NWOOA 2022 Conference

Everyday Manual Medicine for Every DO
Technique Reviews and Case Studies

Give Slides on “Meat & Potatoes” Very Visual Presentation
Regional Mobilization of Thoracic, Cervical and Lumbar Spine –

Take a step back from all the complexity and detail that has/did frustrate, and overwhelmed and so many of us

Intended Format -

* The Basics and Adjunctive - simplify.
* History and Exam - History and Exam Red Flags
* Cases mixed in-between to avoid being dull
* Demonstrations
* No peripheral joint or cranial, (but I will be around)
* My templates, documentation and coding

- Michael F. Stretanski, DO, CDCA, AME - PCOM 97’
- Physical Medicine & Rehabilitation GVH/PENN/OSU 2001
- PM&R has Much in common with a Neurologists, Orthopedics, Psychiatrists – ideal S.O.O. for OMT

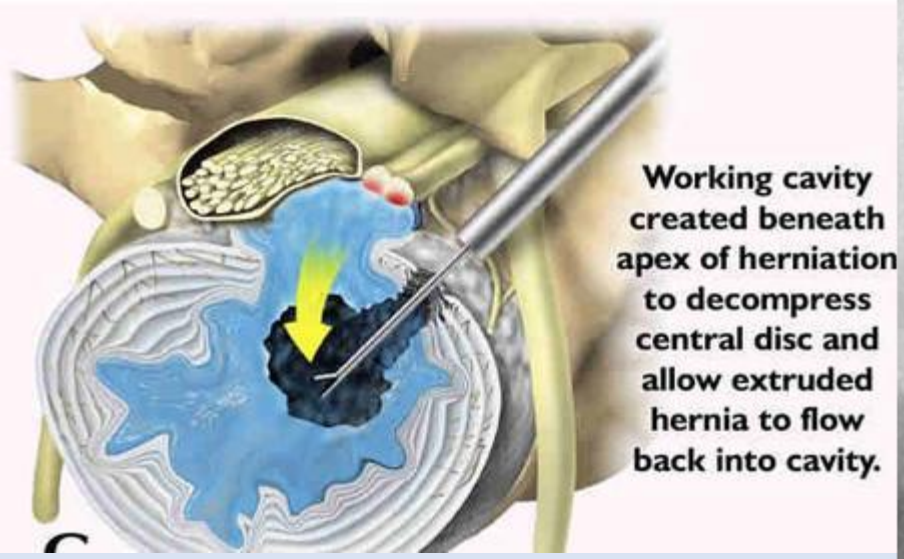
– pubs in shoulder, hand, EMG, IPM, ankle, ethics, molecular level tendon degen. Diskography. FAA Senior AME and IMS

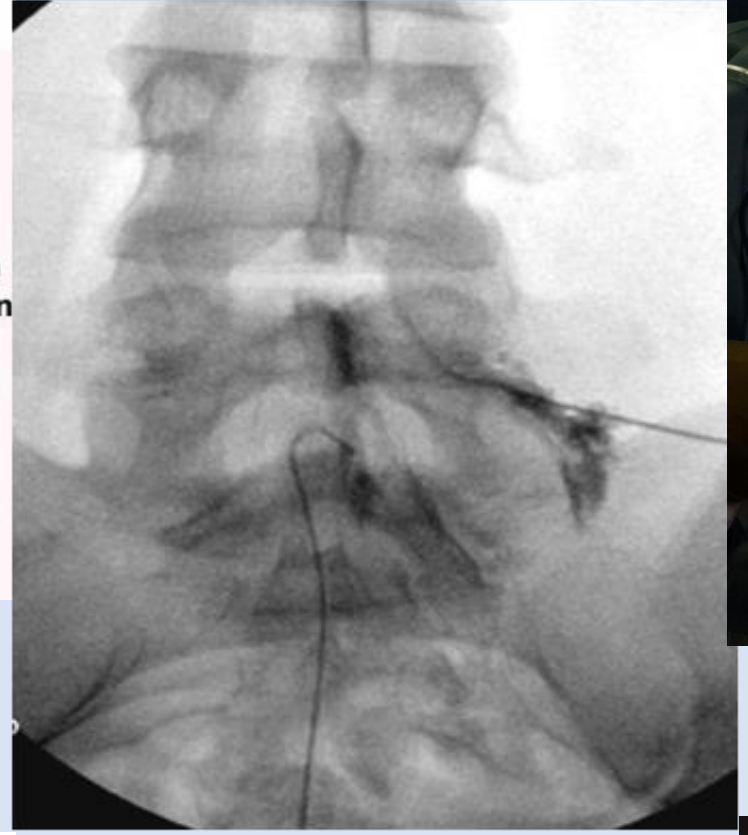
Said no to MD program. I wanted to be a DO and do manipulation
BioChem, Engineering & Pysche (PhD walk-away for PCOM)
Purely empiric/clinical 250K osteopathic treatments since
+ Med School, Int, Residency, teaching, friends/family research P’s

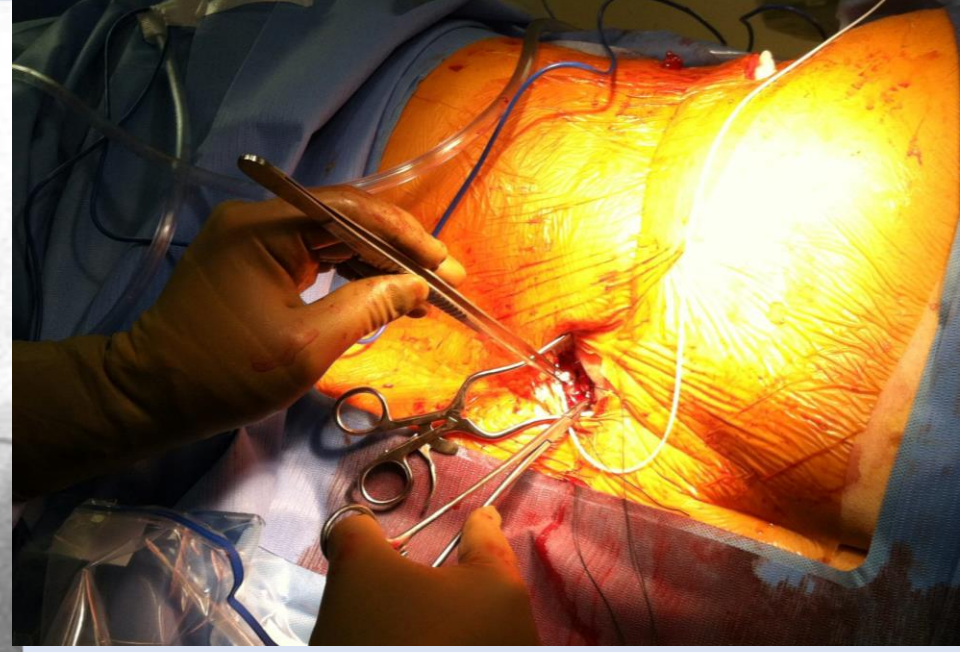
We will go over the parts germane to you that are also the basis of what I use every day in a Spine-Dominant Musculoskeletal Spine & Pain Practice

Today’s perspective might be frowned upon in strict academic circles. It is not my intention to disagree with but rather corollary the purists.

Federal Aviation Administration

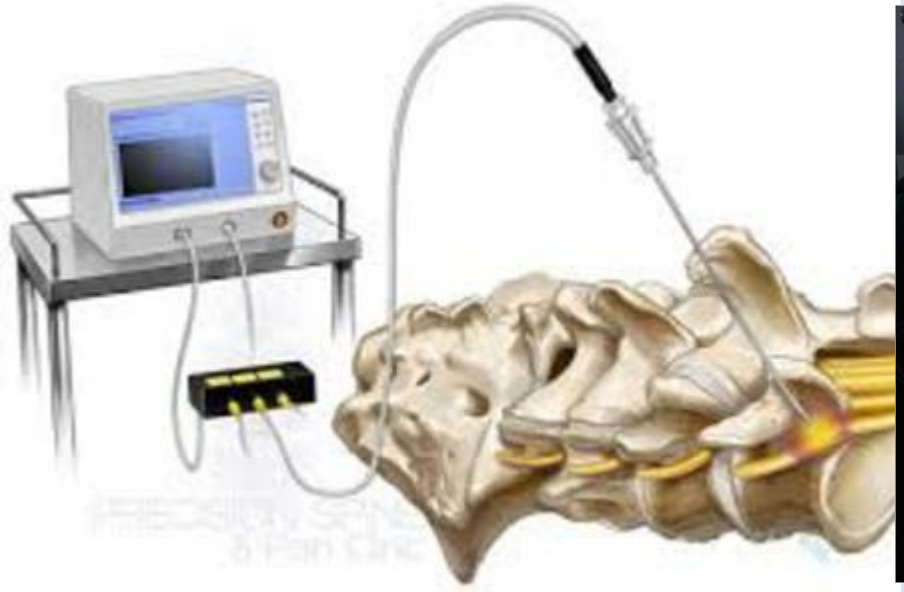


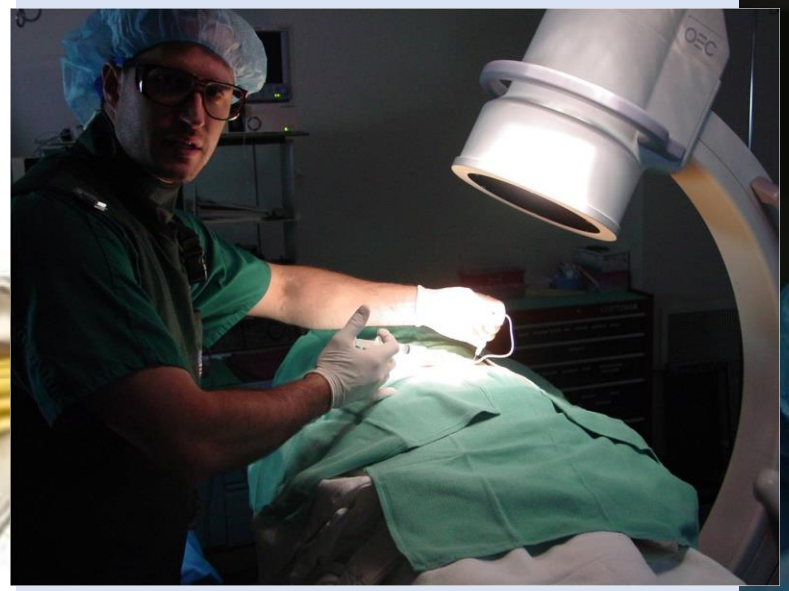




“Laser” Endoscopic Discectomy – ESI, Facet Pain Pumps, Spinal Cord Stims, they still all get OMT before and after

Facet Fusion, Kyphoplasty, Vert Bone Bx Lysis of Epidural adhesions, RF, Facet Blocks





WARNING – Medical Student's - Do not take this as Board Material/ COMLEX/Board Review.

