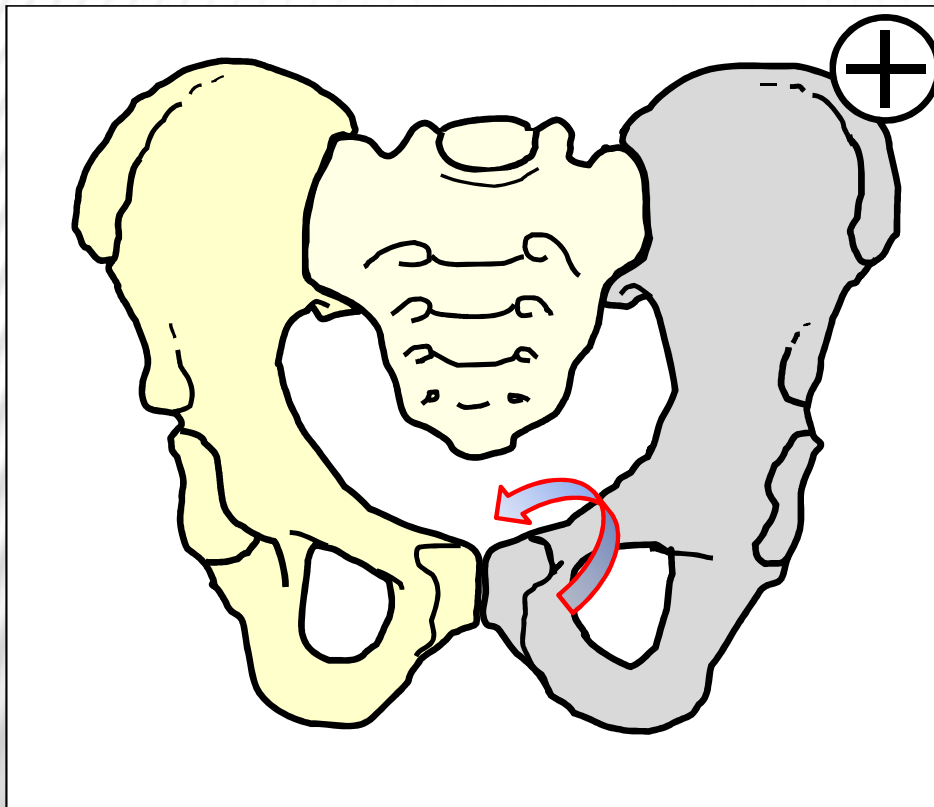


Right Pube Anterior
Step off (forward)
Anterior motion is
possible



Right lateralization
Tenderness

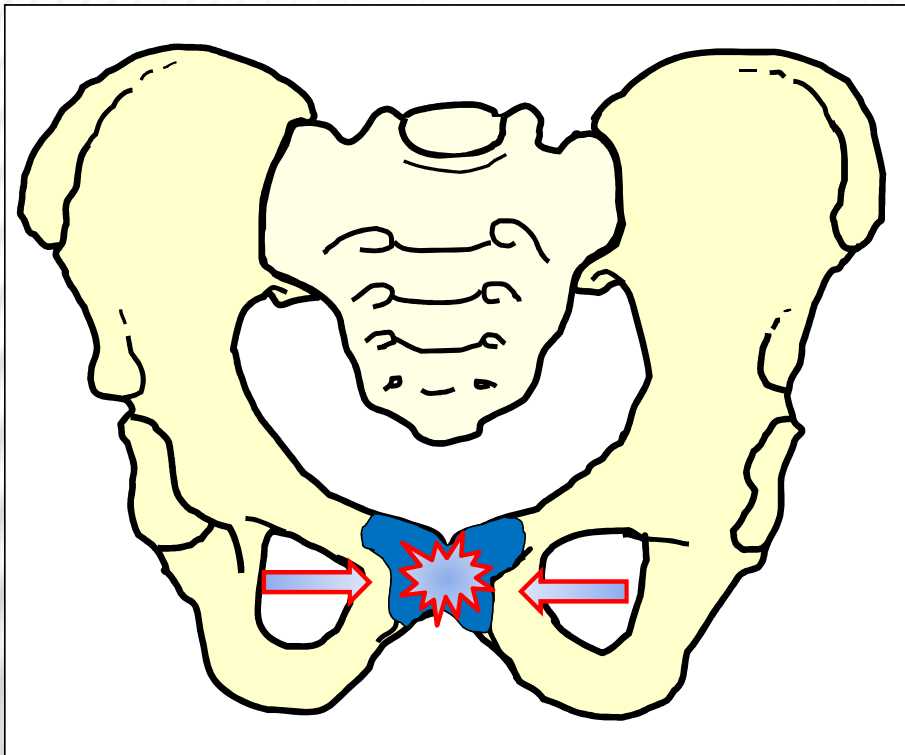
Left Posterior Pubic Shear



Left Pube Posterior
Step off (back)
Posterior motion is
possible

⊕
Left lateralization
Tenderness

Pubic Compressions



Bilateral pubic
ramus tenderness
Tissue texture
abnormalities
Minimal motion in
all planes
(May be reflexive
evidence of L5
dysfunction, anterior
L5 tenderpoint)

BEST DIAGNOSTIC PRACTICE

- Superior margin of pubes, better than inferior margin
 - + Most consistent landmark
 - + More comfortable for the patient
- Need to identify midline

PURPOSE

- ✖ Asymmetry indicates less than ideal biomechanics of the system
- ✖ The greater the asymmetry, the more dysfunctional is the structure/the system

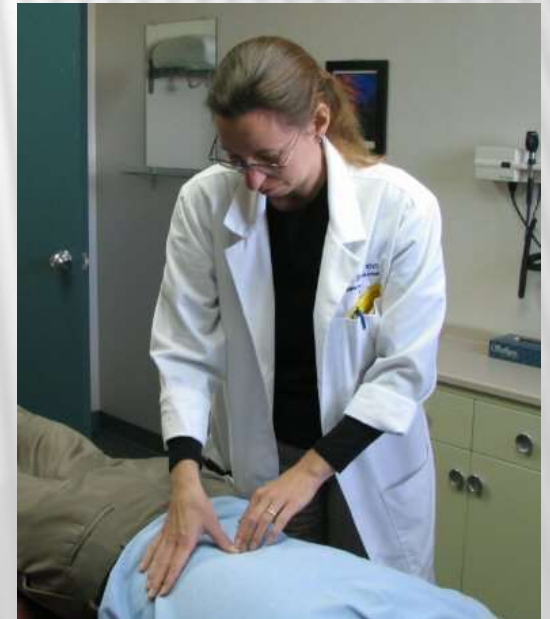
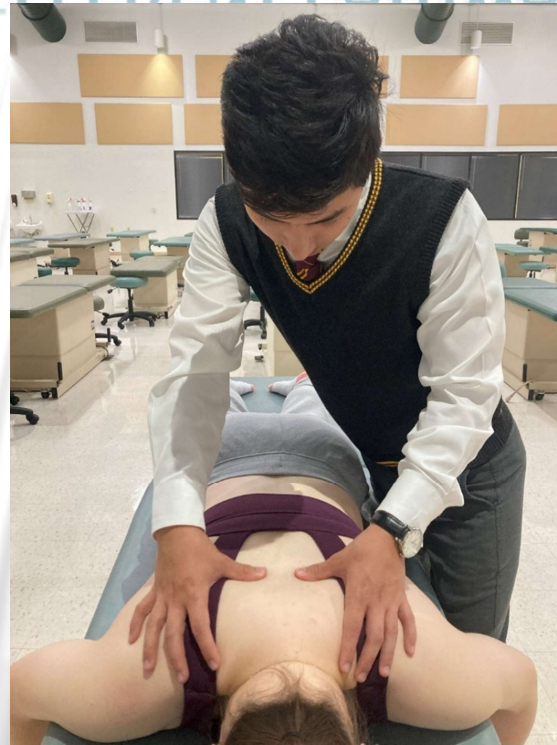
ASSUMPTIONS

- ✖ Know the anatomy –organismal (gross), tissue, cellular, molecular
- ✖ Can consistently locate the anatomical structure of interest ... with both hands

