



Perspectives on the Sacroiliac Joint

By Mylhan Myers DO (PGY-3)

- Anatomy and Joint Mechanics
- Clinical Presentation
- Management
- Key Point Summary

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The First Perspective on the Sacroiliac Joint

- Described by Dr. Andrew Taylor Still in the late 1800s as a joint with motion despite what was accepted in allopathic practice at that time
- In **1989**, an MD demonstrated that the SIJ moves, even in much of the elderly.
- Now over 100 years after Dr. Still called it like it is, the SIJ is widely accepted as a movable articulation and described as such in Gray's Anatomy



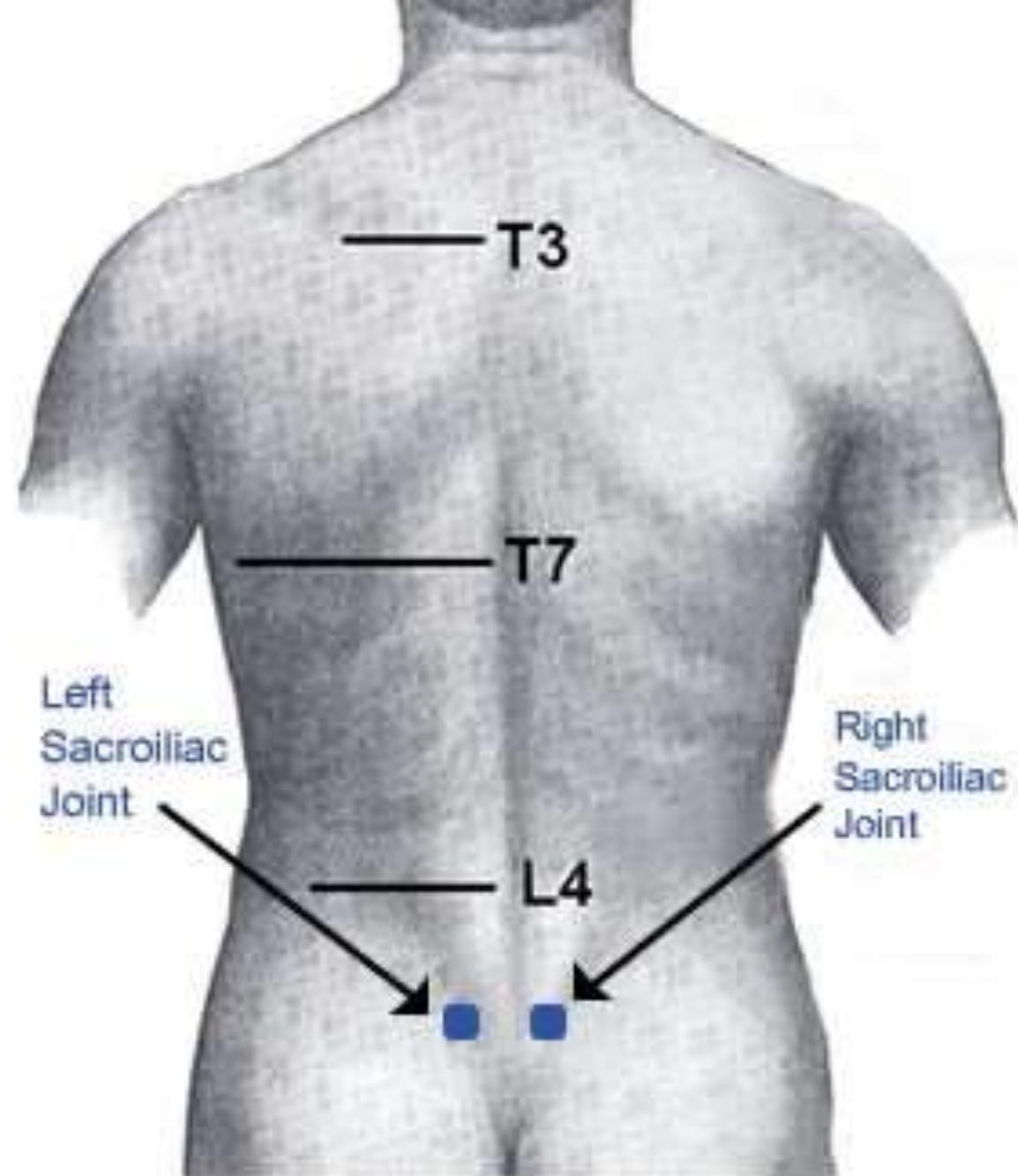
AHEAD OF HIS TIME

*"Gray's is one of the standard anatomies of the world and it states that the sacroiliac joint is an immovable joint. I stand here to tell you now that the sacroiliac joint is a movable joint and that all the great anatomies will be changed before many years...