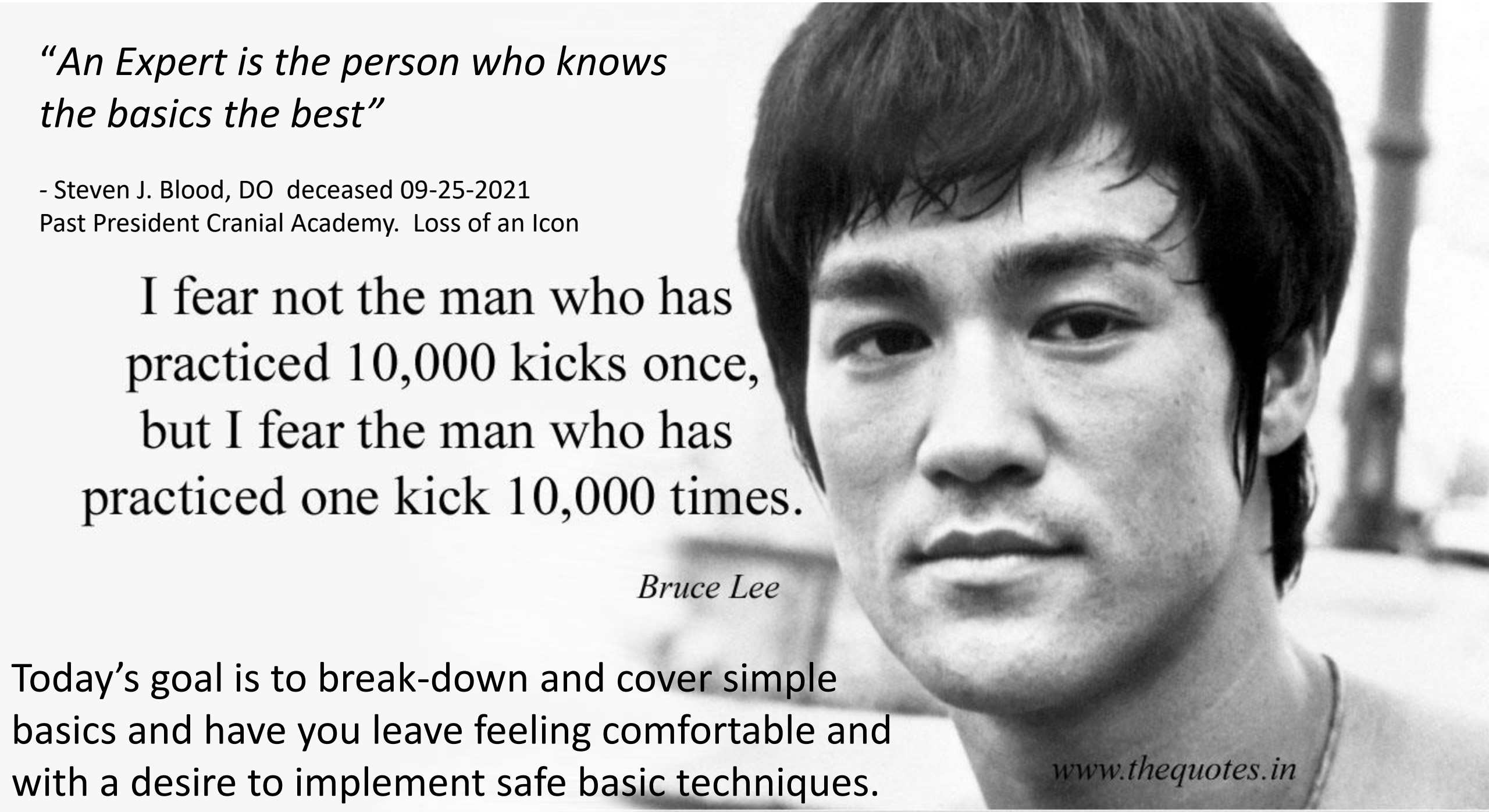
Also do NOT take this as a reflection of what your school should or can be teaching, in fact, this lecture might hurt you on boards or institutional exams.

Foster Compartmentalization

"Separate Box" in your head

"An Expert is the person who knows the basics the best"

- Steven J. Blood, DO deceased 09-25-2021
Past President Cranial Academy. Loss of an Icon



Today's goal is to break-down and cover simple basics and have you leave feeling comfortable and with a desire to implement safe basic techniques.

If you are:

a new grad
a new attending
just getting back into practice,
changing residency
getting back into OMT
changing offices
changing who you are working with
wanting to add a new practice builder
thinking about getting back into OMT –

this has the potential to be particularly good for you.

Otherwise, there's a good neuro review

Non est haeresis dicere dogma non fact

Re: Standardization for OMT - One size does not fit all. Specific techniques you eventually use successfully will be based on what works for you and what you decide to and/or work to make yours. This is not contradictory to didactics at any given institution and, should not be interpreted to be in conflict but rather complementary to those/that your institution(s)/proctors taught you.

Likewise, there will be/were things taught and in some cases drilled into us in our initial training that we cannot physically/mechanically achieve, are just not comfortable using, feels unnatural, makes us feel unsafe or as if we are going to hurt someone, or simply do not like doing or may even not like doing on certain patients.

FIPP Moto - *Docendo Discimus*

Distilled Thoughts

• OMT must be done within the context of other Neuro-MSK care – TP's, PT/OT, passive modalities, biofeedback, heat, Ultrasound, HEP, complex polypharmacy, imaging, advanced interventional pain procedures, and motor point blocks just to name a few, and is often smoothly transitioned from exam to treatment back to exam and treatment. This is partly due to Osteopathic Dysfunction not existing in a vacuum outside of other MSK pathology. This is especially true in Sub-occiput (GON) and Pelvis/SIJ/Innom. (TB)

2.) Regardless of Specialty of Origin, the modern DO must adapt Osteopathic Treatment, Philosophy and Techniques to fit within and benefit from their state-of-the-art care, advanced imaging and treatment protocols for their given field of medicine but have solid basic universal neuro-MSK exam skills (or work with someone who does).

Osteopathic Manual Medicine by itself standing alone in isolation is like a suture fragment left behind on an OR floor following a heart TX or other complex life-saving surgery, both unaware of and not relevant to, nor able to take credit for or responsible for clinical outcome.

What I know now that I wish I knew then

Asymmetric mammalian anatomy is the norm, not the *exception* – *Canines and paw – hair spirals – roof of mouth*

We are all not just hand, but eye and foot dominant.

Do not misinterpret this and try to force symmetry. (There are very few truly straight spines)

Standing Osteopathic structural exam - High Trapezius - WNL

“What I know now that I wish I knew then”

Conversely, MSK Asymmetry is not automatically Osteopathic Dysfunction

Imaging still has limited, if any, utility in OMT- other than contraindication (critical stenosis, instability, malignancy)

Restriction, OD, does not mean or REQUIRE rotation “things can be stuck in Neutral”

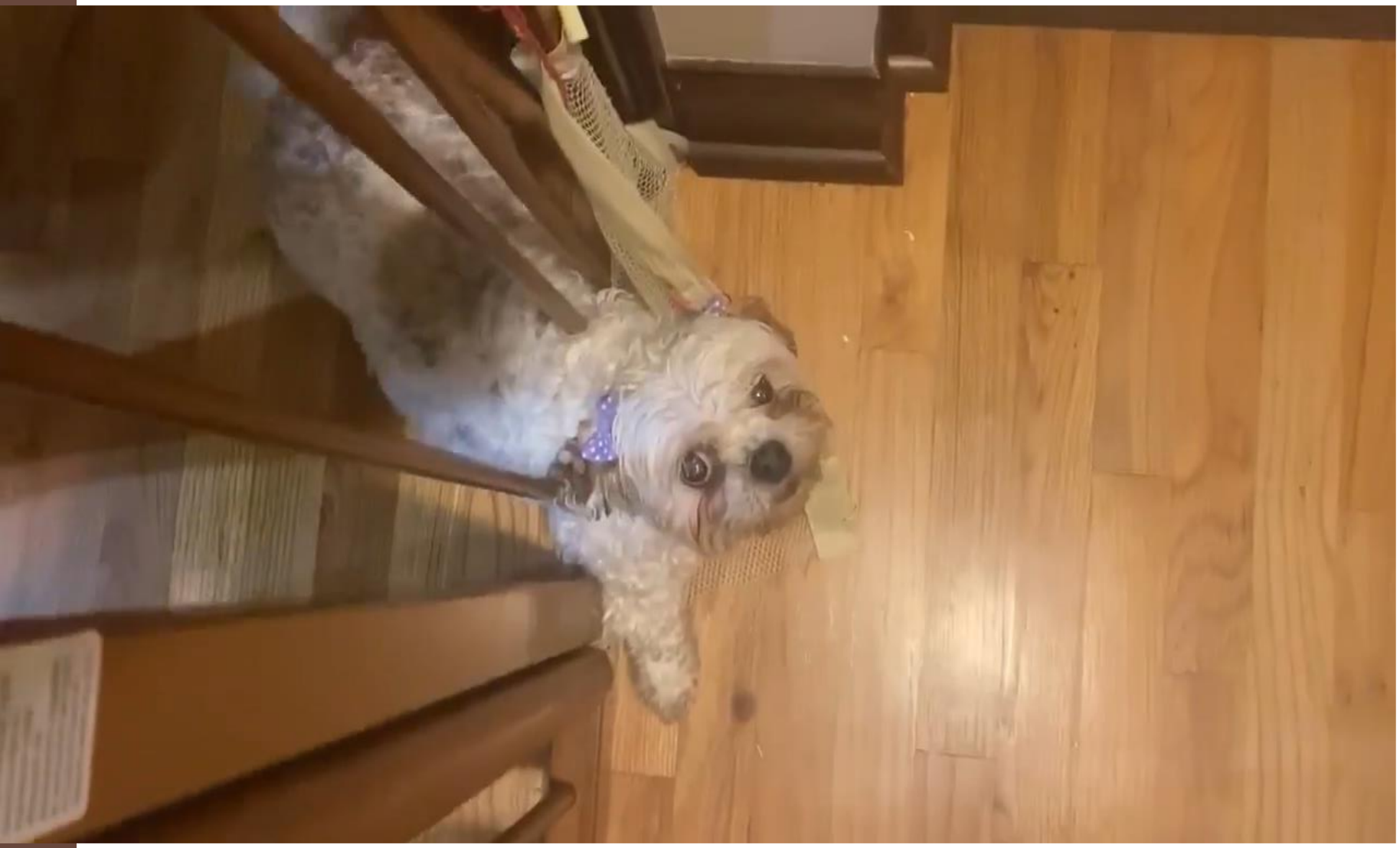
Precision diagnosis is not a mandatory requirement in initial regional treatment.