ASSUMPTIONS

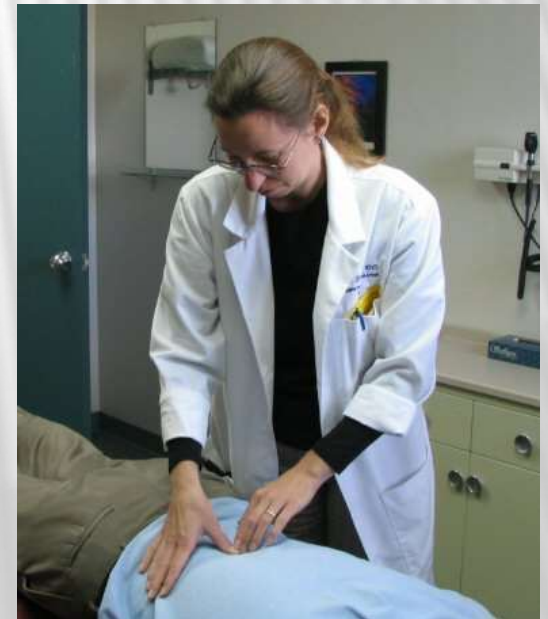
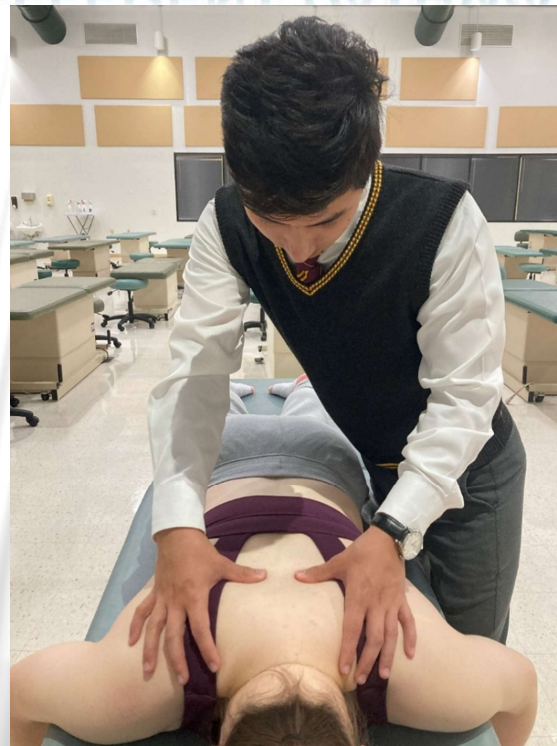
- ✖ Know the anatomy –organismal (gross), tissue, cellular, molecular
- ✖ Can consistently locate the anatomical structure of interest ... with both hands
- ✖ Can I feel/visualize the structures correctly within the correct frame of reference
- ✖ Surface area, direction/vector of force, mechanics from one side of the body equilibrated by the mechanics of the other side
- ✖ Aware not only of synesthetic but kinesthetic aspects of my palpatory process
- ✖ Localize, perceive, interpret

PALPATION: CHARACTERISTICS ACQUIRED BY DIFFERENT HANDS, TRANSFERRED BY DIFFERENT NERVE PATHWAYS, PROCESSED BY UNIQUE YET OVERLAPPING BRAIN REGIONS, INFLUENCE DIFFERENT EFFERENT PATHWAYS



PALPATION: CHARACTERISTICS ACQUIRED BY DIFFERENT HANDS, TRANSFERRED BY DIFFERENT NERVE PATHWAYS, PROCESSED BY UNIQUE YET OVERLAPPING BRAIN REGIONS, INFLUENCE DIFFERENT EFFERENT PATHWAYS

- × Primary sensory – exteroceptors (visual, mechanoreceptors, pain) and interoceptors (proprioception and pain)
- × Compress:
- × Torque:
- × Stretch/Strain:
- × Shear:
- × Subcomponents
 - + Magnitude
 - + Rate
 - + Duration
 - + Direction
 - + Distance
 - + Frequency



**ASYMMETRY OF LANDMARKS –
COMMONLY USED IN “MITCHELL
MODEL” OF THE PELVIS**

ASIS - SAIS

PSIS – SIPS

Pubic Tubercle - TP

Iliac Crest - CI

Ischial tuberosity



OBSERVATION: CORONAL AND HORIZONTAL PLANES



- ✗ Levelness
- ✗ Pelvis – are landmarks superior, inferior or equal
- ✗ Spinal landmarks – is the segment neutral, rotated right of left

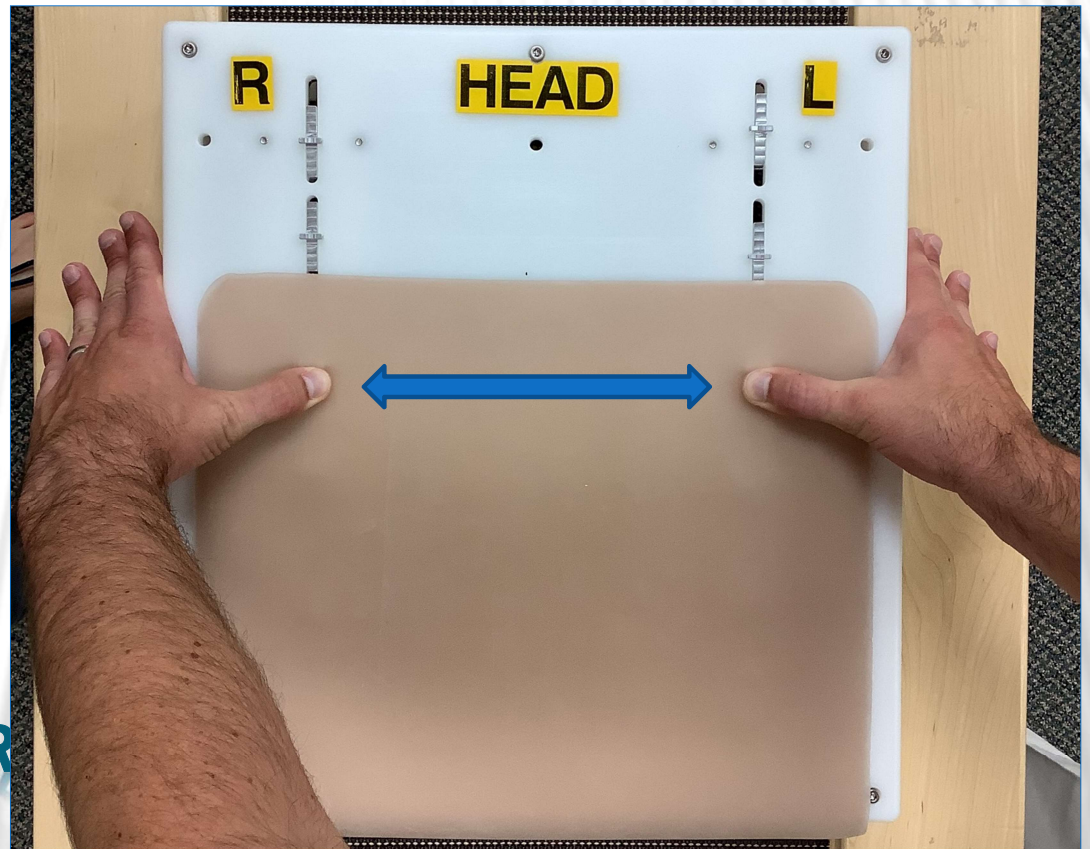
WHEN SOMETHING CAN NOT BE MEASURED DIRECTLY, SCIENCE PROMOTES DEVELOPING MODELS AS A SURROGATE

- ✖ Modeling requires understanding the most relevant aspects of the testing to incorporate into the model
- ✖ For comparing human bony landmarks, that requires
 - + Reasonably shaped structure to evaluate
 - + Evaluating positional variation usually occurs in the coronal plane (occasionally sagittal)
 - + Can manipulate and control degree of asymmetry (1mm)
 - + Soft tissue interface between hand and landmark

Separation distance
consistent with most human
pelvises

Length of the landmark
consistent with bone width.