I may not live to see it but some of you will."*

-Andrew Taylor Still, MD, DO

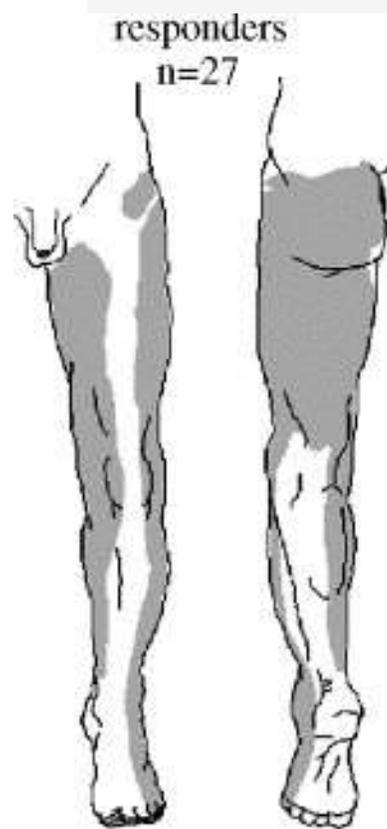
Anatomy and Joint Mechanics

- The SIJ is now considered a diarthrosis- it is a movable joint with a capsule.
- Due to its irregular shape, the range of motion is still limited; between 2-4 degrees, depending on the direction in three planes
- The primary function of the SIJ articulation is to function as a shock absorber- to limit the force of transfer from below through the pelvis and into the spine.
- This force transfer goes both ways; the joint also shifts the body's weight at the pelvis during locomotion as the hips swing slightly while taking a step
- This load dissipating mechanism has been demonstrated to be more vulnerable to stress than the lumbar spine