After basic NMSK exam, it’s OK to ask “Well, does it just feel like it just needs to ‘pop’?” as long as its not the ONLY thing you are doing or documenting

- Your hands are telling you things whether you are deliberately palpating or not- don’t ignore and don’t need to fully comprehend.
- Hence, exam is often smoothly transitioned to treatment and back.
- All Osteopathic Dysfunctions are Bilateral or have bilateral comp.
- (anterior/posterior innom) Left Right Facet/Ribs
- CHF/Asthma/Lymphatics/ICU – underused esp Peds
- All OMT is an interaction between physician/patient and environment – what I have learned not to say when teaching IV starts
- HVLA is seldom mandatory for OA/AA – artic often occurs with positioning. OA Fearmongering?

If something is not releasing in one direction, you can simply take it in the opposite direction, yes, take it further INTO dysfunction (but gently). Like when a door is stuck on the floor and you can’t open it, push it towards being shut, then pull back again. I cannot emphasize how accurate this analogy is.

If you are not sure if something is in a state of dysfunction – it is OK to gently range it and nudge – worst case nothing happens - or - you just did an indirect then direct LAR (order irrelevant)



Sometimes things just get stuck in neutral.

-There is no rotational or side-bending component.

-It becomes a simple matter of clinically mobilizing facet/SIJ/Pubic symp and getting it “unstuck”

Direct and Indirect release

Does the synovial joint of a facet develop a vacuum? Is there reduced synovial fluid? Facet meniscus?

$N_2/CO_2 \uparrow$ dissolved in tissues?

- Not every Dr can do every technique on every patient. Pt’s or Dr’s - Height, Weight, the Table, staff (4 hand tech) arm length, strength, viewpoints, and this the norm for healthcare

- There is no DO-Patient interaction where there is zero potential for manual medicine to have some sort of positive impact, but few, not zero, patients can be adequately helped purely by OMT alone with no other treatment, including respiratory distress.

- Manual med techniques are like music genres - exist along a spectrum - same # opinions (Thrust- lig artic, ME I-IV, FPR, Counterstain/Cranial, Still technique,) Not everyone agrees on definitions and terminology. At what point does easy listening become classic rock?

- OMT can be exhausting - Mind your own fatigue and your own health. Gain mechanical advantage – step stool(s) – reschedule, PLAN certain patients for when you are ready.

Protect your hands/wrists/shoulders – paraffin, superglue, get mech advantage, epicondylar bands, Bio freeze, Therapeutic Ultrasound as part of myofascial technique – empty glass local anesthetic bottle – Get treated yourself – Treat your colleagues – touch with intent.

Preliminary Evaluation / History and Exam

- Stand up for me – chair push?
- Heel Strike, midstance Toe-off
- Heel stand- Toe Stand – Knee Bend
- H, L, Abd, CN's
- - pleuritic rub/wheeze
- - pericardial rub
- AAA – BWC case story
- Manual Motor Testing
- MSR's AKA -DTR's
- Sensory ASIA – slide later
- ROS
- Fever, Chills, Weight Loss
- Focal weakness and/or
- Painless Weakness -
- Loss of Bowel and/or Bladder
- Sensory changes
- Numbness
- + and – sensory symptoms "pins & needles"vs no sensation or cold
- Multiple Sclerosis –
- Arnold-Chiari symptoms –

About 1,080,000 results (0.46 seconds)

Scholarly articles for **salmonella and SIJ infection**

Sacroiliitis caused by **Salmonella** typhi - Ulug - Cited by 18

Sacroiliitis due to **Salmonella** typhi: a report of two ... - Alsoub - Cited by 17

Salmonella septic sacroiliitis: case report and review - Feldman - Cited by 35

https://www.ncbi.nlm.nih.gov › articles › PMC3354413

Sacroiliitis due to Salmonella Typhi: A case report - NCBI

by S Avcu · 2010 · Cited by 6 — The most frequent microorganisms causing pyogenic **infections** in the **sacroiliac joint** are Staphylococcus aureus, Streptococcus species and Pseudomonas...

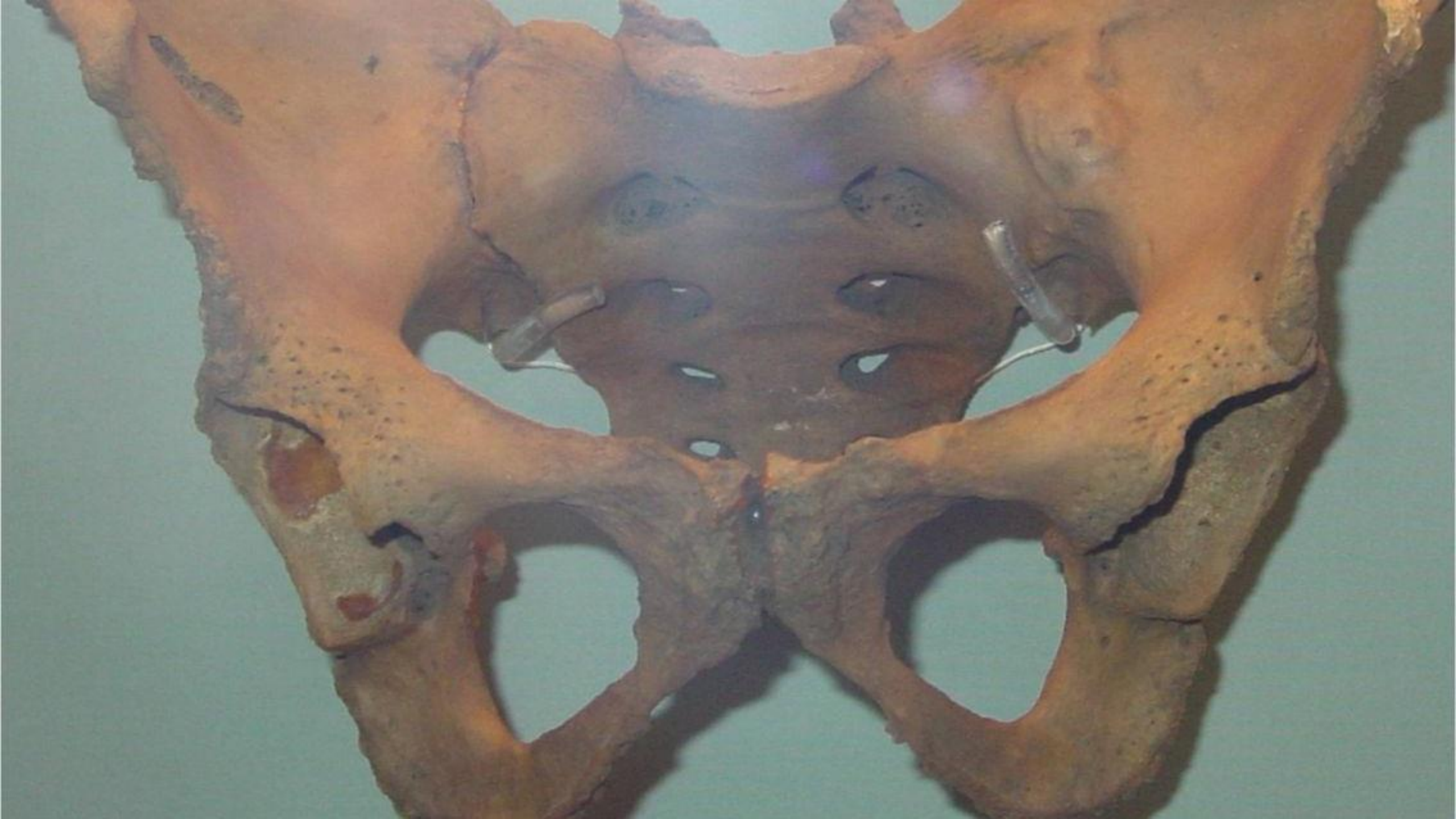
Abstract · Introduction · Case Report · Discussion

https://pubmed.ncbi.nlm.nih.gov › ...

Sacroiliitis caused by Salmonella typhi - PubMed

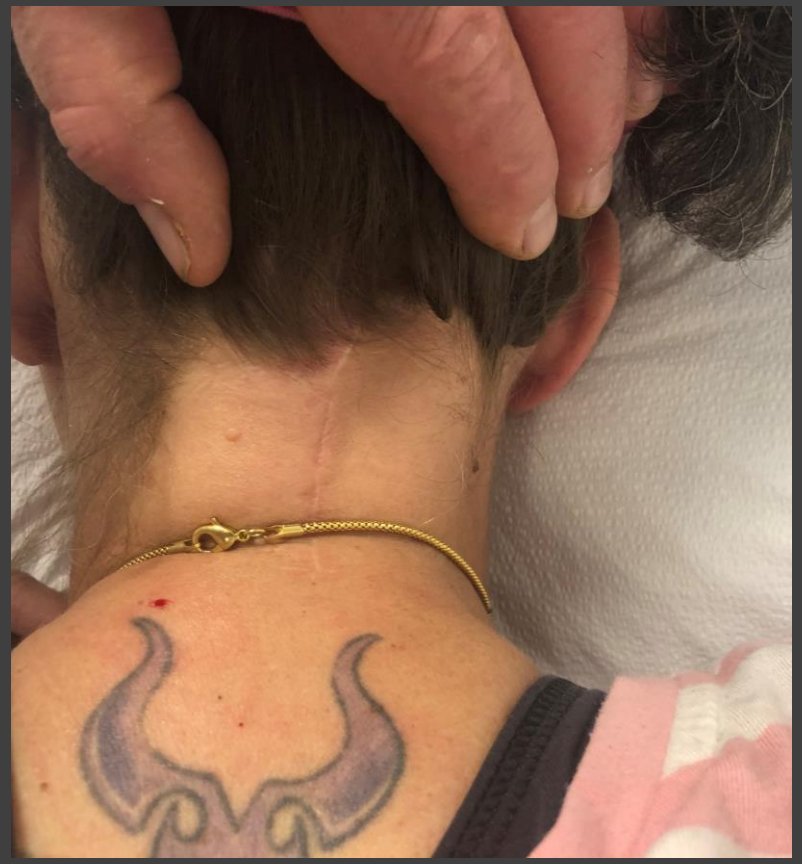
by M Ulug · 2009 · Cited by 18 — We describe here a case of **Salmonella** typhi **infection** of a **sacroiliac joint** that was cured with ciprofloxacin therapy for six weeks. The patient ...