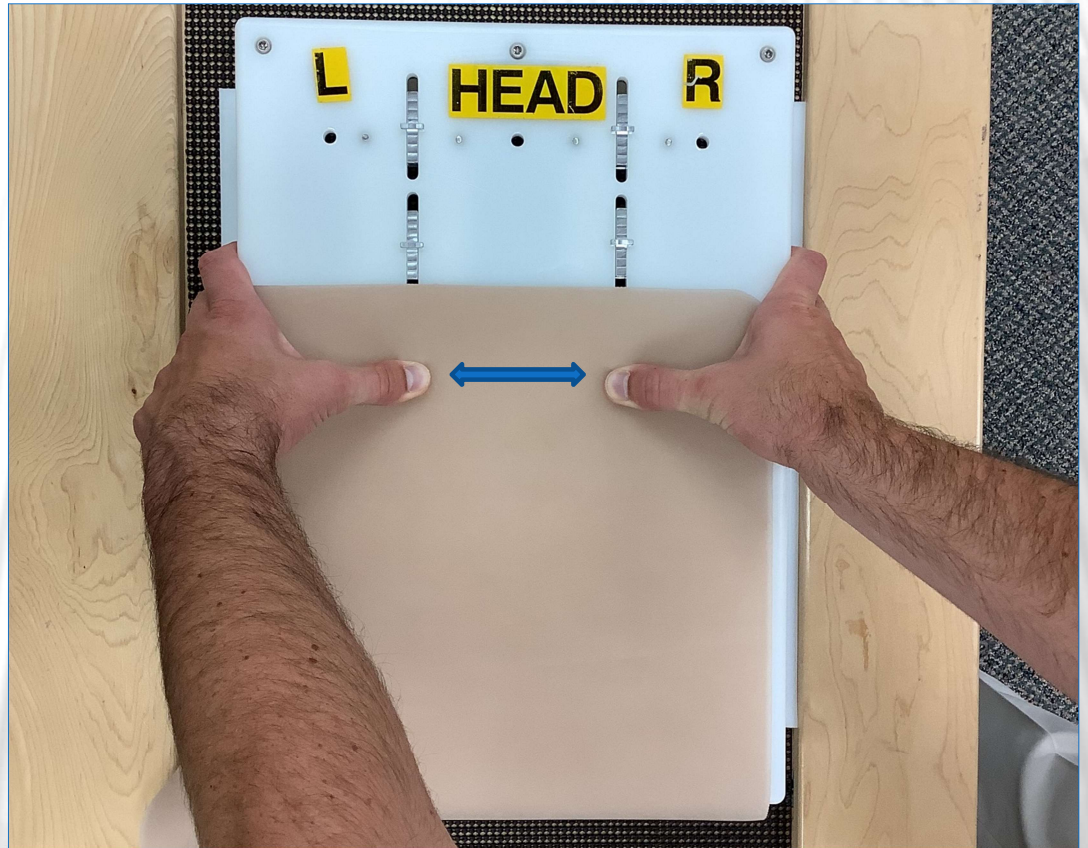
SUPERIOR ANTERIOR



Superior Posterior Iliac Spine/Ischial Tuberosity

Separation distance
consistent with most human
pelvises

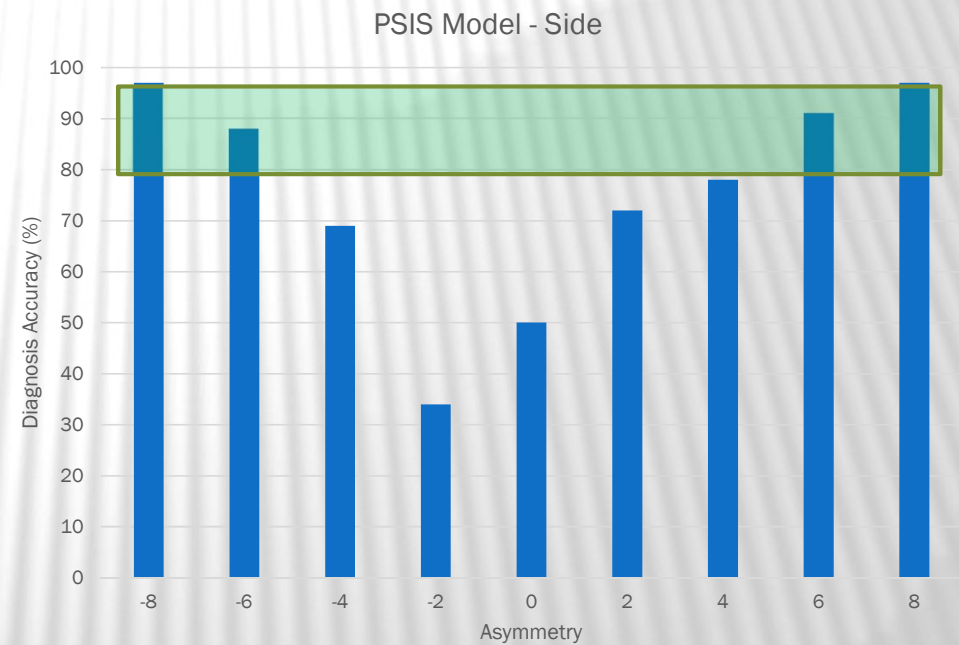
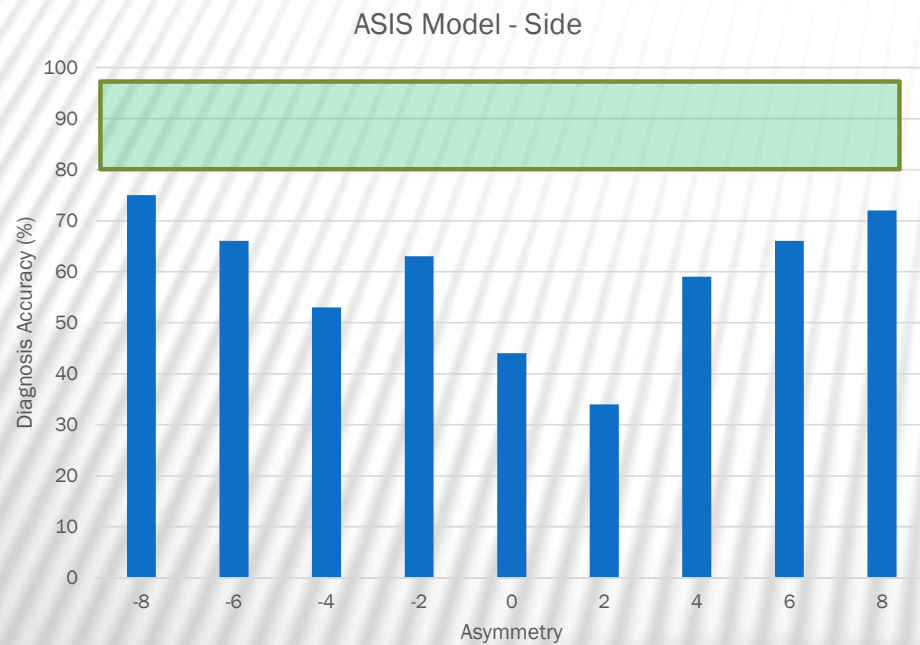
Length of the landmark
consistent with bone width.



DOES THE POSITION OF THE EXAMINER INFLUENCE RESULTS?