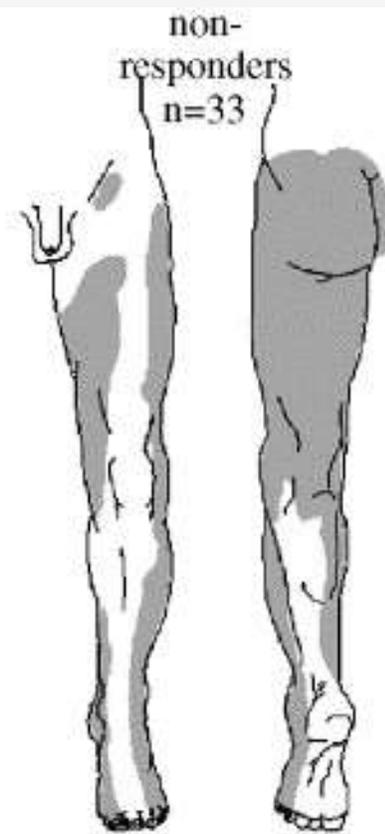


Clinical Presentation

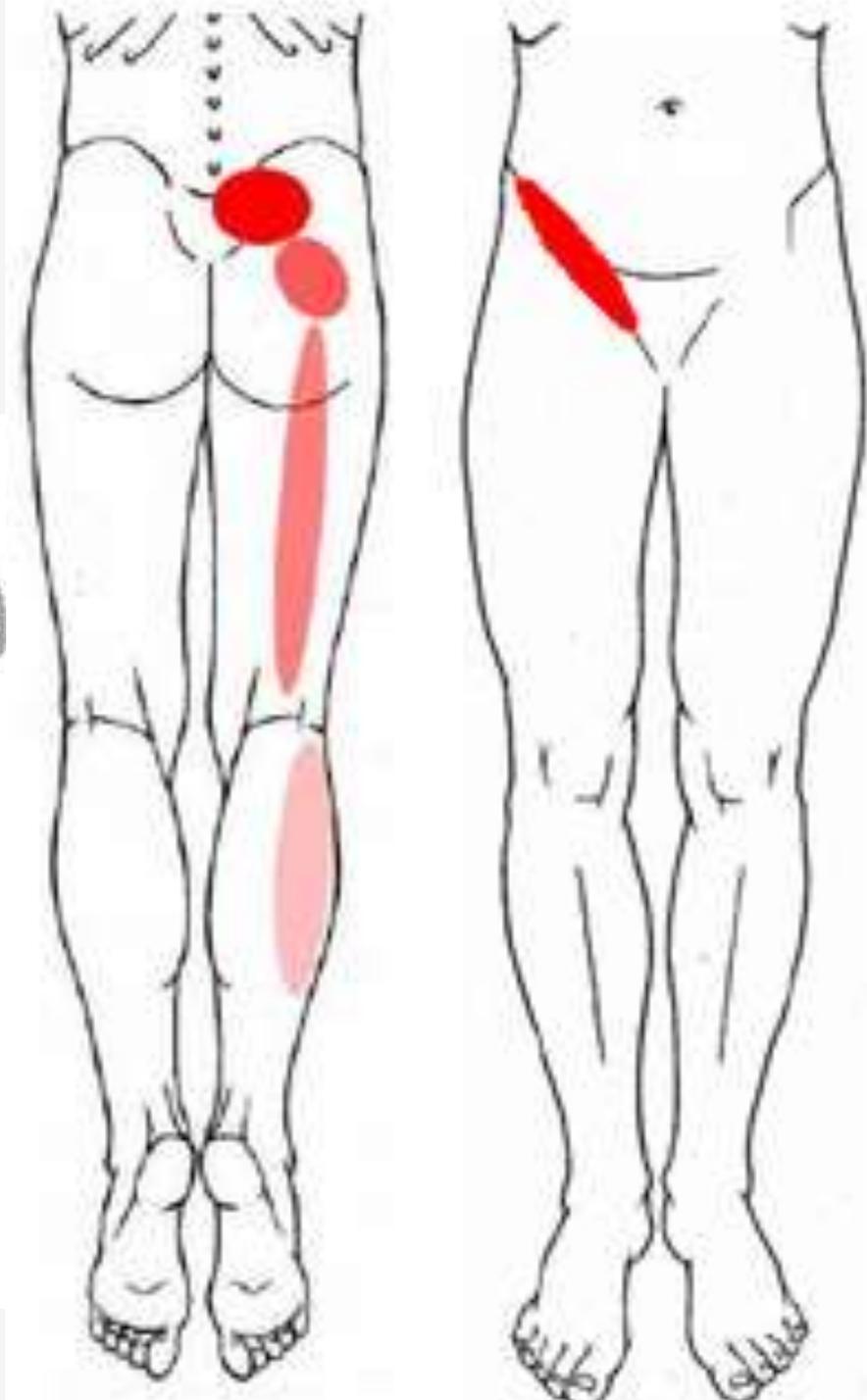
- Pain can be referred both to and from the SIJ. Innervation of the SIJ is complex with many investigations reporting conflicting findings, suggesting **high individual patient variability**. This **variability nevertheless underscores that the SIJ capsule is closely associated with regional neural structures and pathways**. Moreover, certain pain patterns and referral regions are identifiable that include but are not limited to the region around the PSIS. Distributions can include the abdominal, lumbar, gluteal, groin, posterior thigh, and calf regions.
- These patterns most commonly **include pain within a 3x10cm region inferior to the PSIS that is usually palpable**. This pain is typically described as deep and achy.
- The **Fortin Finger Test**, where the patient points to just below their PSIS to indicate the location of the pain, is the most sensitive and specific test to date of SIJ pain