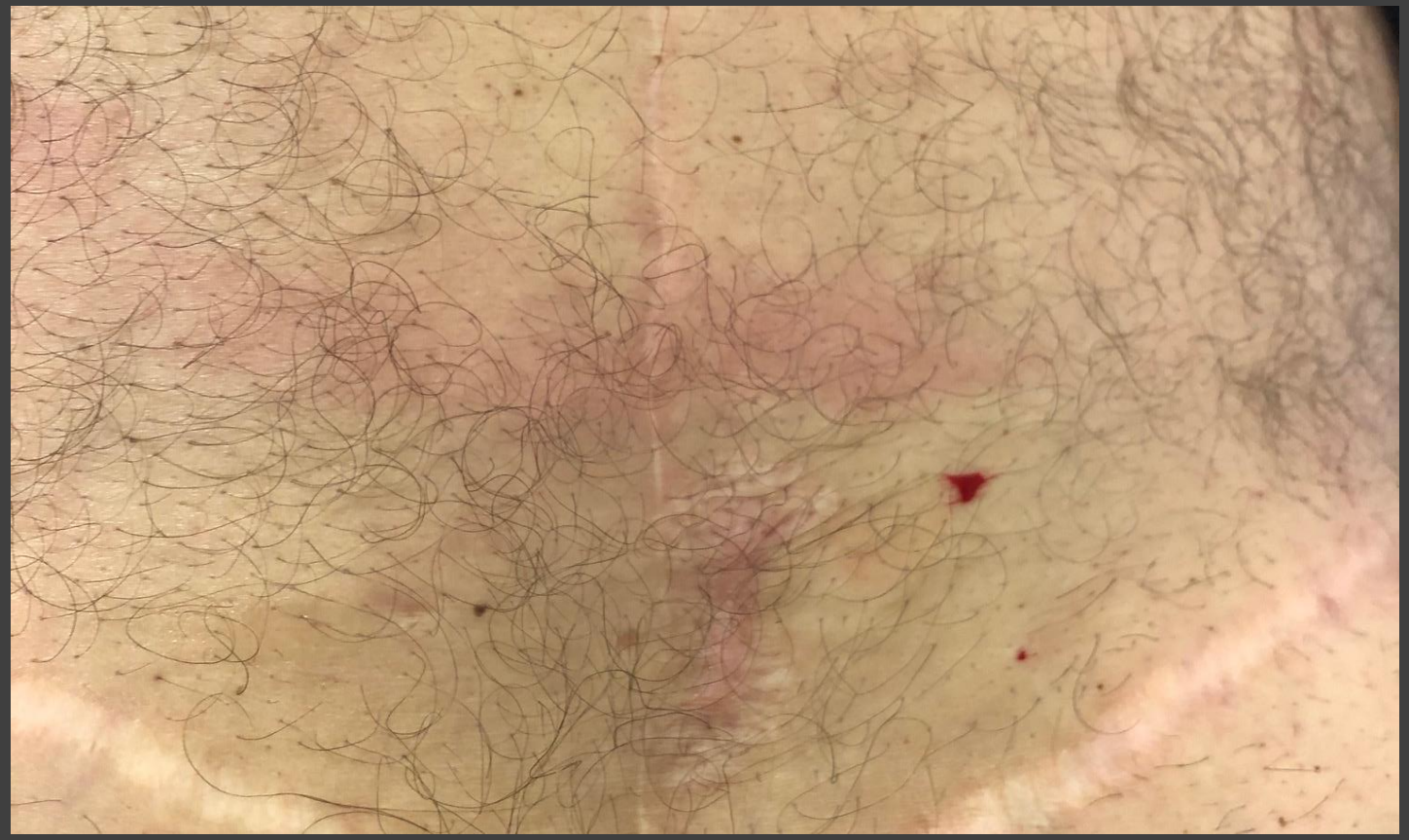
Not just a Third World Problem. 12 y/o male- Mansfield, OH, Mom was a pediatrician. Step Dad NeuroSurgeon Low back pain in general - Low Threshold for ESR, CRP - non ❤️



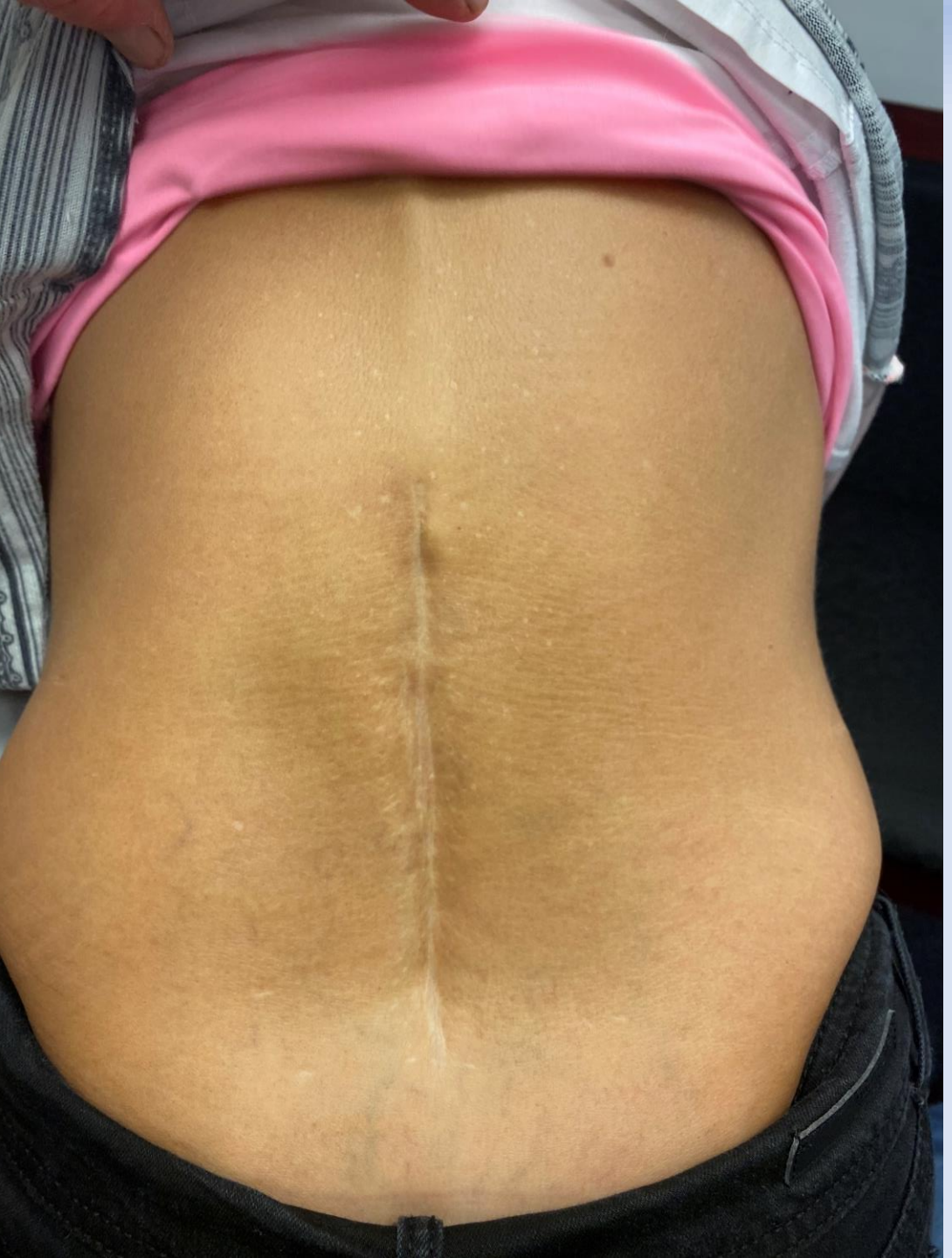
Physical Exam & History before OMT - continued

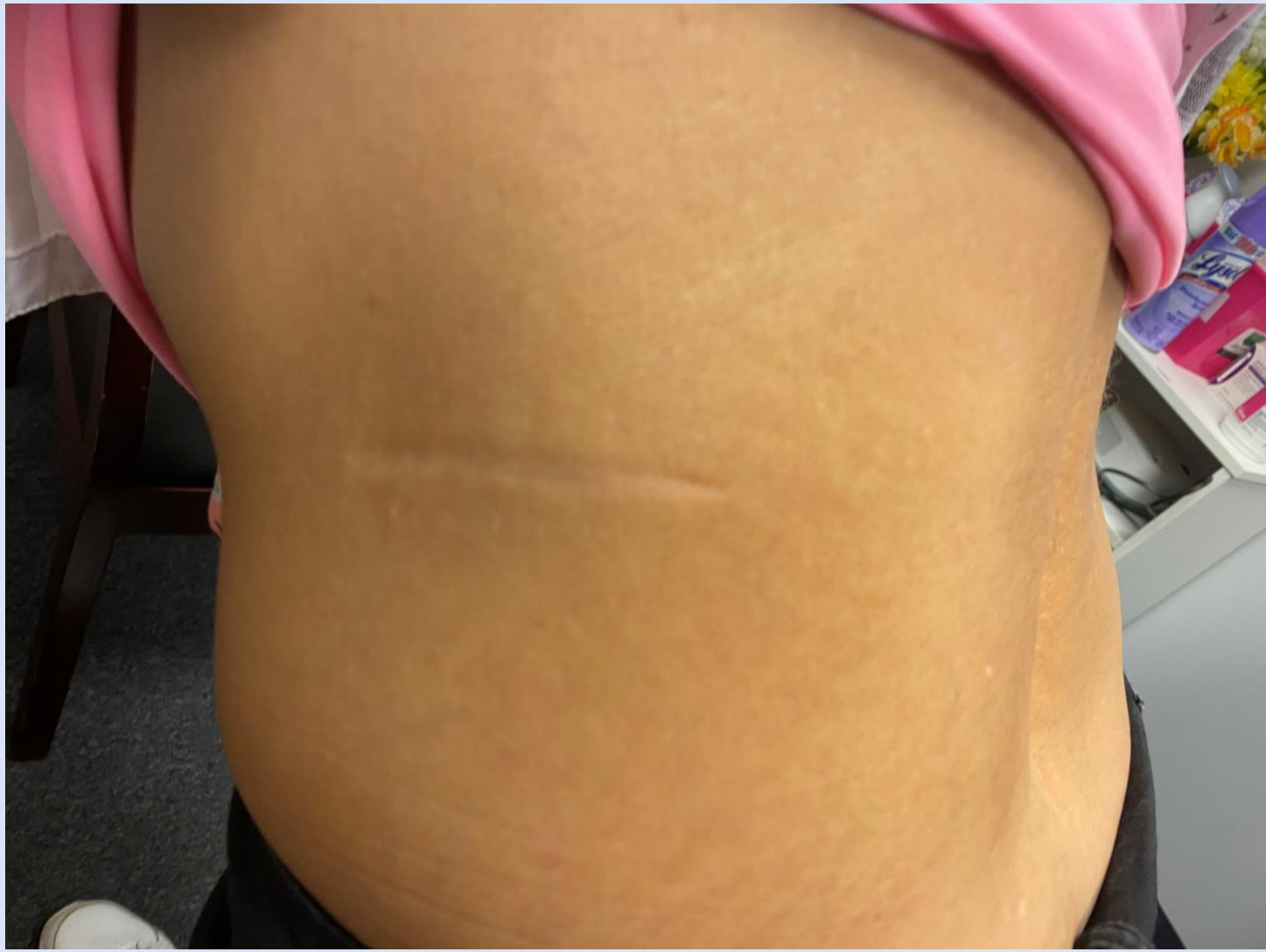
- Scars; ACDF or Posterior C, T or L , SIJ fusion
- Prior Diskitis/Osteomyelitis/IVDA – precise Hx
- Skin Herpetic Rash or other Rash, Burns
- Anterior Abd Approach to Lumbar-S spine/Fusion
- Newer SIJ Fusions techniques
- MYOPATHY getting up from chair/peds
- Focal Weakness vs Pain inhibitory Weakness
- Often Misunderstood Role of EMG/NCS (later)