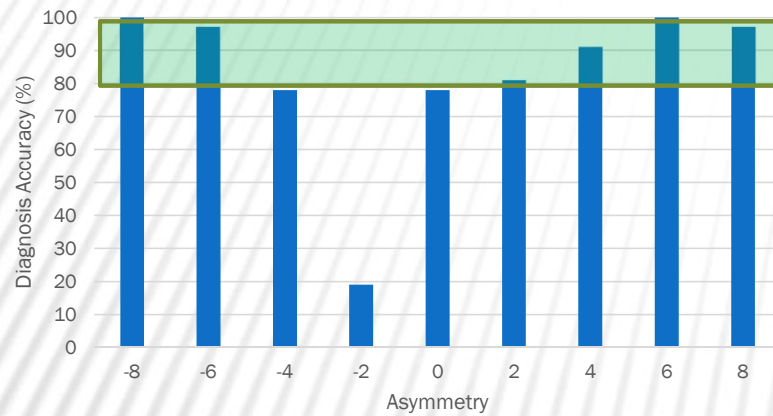


ASYMMETRY TESTING - BASELINE

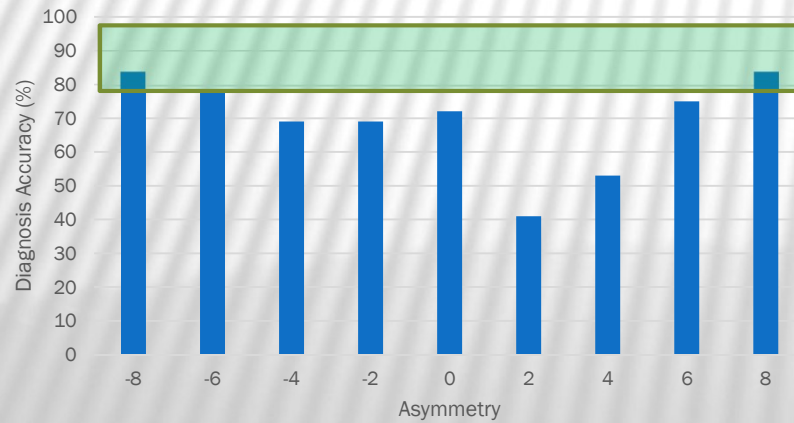


ASYMMETRY TESTING - SIPS

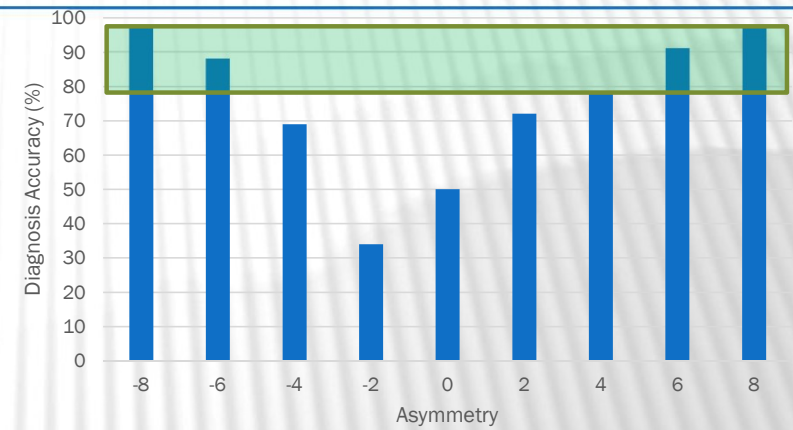
PSIS Model - Foot



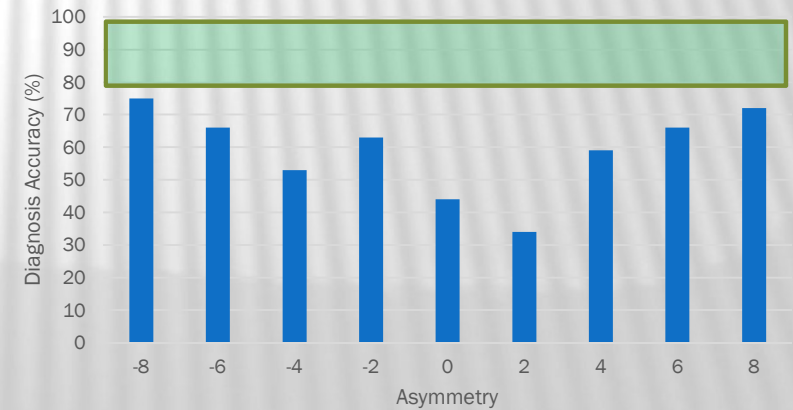
ASIS Model - Foot



PSIS Model - Side



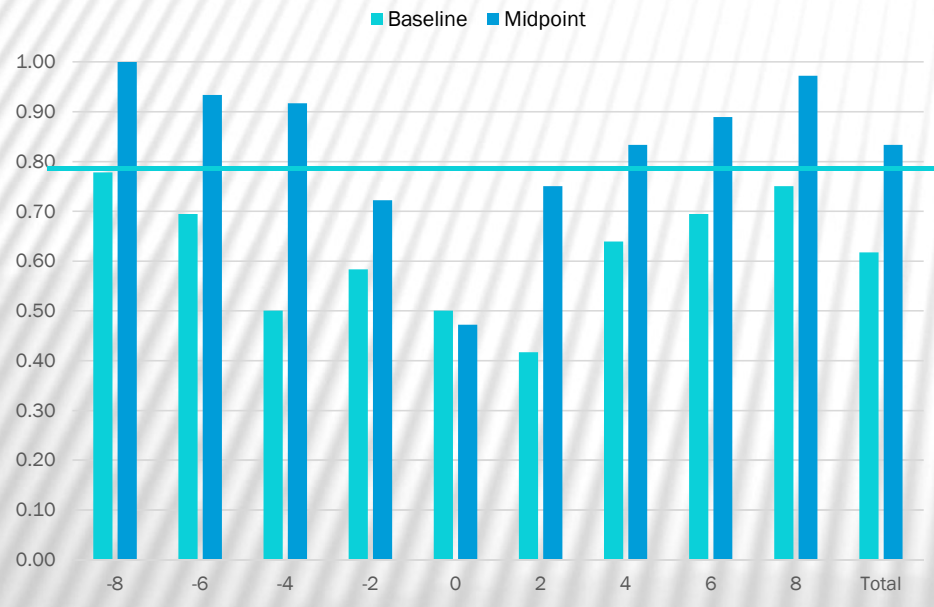
ASIS Model - Side



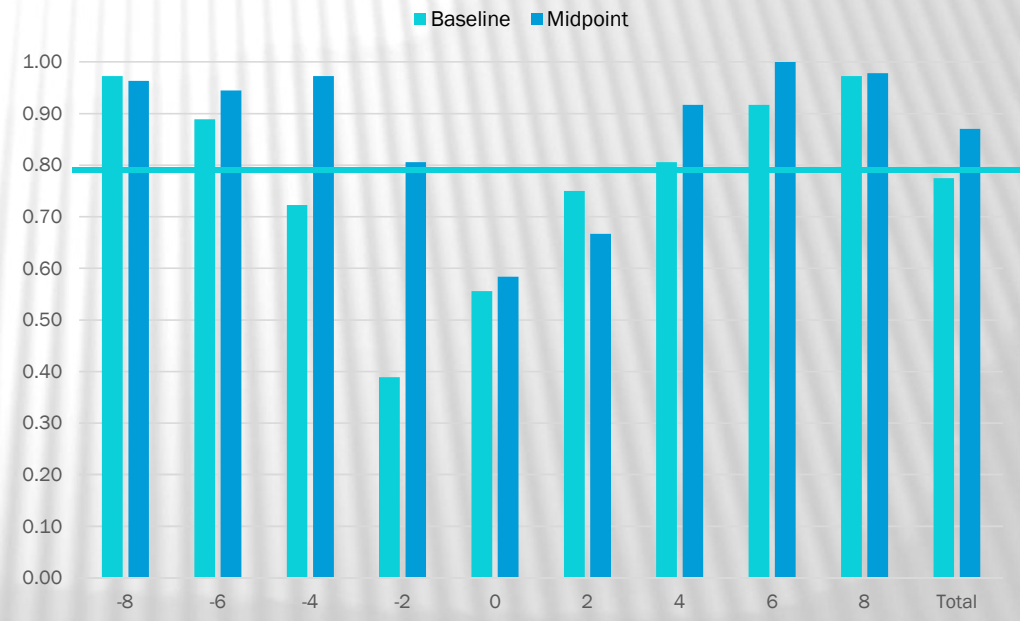
INFLUENCE OF TRAINING ON ACCURACY STANDING AT THE SIDE OF THE TABLE?