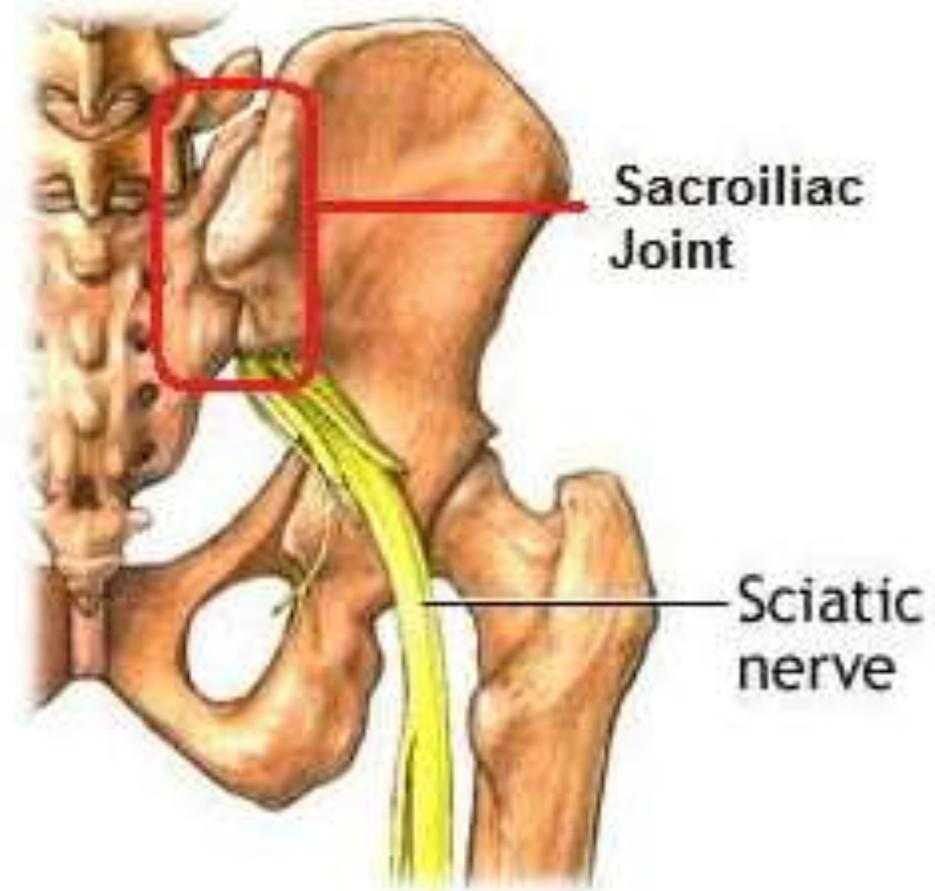