L Laminectomy with Rods/Screws
S/P Chiari Malformation Decompression



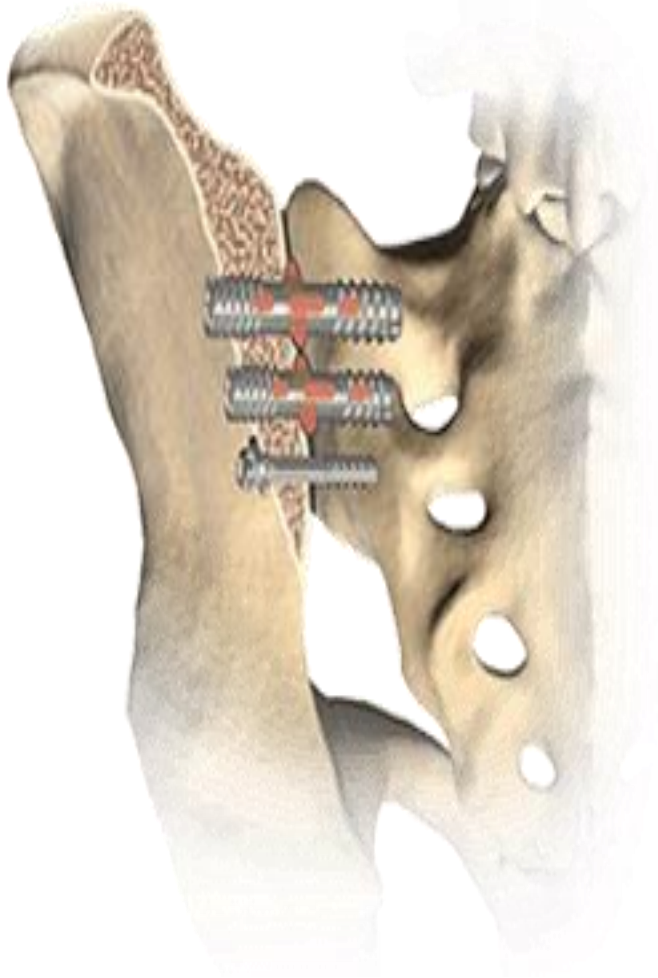


Six Previous Spine Surgeries. Posterior & Lateral Approaches.
RPH and lost a kidney – obviously no L HVLA, L-Roll?, myofascial,
Cranial release, counterstain, just don't extend supra-segmental

Newer Percutaneous SIJ Fusion Techniques

Done for Chronic SIJ pain under the assumption that mobility or hyper mobility is responsible etiology for pain.

-Side note about motion- analogy



Obviously, we would not thrust or use ME to try and move this Joint.

Reciprocal inhibition and ME for pubic symphysis –secondary issues.

Patient Name _____

Examiner Name _____ Date/Time of Exam _____

INTERNATIONAL STANDARDS FOR NEUROLOGICAL CLASSIFICATION OF SPINAL CORD INJURY

ASIA American Spinal Injury Association

ISCOS

MOTOR

KEY MUSCLES (scoring on reverse side)

	R	L	
C5			Elbow flexors
C6			Wrist extensors
C7			Elbow extensors
C8			Finger flexors (distal phalanx of middle finger)
T1			Finger abductors (little finger)

UPPER LIMB TOTAL (MAXIMUM) ☐ + ☐ = ☐ (25) (25) (50)

Comments:

a DO doing day to day OMT does not need to fill this all out.
OSM will do at least 1-2 minus rectal

L2			Hip flexors
L3			Knee extensors
L4			Ankle dorsiflexors
L5			Long toe extensors
S1			Ankle plantar flexors

(VAC) Voluntary anal contraction (Yes/No) ☐

LOWER LIMB TOTAL (MAXIMUM) ☐ + ☐ = ☐ (25) (25) (50)

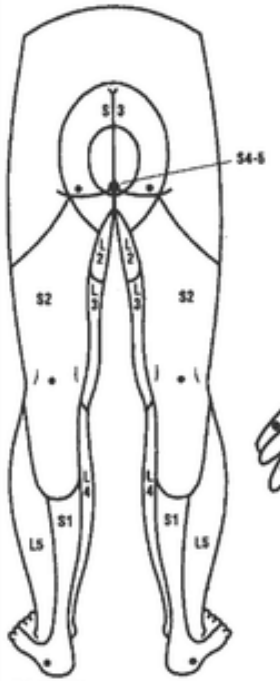
SENSORY

KEY SENSORY POINTS

	LIGHT TOUCH R	LIGHT TOUCH L	PIN PRICK R	PIN PRICK L
C2				
C3				
C4				
C5				
C6				
C7				
C8				
T1				
T2				
T3				
T4				
T5				
T6				
T7				
T8				
T9				
T10				
T11				
T12				
L1				
L2				
L3				
L4				
L5				
S1				
S2				
S3				
S4-5				

TOTALS (MAXIMUM) (56) (56) (56) (56) ☐ + ☐ = ☐

0 = absent
1 = impaired
2 = normal
NT = not testable



• Key Sensory Points

(DAP) Deep anal pressure (yes/No) ☐

PIN PRICK SCORE (max: 112) ☐

LIGHT TOUCH SCORE (max: 112) ☐

NEUROLOGICAL LEVEL
The most caudal segment with normal function
SENSORY R ☐ L ☐
MOTOR R ☐ L ☐

SINGLE NEUROLOGICAL LEVEL ☐

COMPLETE OR INCOMPLETE? ☐
Incomplete = Any sensory or motor function in S4-S5
ASIA IMPAIRMENT SCALE (AIS) ☐

(In complete injuries only)
ZONE OF PARTIAL PRESERVATION
Most caudal level with any innervation
SENSORY R ☐ L ☐
MOTOR R ☐ L ☐

REV 04/11

Borrowed from SCI Medicine

-Standardization like INR

-Do not need to do Complete vs Incomplete as in SCI

-Pin Prick is most important

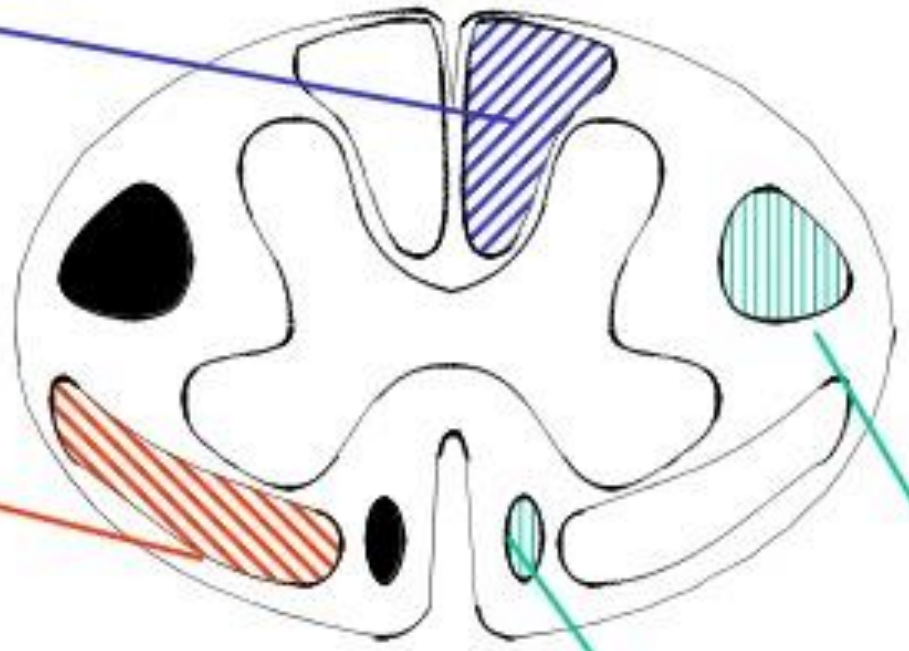
-Ease of Documentation

"Neurosensory examination is intact for pinprick, light touch and 128Hz vibratory to the major ASIA points to the upper and lower extremities"

"Neurosensory examination is absent pinprick to Left L4 and L5 ASIA points with 3/5 MRC scale Left L5"
(AKA – partial foot drop)

Spinal cord section

- Posterior (dorsal) column ipsilateral (crosses at medulla)
  - proprioception
  - vibration
- Spinothalamic tract contralateral (crosses at spinal level)
  - pain **PINPRICK**
  - light touch
  - temperature



- Motor supply
  - Anterior corticospinal
  - Lateral corticospinal

Why does it all come down to pinprick? (previous slide)

Why is the anterior horn cell so much more important?

If you had to surrender a section of the cord on a coronal slice, what would you give up?

4 cars and the phone pole analogy

Often Misunderstood Role of EMG/NCS -

EDX is an extension of the Neuro MSK Ortho Exam.