MIDPOINT ASSESSMENT – 1 HOUR OF TRAINING FOR 5 CONSECUTIVE DAYS

ASIS

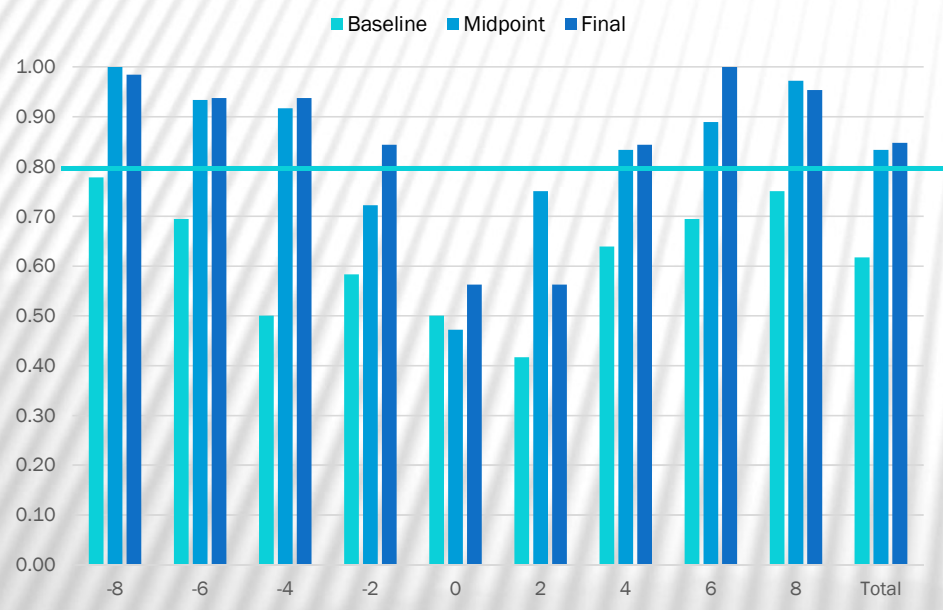


PSIS

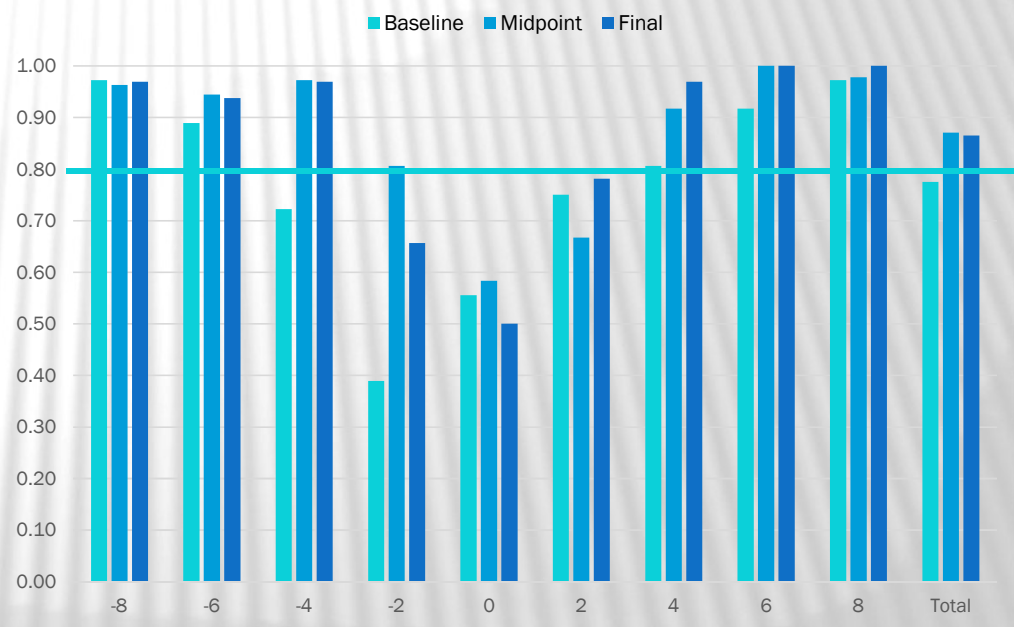


FINAL ASSESSMENT –AFTER 10 DAYS OVER 2 WEEKS WITH PRACTICE

ASIS



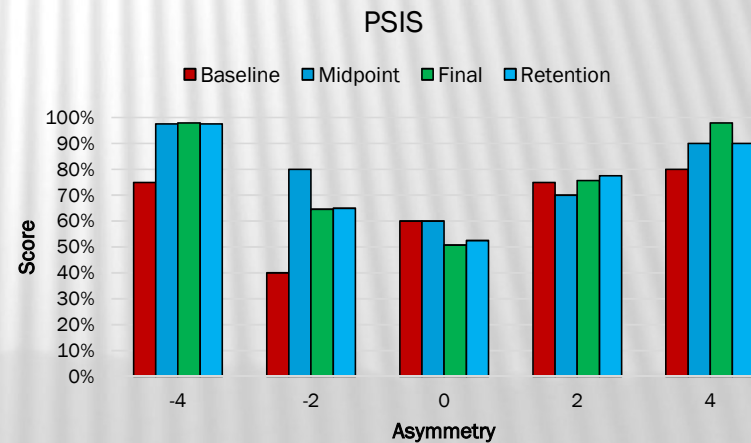
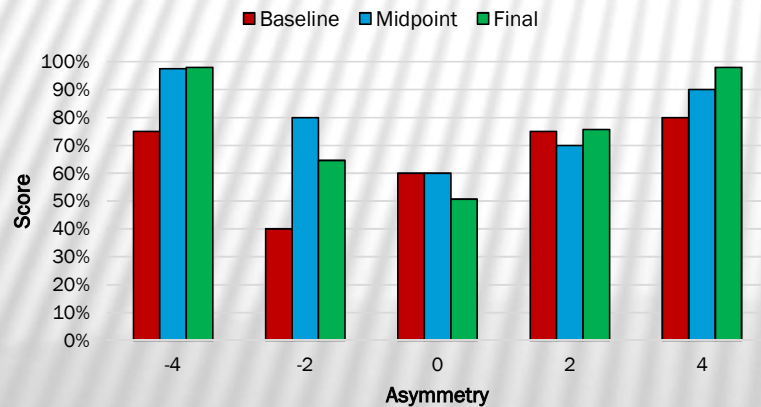
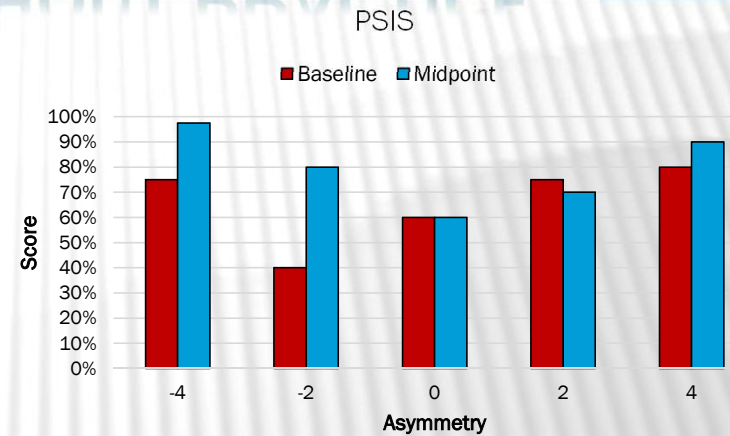
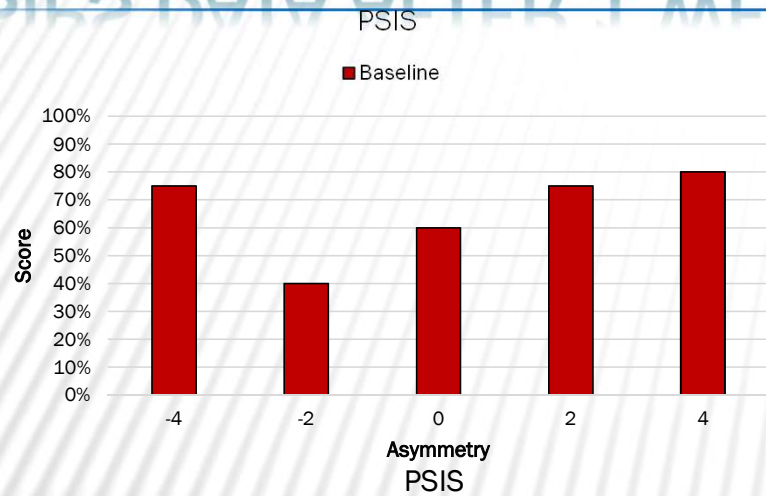
PSIS



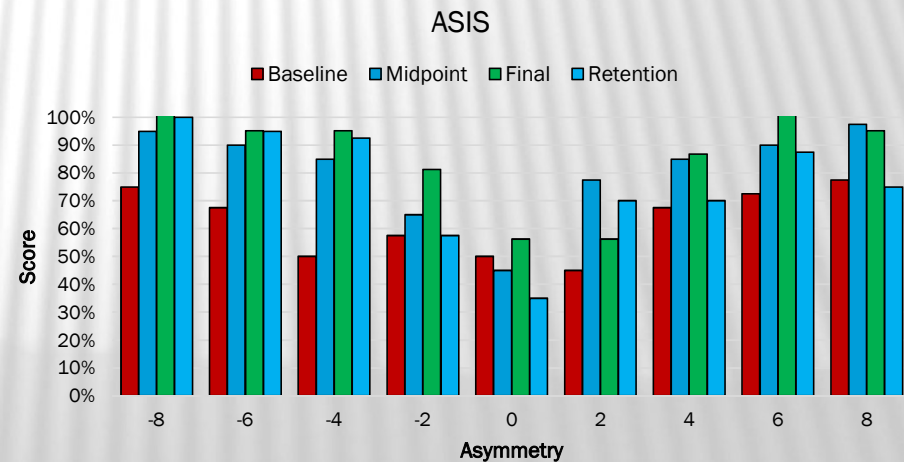
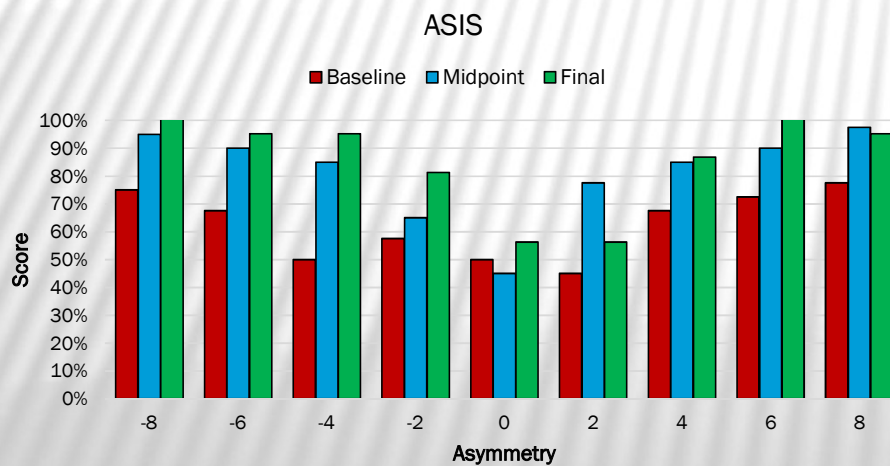
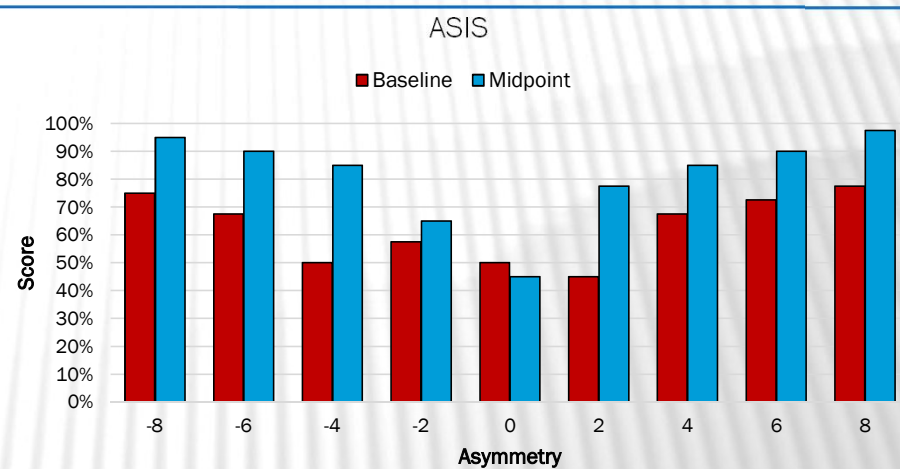
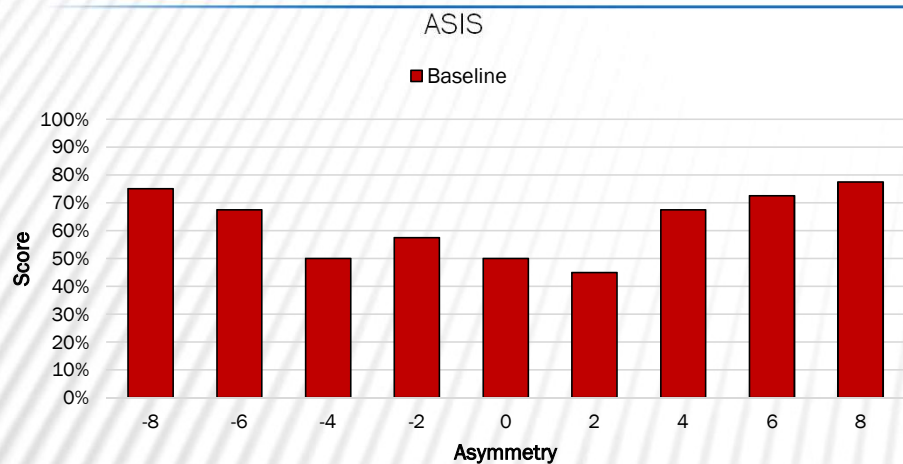
TESTING WITH MORE REALISTIC MODELS