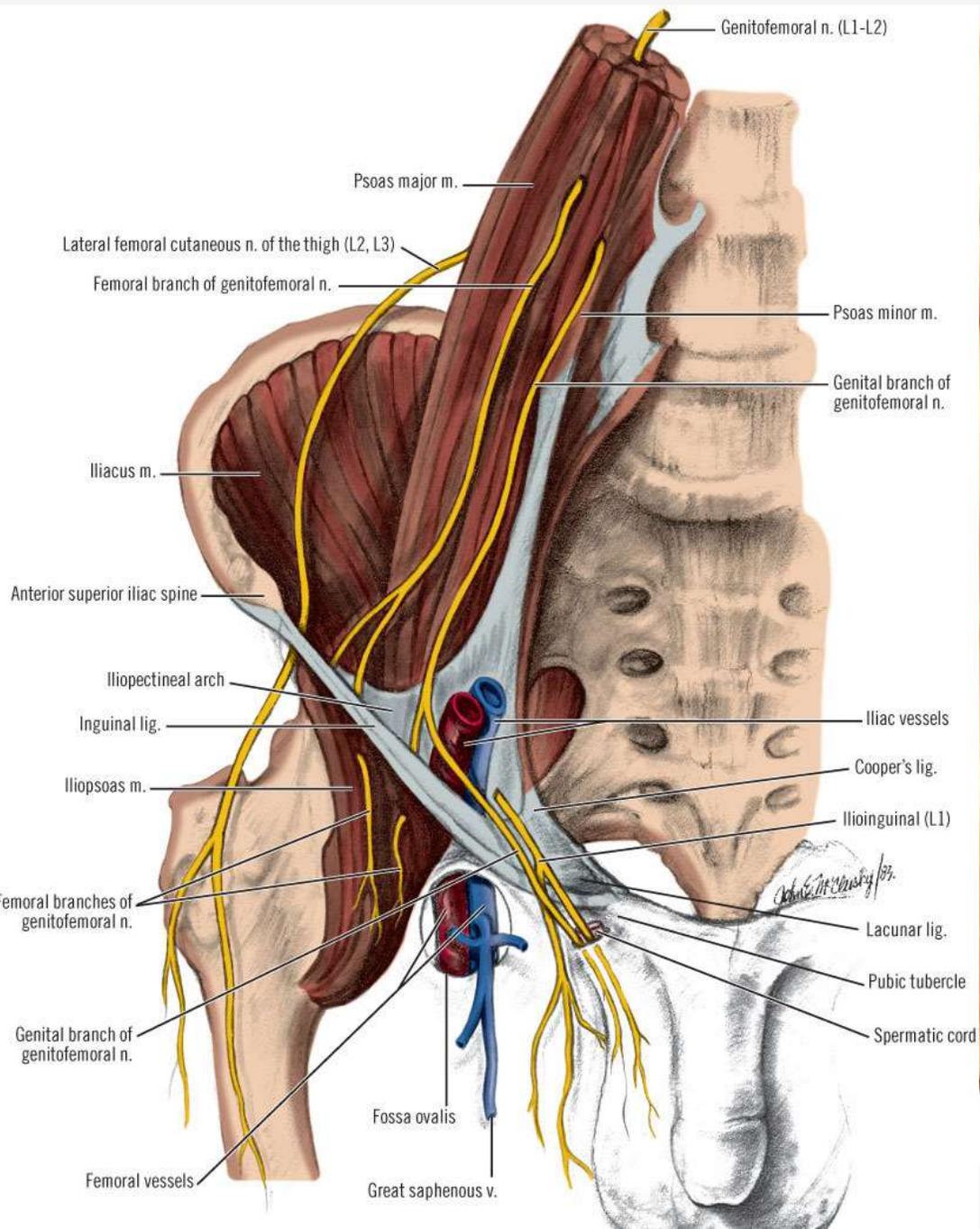