- Normal EDX examination does not rule out sensory irritative radicular or peripheral nerve pain and does not have diagnostic value in terms of discogenic or posterior element/facet pain. This simply means there is no ongoing denervation, severe damage or motor unit reorganization.
- Normal NCS does not rule out small fiber neuropathy or severe radiculopathy (with exception)
- Central/Myelopathic weakness and poor effort are not discernable/diagnoseable with needle EMG and NCS will be normal (except in some cranial NCS)
- EMG in isolated Osteopathic Dysfunction, OA, Synovitis, will be WNL

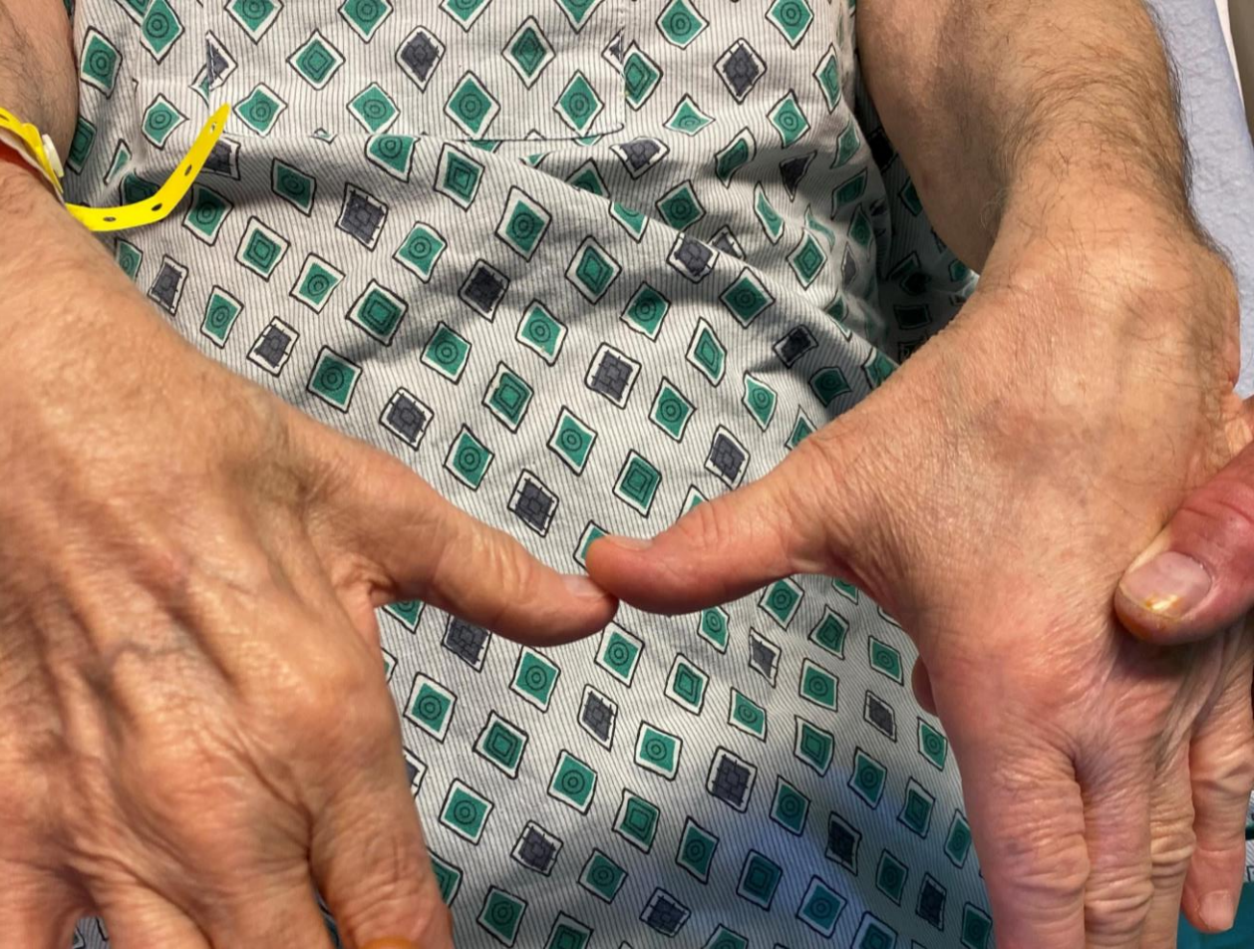
Upper Motor Neuron Findings

- Upper Extremities
- Lower Extremities
- Known etiology
- New Onset?
- Progressive?
- Chronic – Known?
- Advanced Imaging and/or Referral

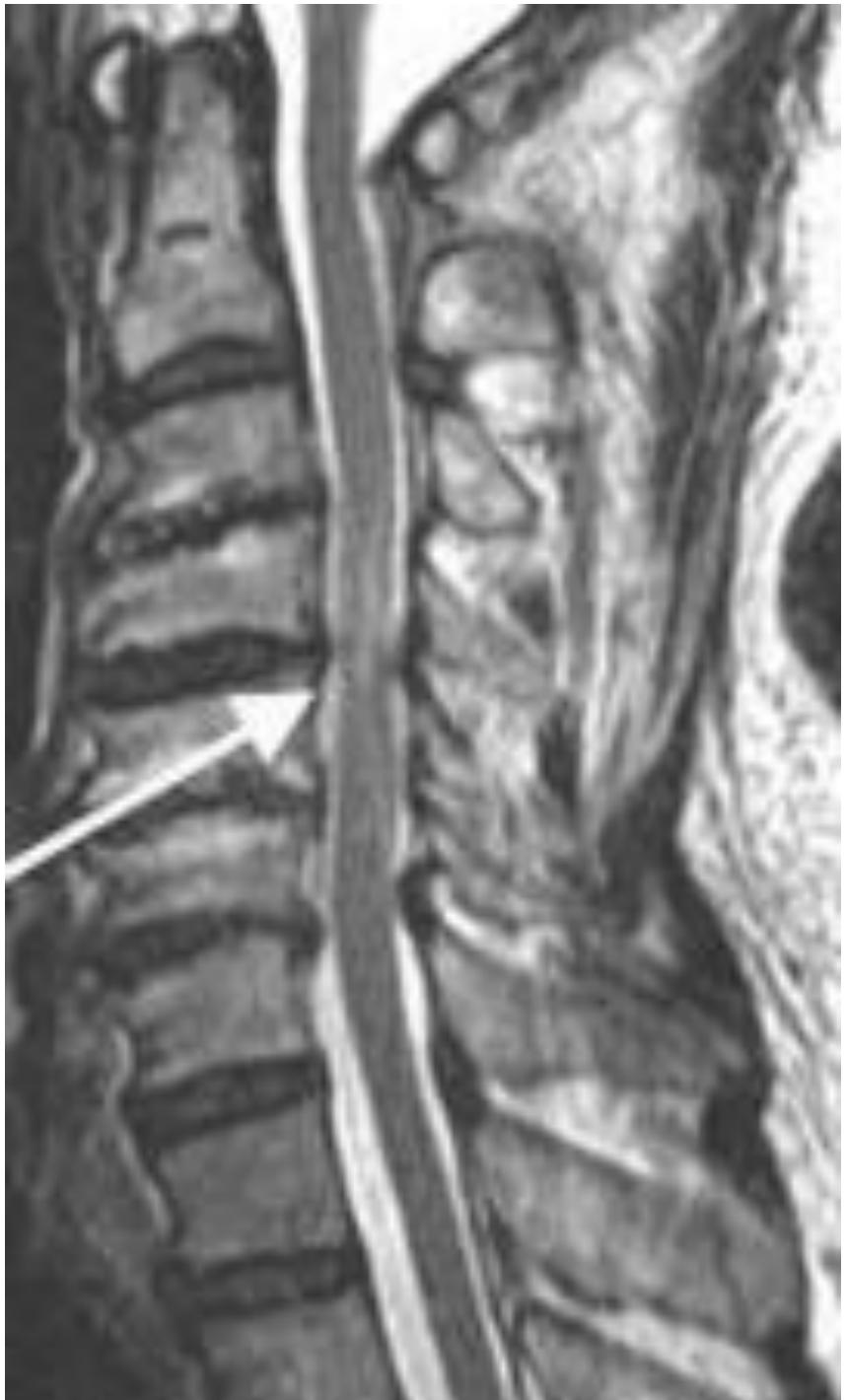
- Crossed Adductor Exam
- Clonus Upper
- Clonus to ADF
- Werding-Hoffman
- Babinski
- Caddock sign (lat malleolus)
- Moniz sign (opposite of ADF)
- Oppenheim sign
- Synkinesis
- Co-contraction - Spasticity