SIPS DATA AFTER 1 WEEK WITHOUT PRACTICE

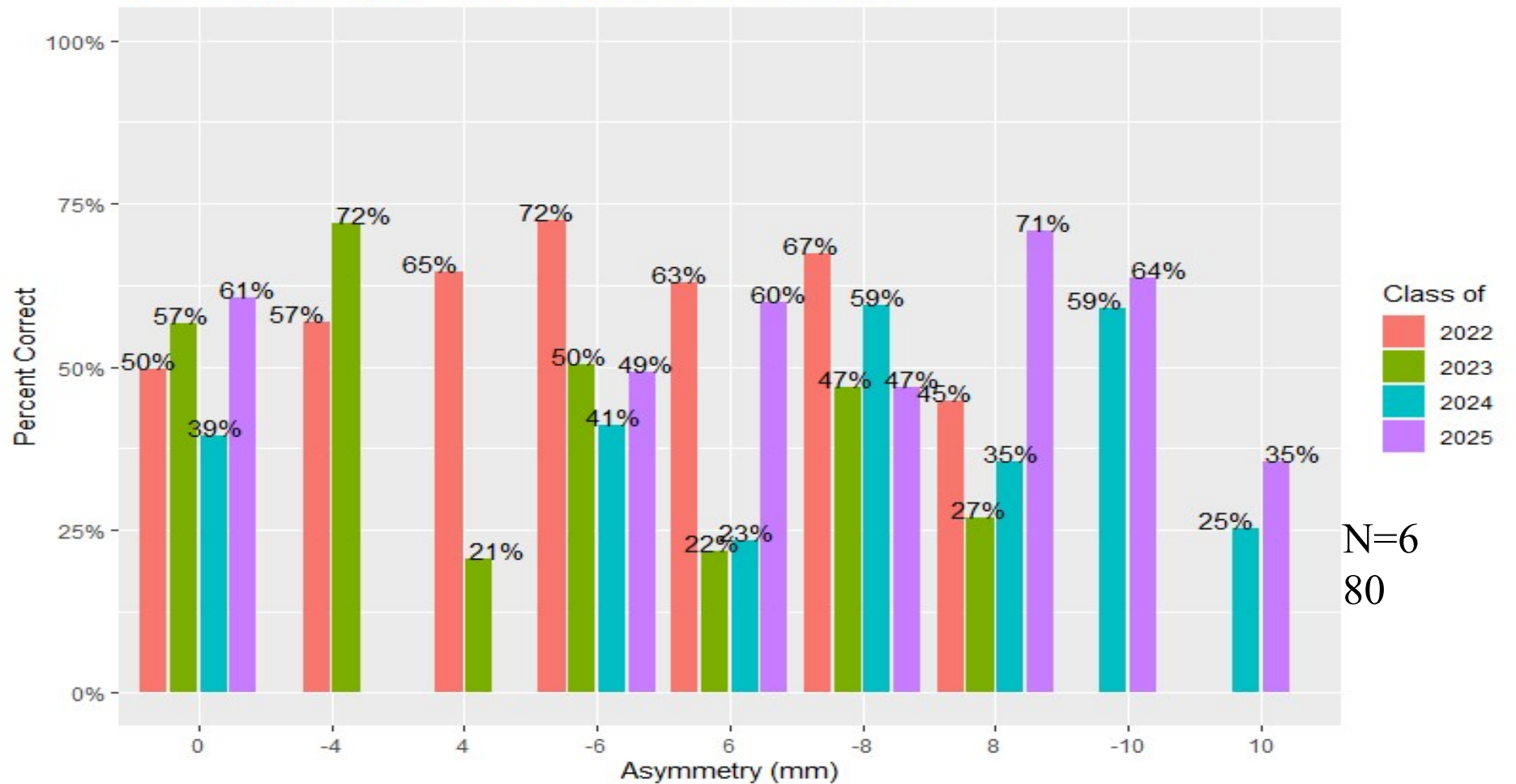


SAIS DATA AFTER 1 WEEK WITHOUT PRACTICE

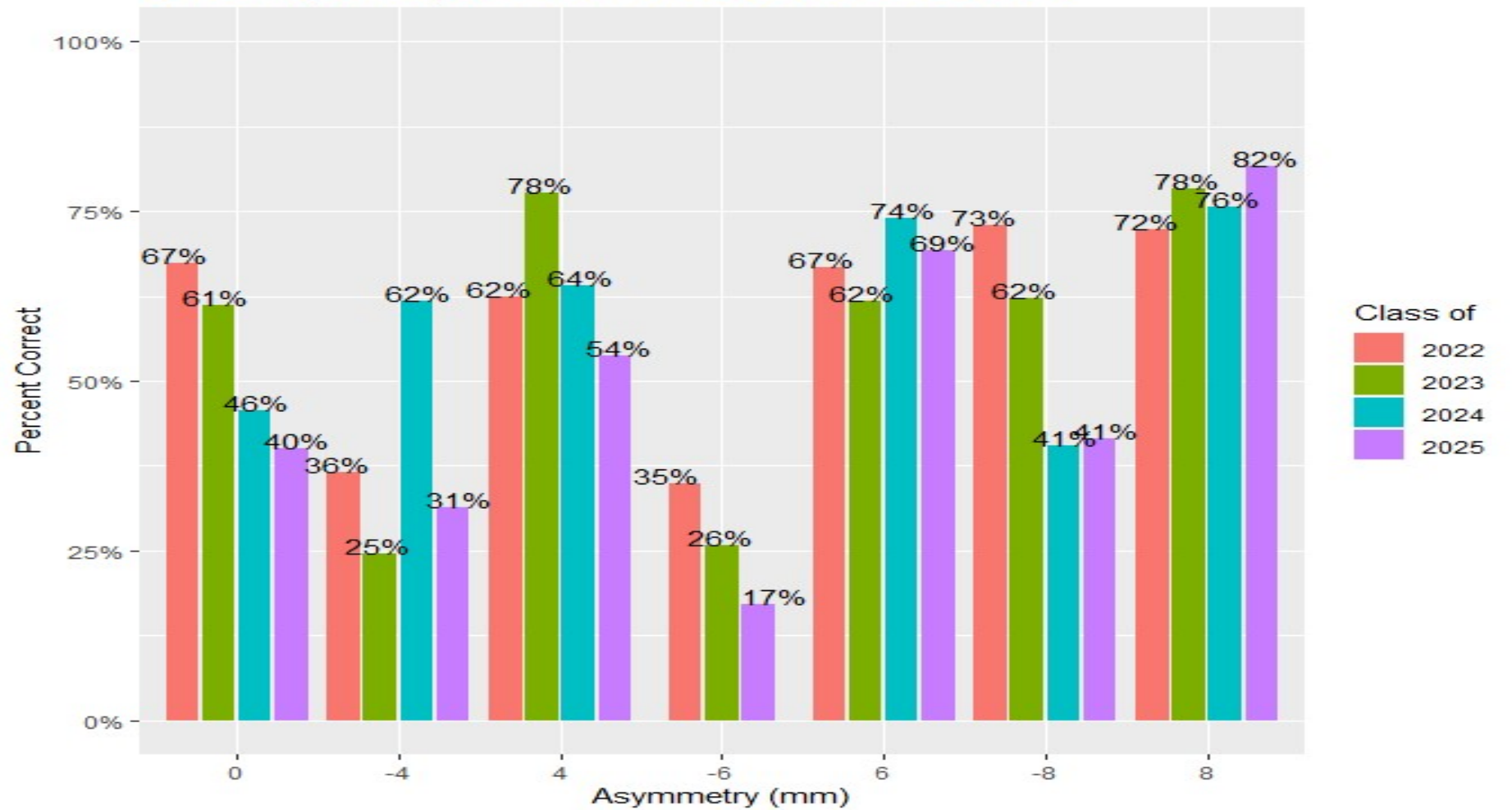


KCOM CLASS SCORES ON ANATOMICAL SIMULATIONS

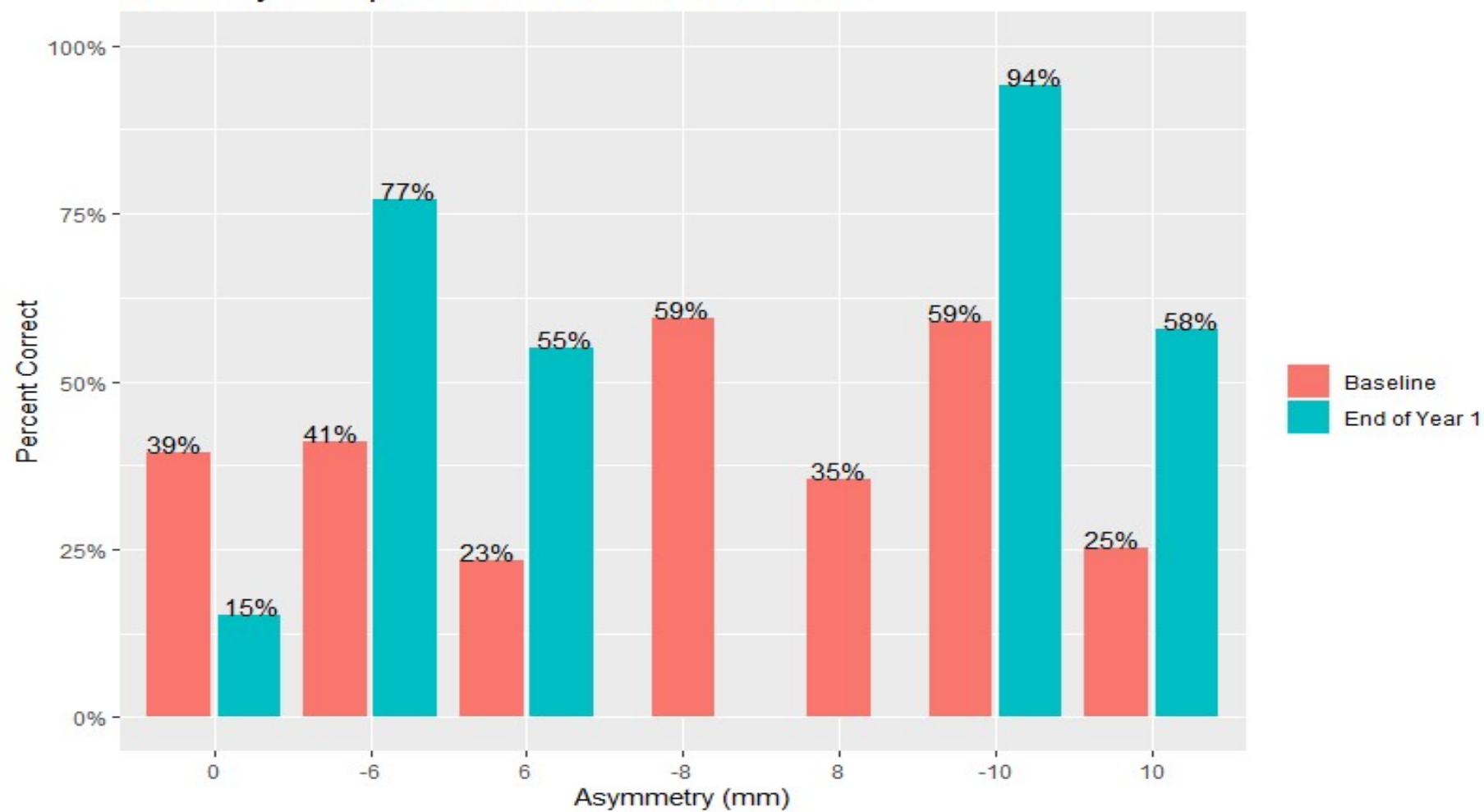