mean referral area
 $103.2 \pm 74.5 \text{ mm}^2$



mean referral area
 $139.32 \pm 81.4 \text{ mm}^2$





Clinical Presentation

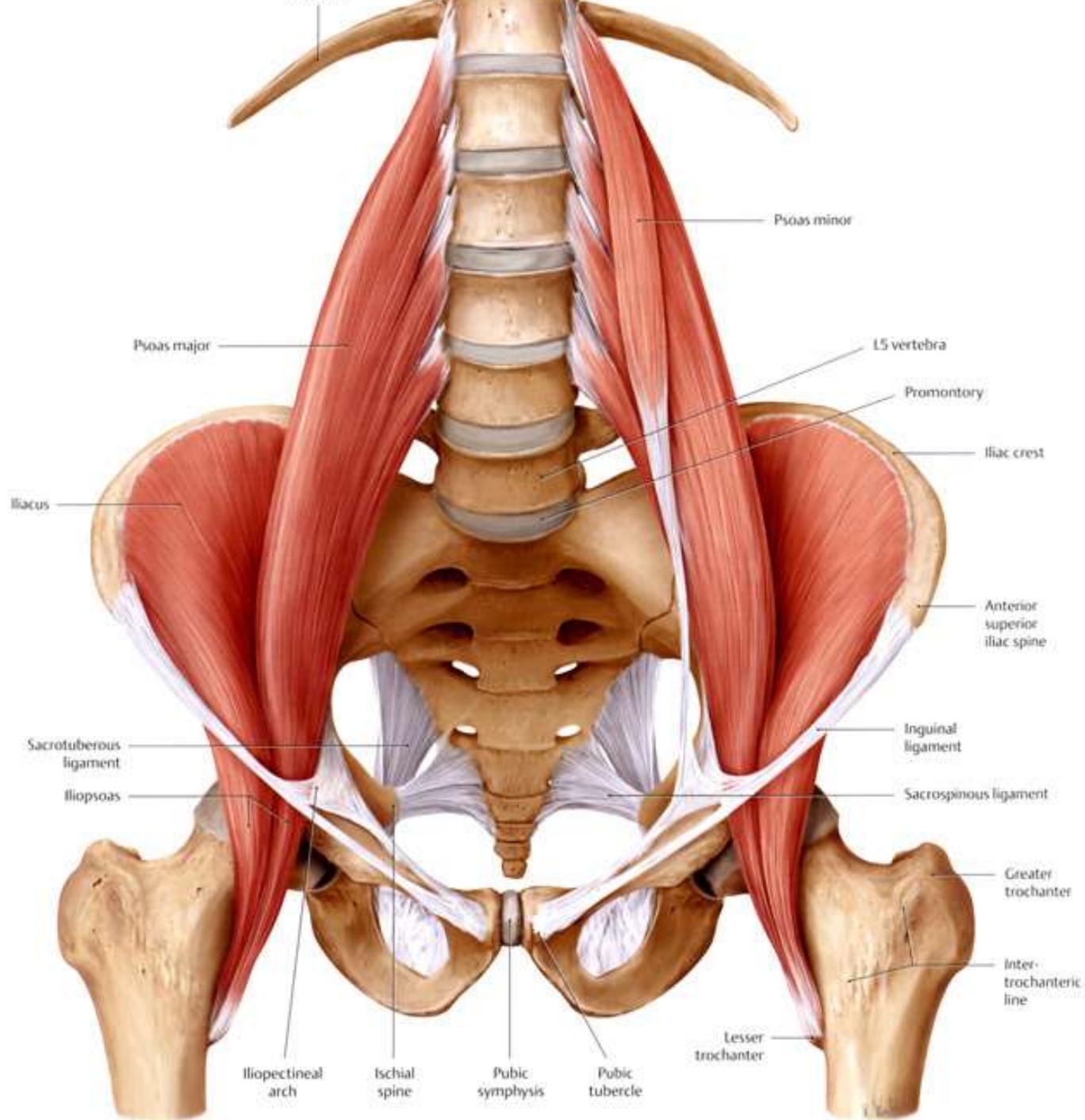
- Physical exam maneuvers commonly used for SIJ diagnosis include the compression test, distraction (gapping) test, Patrick (FABERE) sign, and Gaenslen test. Solitary maneuvers in physical exam have minimal diagnostic value; more examination techniques increase both the sensitivity and specificity of the exam.
- **Ultimately however, the Fortin Finger test appears to be superior to all of these tests.**
- The International Association for the Study of Pain proposed a three fold criteria for clinical diagnosis of sacroiliac joint pain:
 1. Pain is present in the region of the SIJ.
 2. Stressing the SIJ by clinical tests that are selective for the joint reproduces the patient's pain.
 3. Selectively infiltrating the putatively symptomatic joint completely relieves the patient of the pain.