Good video

Marginal video



Sent from Ortho
for EMG/NCS
Suspected CTS

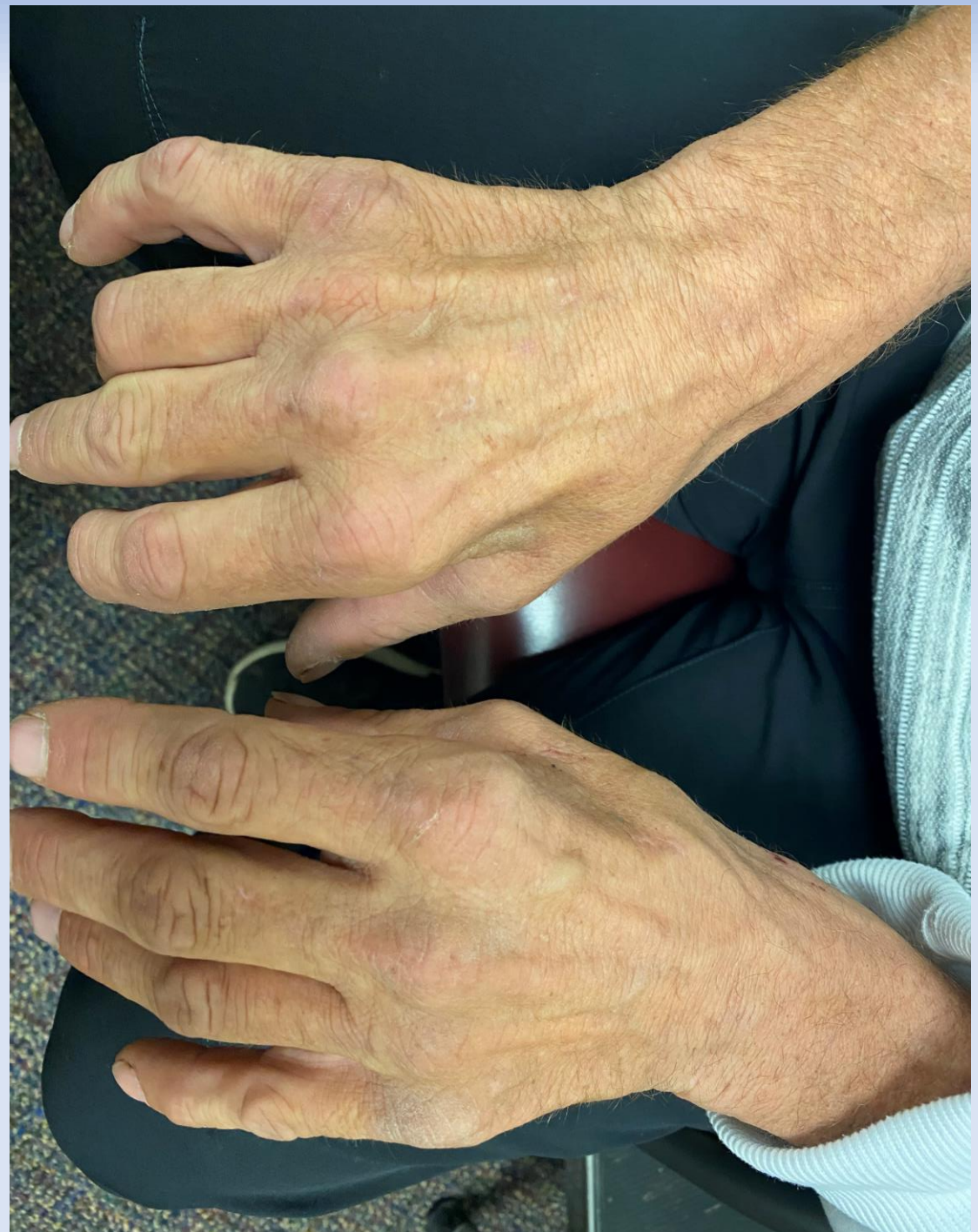


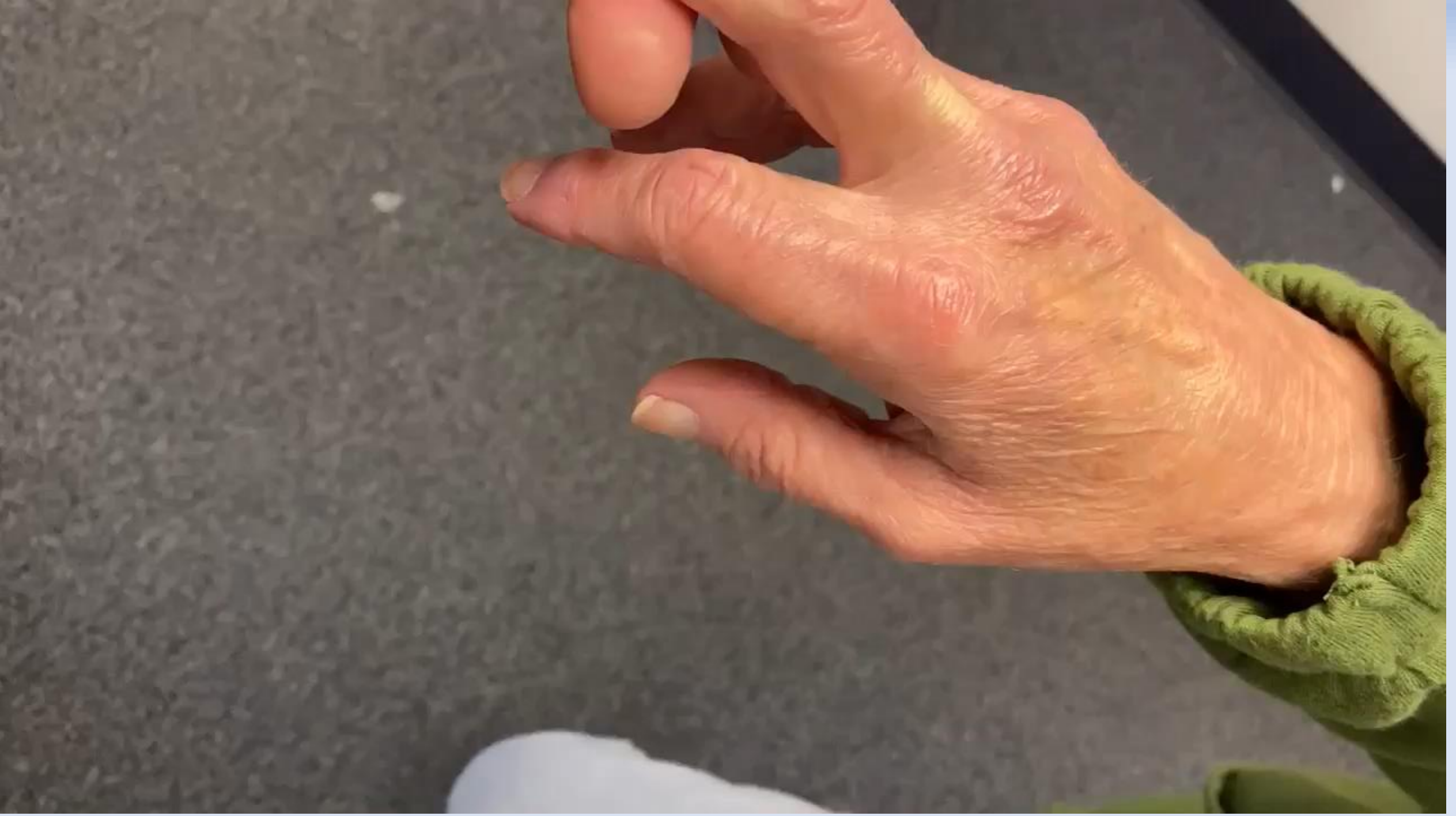
LMN Atrophy, C Myelomalacia

(H_2O, *T2*, *Water-White*, W^2)

Werding-Hoffman
Sign
Upper extremity
Upper Motor Neuron
Finding

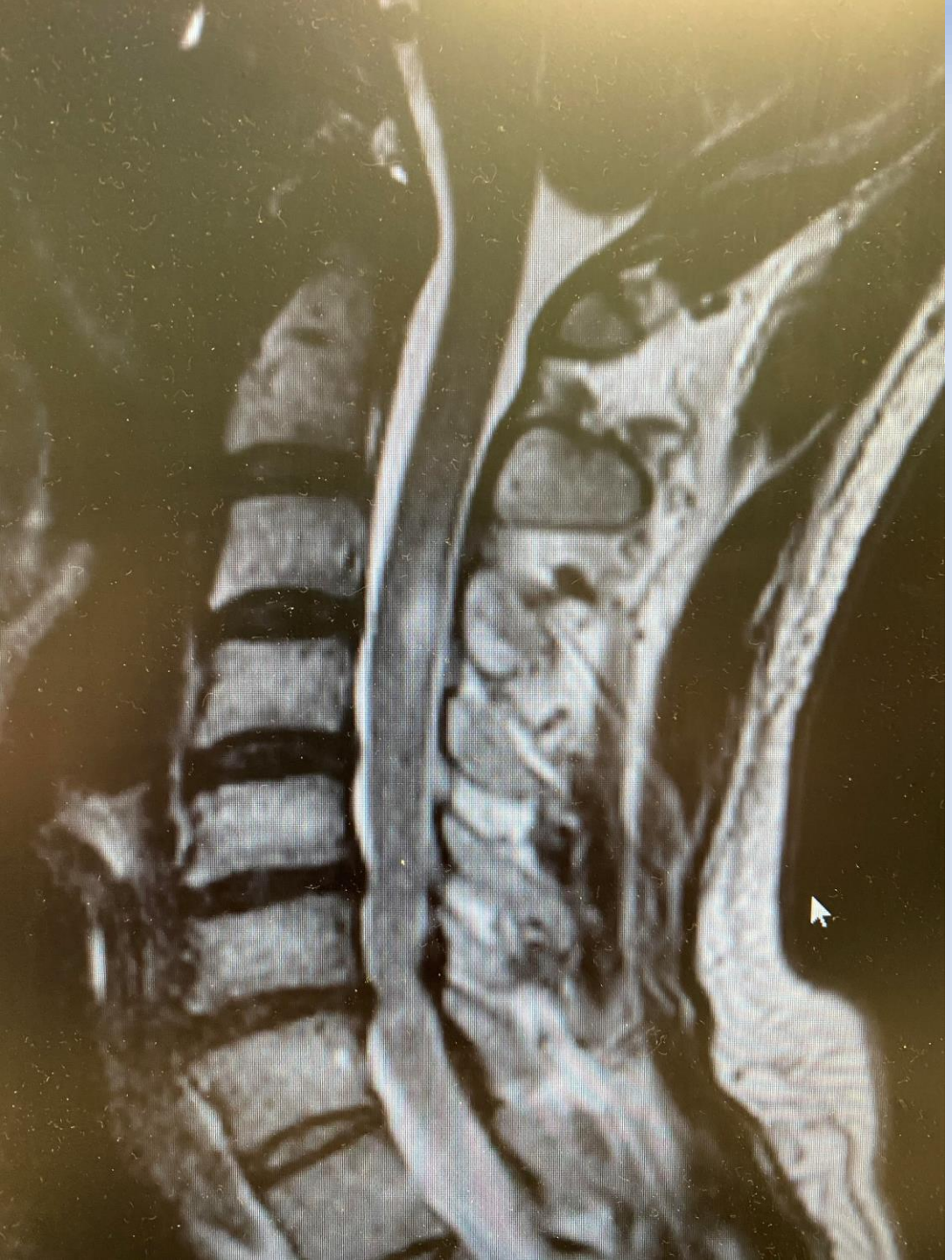
(video next side)