Sensitivity of Palpation of the ASIS: Baseline Scores



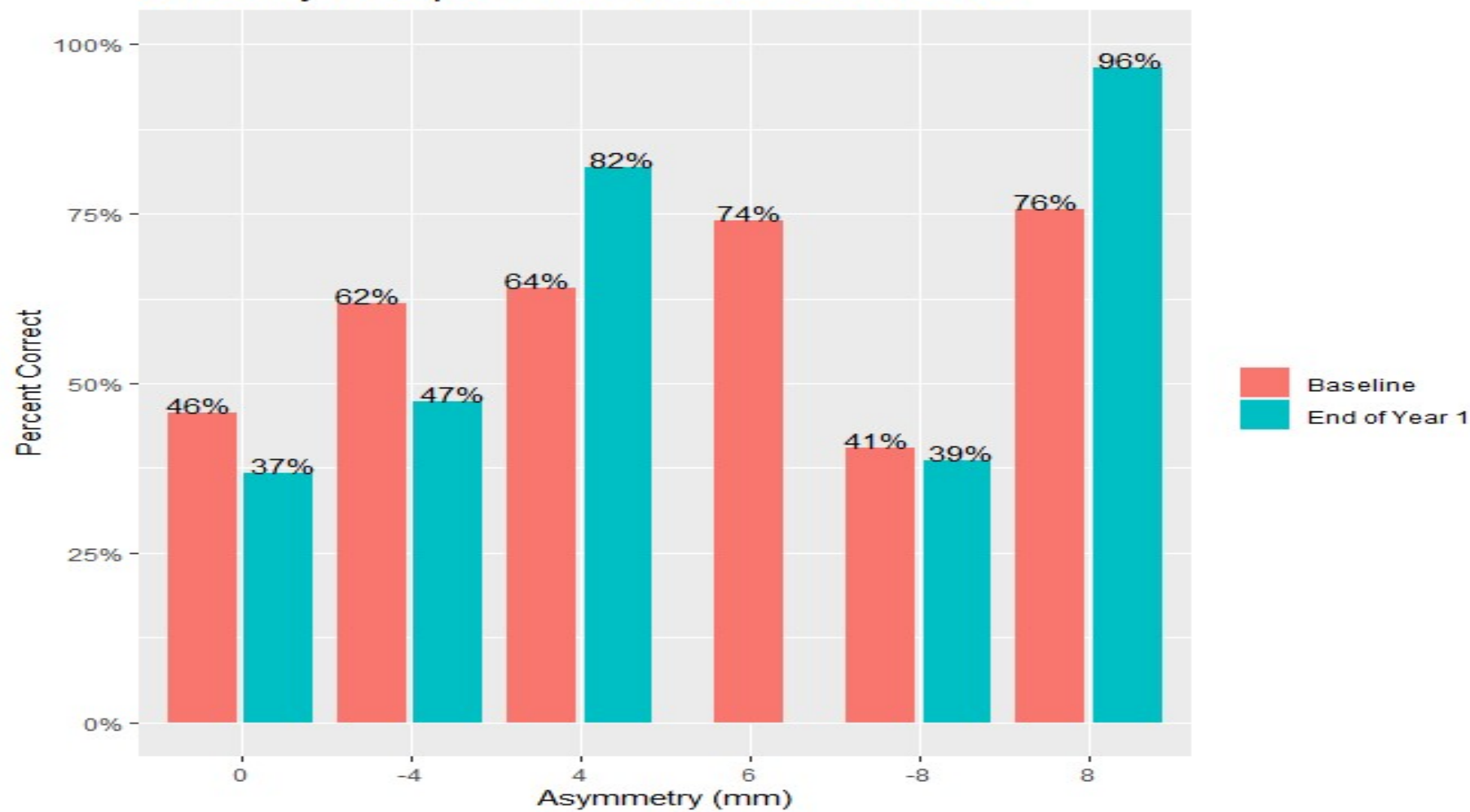
Sensitivity of Palpation of the PSIS: Baseline Scores



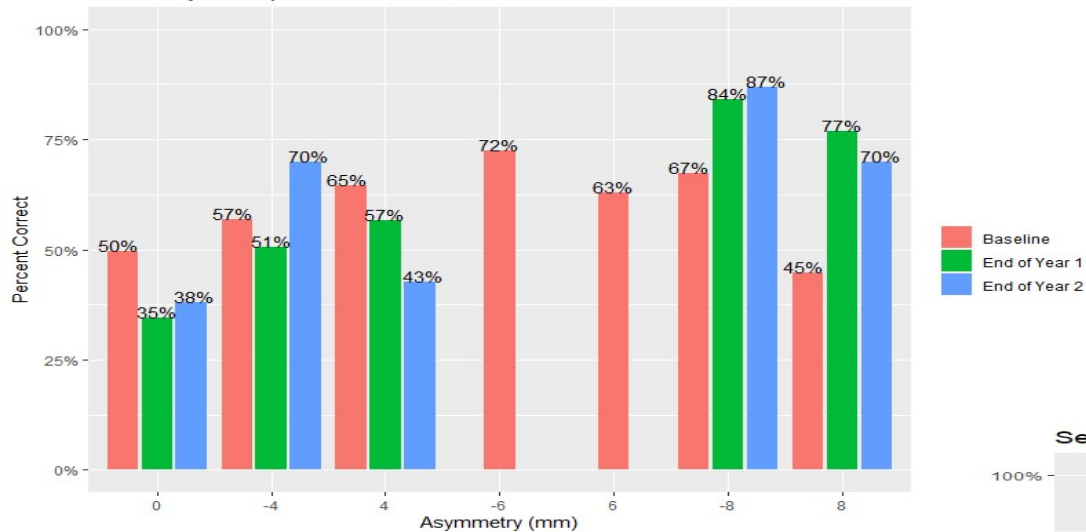
Sensitivity of Palpation of the ASIS: Class of 2024