FABER Test (Patrick's)



Gaenslen's Test





Distraction Test (SI Joint Compression)



It Hurts Here

Fortin Finger Test

**Simple,
Reliable**

Diagnostic Aid

Ask Patient to Point to Pain Location:

- Below L5: Consider SI Joint
- Above L5: Consider Lumbar Spine





Diagnostic Summary

Three Tenants of SIJ Diagnosis

- **Positive Fortin Finger Test**
- Other maneuvers reproduce pain (including simply pushing on the joint)
- Treatment improves pain

Management

- It is useful to divide treatment of SIJ pain into the acute phase (1–3 days), a recovery phase (3 days to 8 wks), and the maintenance phase (beyond 8 wks)
- Initial treatment should include conservative measures; NSAIDs, stretching associate musculature (psoas, gluts, hamstrings, lumbar paraspinals), and OMT. Early mobilization speeds recovery.
- Most paramount, however, is to address the cause. **The SIJ is usually a victim, not the culprit.**
- Rule out zebra pathologies such as SIJ fracture and infectious or autoimmune sacroiliitis
- Gait changes and falls more common for acute presentation. Obesity and muscle weakness more often have gradual onset. Pregnancy a common instigator.
- **A physical therapy referral to stabilize core and LE musculature will prevent recurrence**

OMT Techniques

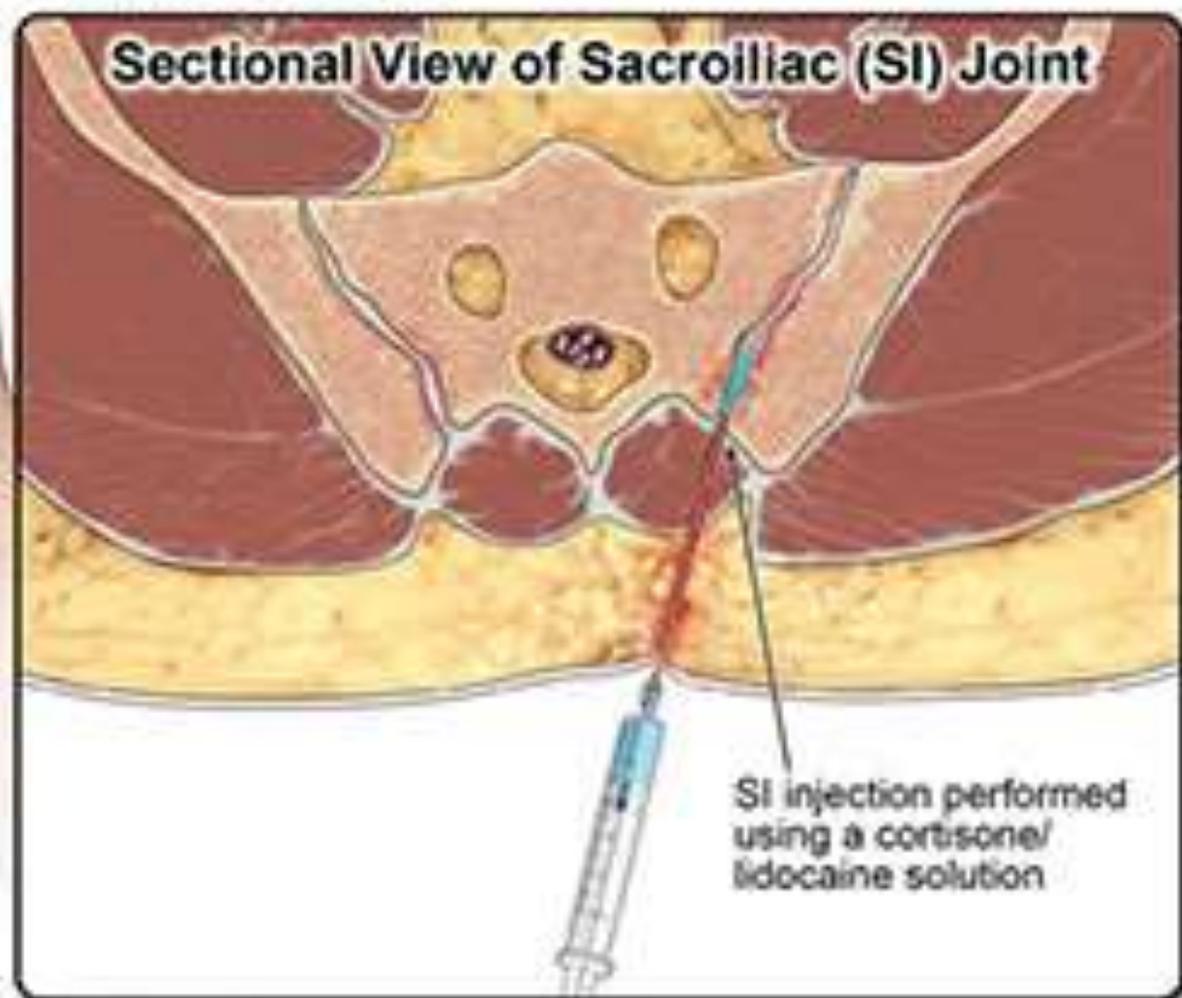
- HVLA leg tug or lumbar roll are commonly effective techniques for the SIJ
 - There is no contraindication to HVLA or OMT in pregnancy. Evidence suggests intrapartum OMT may shorten the duration of labor but prenatal OMT has not been shown to result in preterm delivery
 - Other techniques for the SIJ include soft tissue inhibition and stretching, Balanced Ligamentous Tension, Muscle Energy, and Still's Technique
 - Treat the surrounding tissue and musculature first; treat the sacrum and innominates last.
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Management

- If the patient returns and reports that OMT and NSAIDs are insufficient for pain control, it is reasonable to inject the SIJ with a corticosteroid and local anesthetic.
- **Most authors prefer a mixture of bupivacaine and betamethasone**
- **Cannulation of the joint is not necessary.** Double blind studies have demonstrated that injecting near the joint space is sufficient
- Limit corticosteroid injections to 3 in a 6-month period with up to 4 total in a year.
- **Treatment should be done concurrently with physical therapy**

Sacroiliac Joint Injections

Sacroiliitis symptoms treated with SI joint injections



7/6/07
Left SI Joint Injection

3/9/12
Left SI joint injection

6/20/07
Right SI Joint Injection

2/24/12
Right SI Joint Injection

Management

- Alternative treatments include hyaluronic acid, prolotherapy, acupuncture, etc
- Radiofrequency ablation to the joint innervation is a last resort
- Arthrodesis of the joint has also been done for chronic SIJ pain
- **Please do not send somebody to pain management or surgery until they've been through at least both several rounds of OMT and physical therapy**

Review Summary

- Positive Fortin Finger Test “It hurts right here, doc”
 - Treat with OMT and NSAIDs first, early mobilization important
 - SIJ usually the victim, not the culprit. Look for the cause
 - Weight loss, foot wear, delivery of infant can all help. Physical Therapy and OMT!
 - Injection of bupivacaine and betamethasone most studied, limit to 4 per year. You do not need to cannulate the joint.
 - Physical Therapy and OMT!
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“IN CONCLUSION, I WANT TO SAY THAT I EXTEND MY LOVE TO ALL PERSONS WHO BY WORD OR ACT HAVE ENCOURAGED THE UNFOLDING OF THE SCIENCE OF OSTEOPATHY.

I THANK YOU ONE AND ALL FROM THE INNER DEPTHS OF MY SOUL AND I WISH EACH OF YOU GODSPEED.”

*-ANDREW TAYLOR STILL,
MD, DO*

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