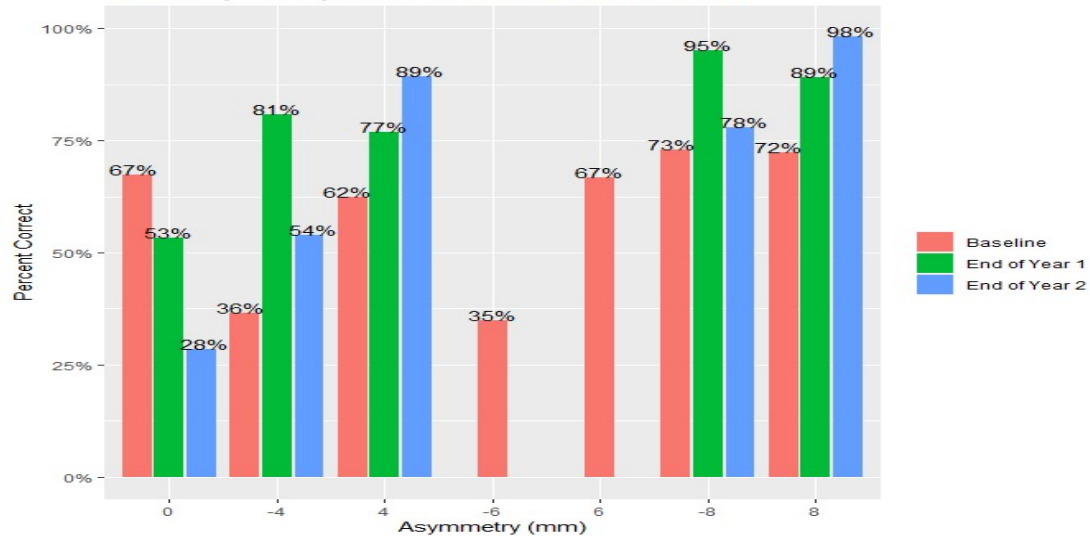
Sensitivity of Palpation of the PSIS: Class of 2024



Sensitivity of Palpation of the ASIS: Class of 2022

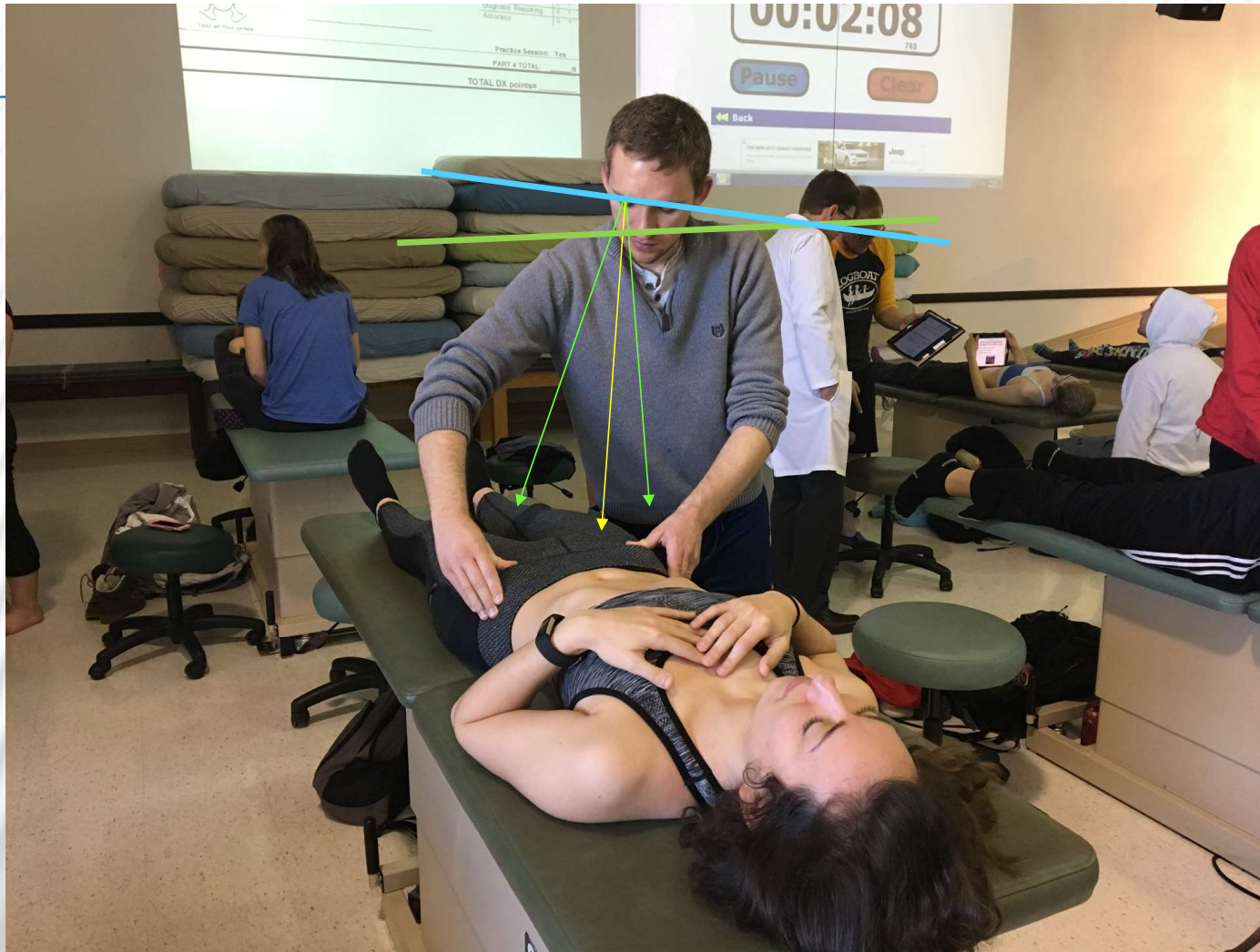


Sensitivity of Palpation of the PSIS: Class of 2022









SUMMARY

- ✖ Somesthesia – focus on the outside, the patient, and your mechanoreceptors
- ✖ Kinesthesia – awareness of the information your brain receives from your proprioceptors – golgi tendon organs, muscle spindles, nociceptors
- ✖ Calibration of the osteopathic instrument (the whole body)
 - + Body position
 - + Biomechanics
 - ✖ Physical
 - ✖ Emotional
 - ✖ Mental
 - ✖ Spiritual

➤

Lateralization Tests			
	Positive		Neg.
	Right	Left	
Standing flexion			
Seated flexion			
ASIS Compression			

	Use Arrows or Abbreviations		
	Right	Left	Equal
Major Landmarks			
ASIS			
Sup./Inf.			
Med./Lat.			
PSIS			
Sup./Inf.			
Pubic Symphysis			
Sup./Inf.			
Ant./Post.			
Tenderness			
Minor Landmarks			
Ischial Tuberosity			
Sup./Inf.			
Lat./Med.			
Iliac Crest			
Sup./Inf.			
Malleoli			
Sup./Inf.			

DIAGNOSE PELVIS: PUBES FOR SUPERIOR INFERIOR, ANTERIOR POSTERIOR SHEARS AND COMPRESSION

➤ **Innominate (Os Coxae) Dx:** _____

➤ **Pubic Diagnosis:** _____

Sacral Diagnosis: _____

L5 Diagnosis: _____

L5 is uncompensated (maladapted) when L5 and sacral base are rotated in the same direction.

INTERMEDIATE NEWTONIAN OMM CONSIDERATIONS

Muscular considerations

- × Hamstrings
- × Piriformis/gluteals
- × Iliopsoas
- × Erector spinae

IMPLEMENTATION:

- ✖ Transition from office chair to table – standing flexion test
- ✖ Seated on table – seated flexion test, screen soft tissue and joints for tissue texture changes and pain
- ✖ Supine – Diagnostic hamstring stretch, ROM hip/dx. muscle stretch, ASIS compression test, landmark evaluation, evaluate for tender points
- ✖ Prone – Diagnostic quad/iliopsoas stretch, ROM hip (internal and external rotation), localization lumbosacral junction, palpation of gluteal muscles, SI ligaments, erector spinae, landmark evaluation, sacral testing

RELATIONSHIPS BETWEEN THE INNOMINATE AND THE PUBES

INNOMINATE DIAGNOSIS

Anterior
Rotation

Posterior
Rotation

Inflare

Outflare

PHYSIOLOGIC RESPONSE OF THE PUBES

Inferior and/or
Anterior

Superior and/or
Posterior

Posterior

Anterior

UNCOMPENSATED OR MALADAPTED RESPONSE OF THE PUBES

Superior or
Posterior

Inferior or Anterior

Anterior

Posterior

Harmony only dwells where obstructions do not exist.

A. T. STILL