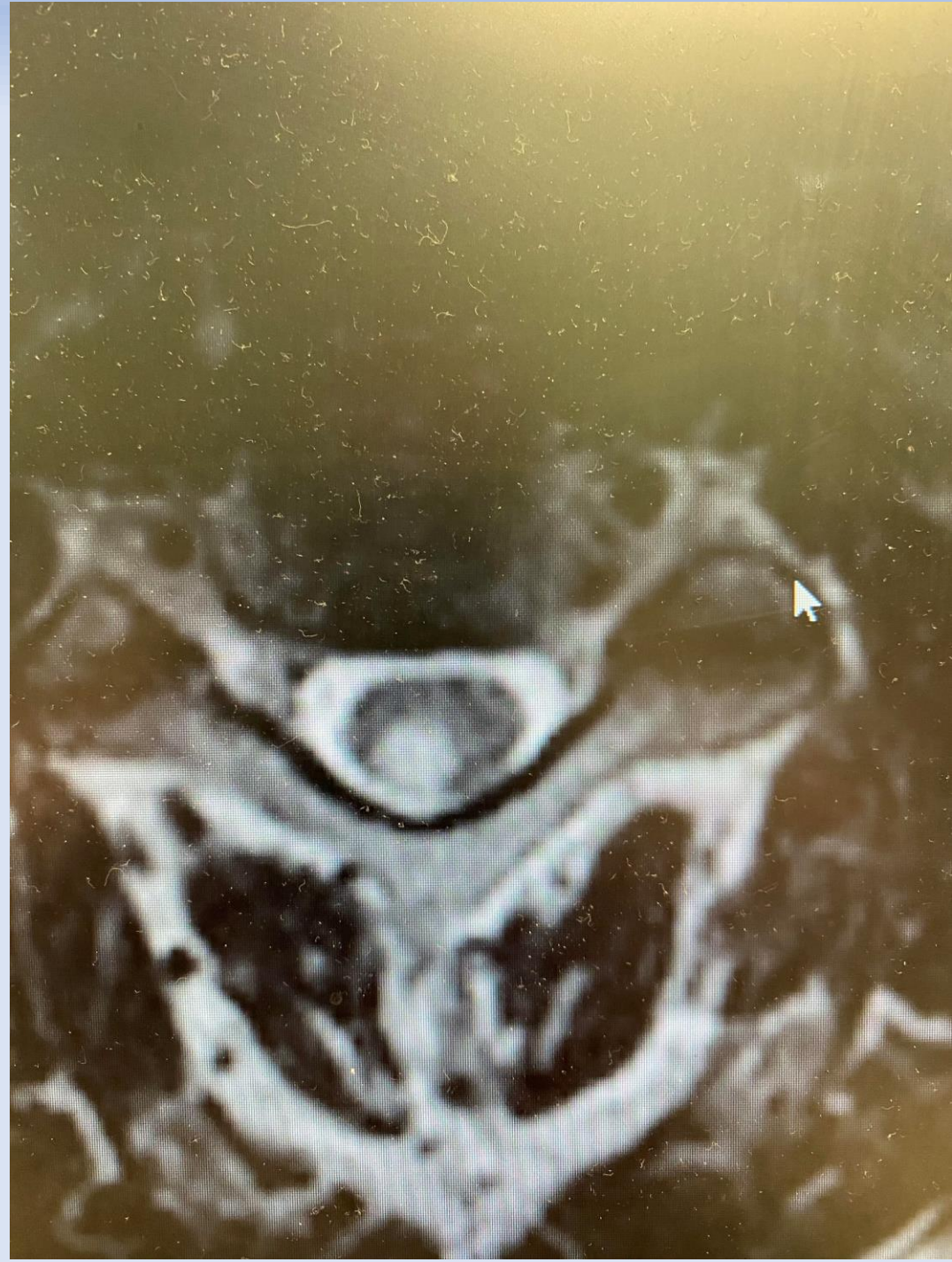


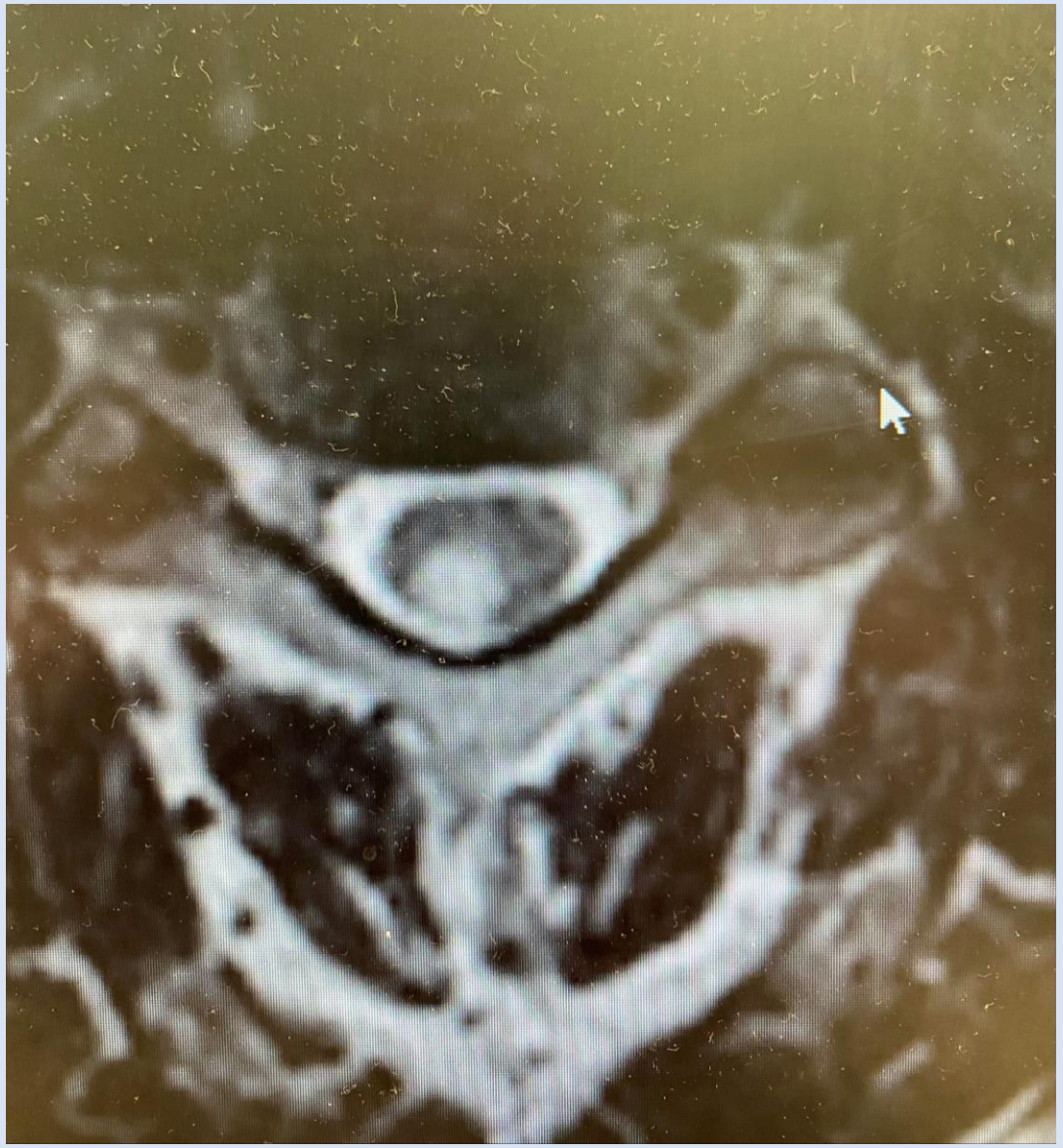


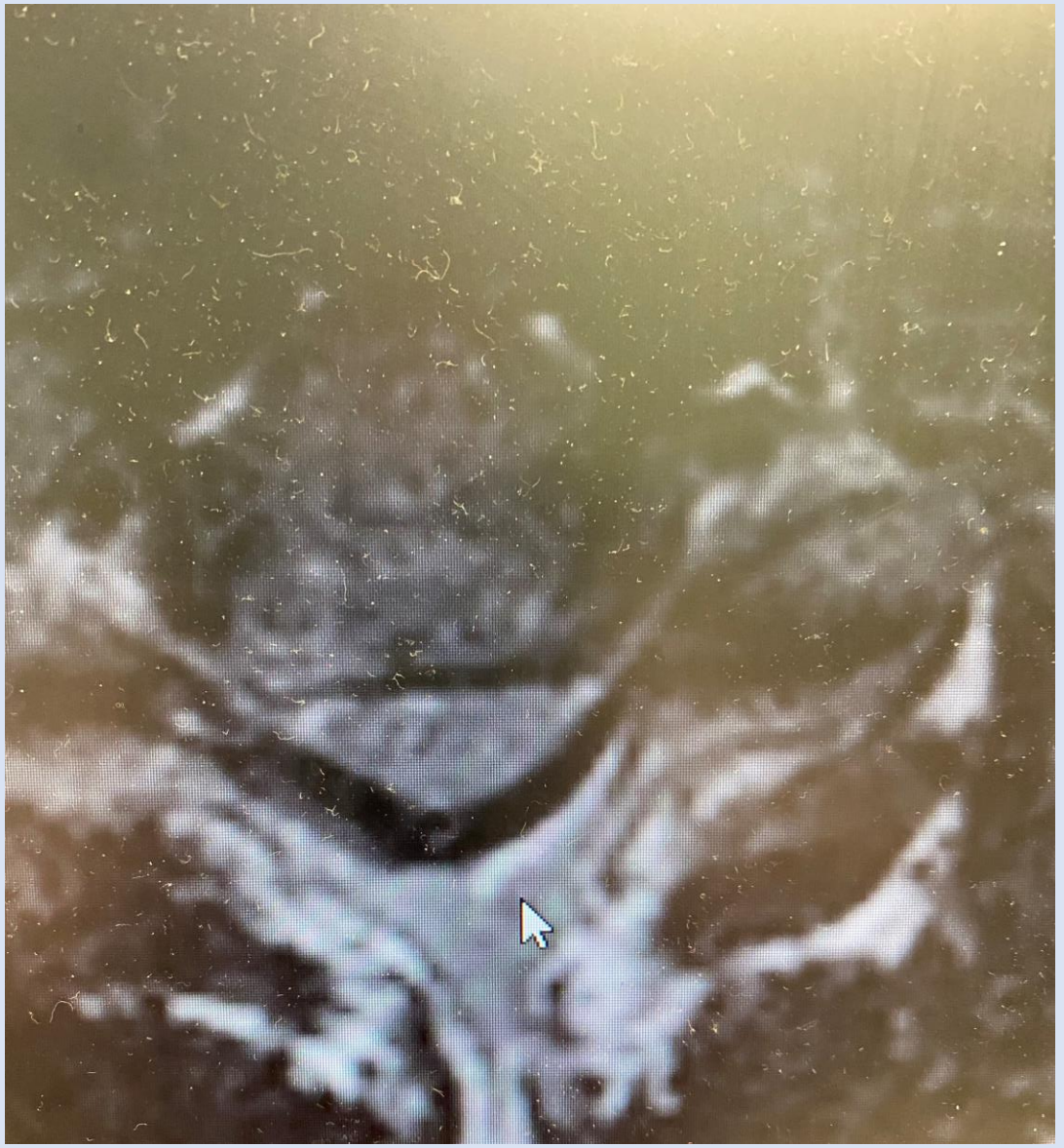
While awaiting MRI, 6 day f/u he is upset - crying. Went to “Dollar Tree” store, dropped change and couldn’t handle bags and coins. “I kept trying and fumbling, this girl behind the register came around the counter to come over to help me and she was so sweet and so kind said she was a nursing student and she went to stuff the change in my pocket, but it was all wet. Just then I looked down and I had ‘pis—ed myself’ ”

Nursing student -> “I think You should call your doctor”







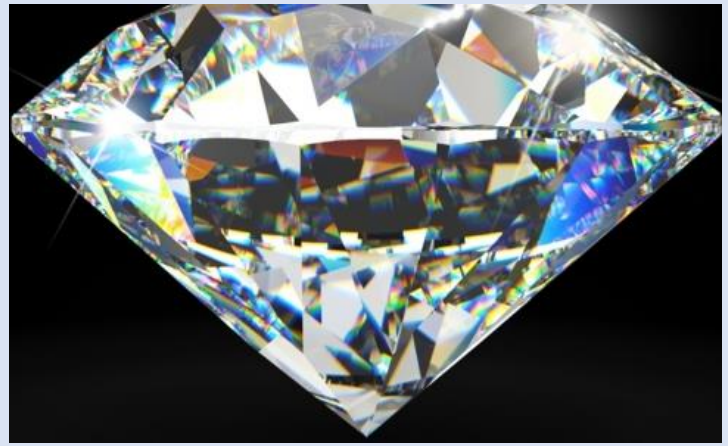


Any patient with newly diagnosed upper motor neuron findings needs expedited referral for further work-up and is probably best not treated with manual medicine until a formal diagnosis of a stable condition or intervention of the underlying etiology of the upper motor neuron finding is addressed/understood and/or found to be stable.

Subsequent OMT techniques will be based on the etiology of the upper motor neuron findings and whatever treatment was required.

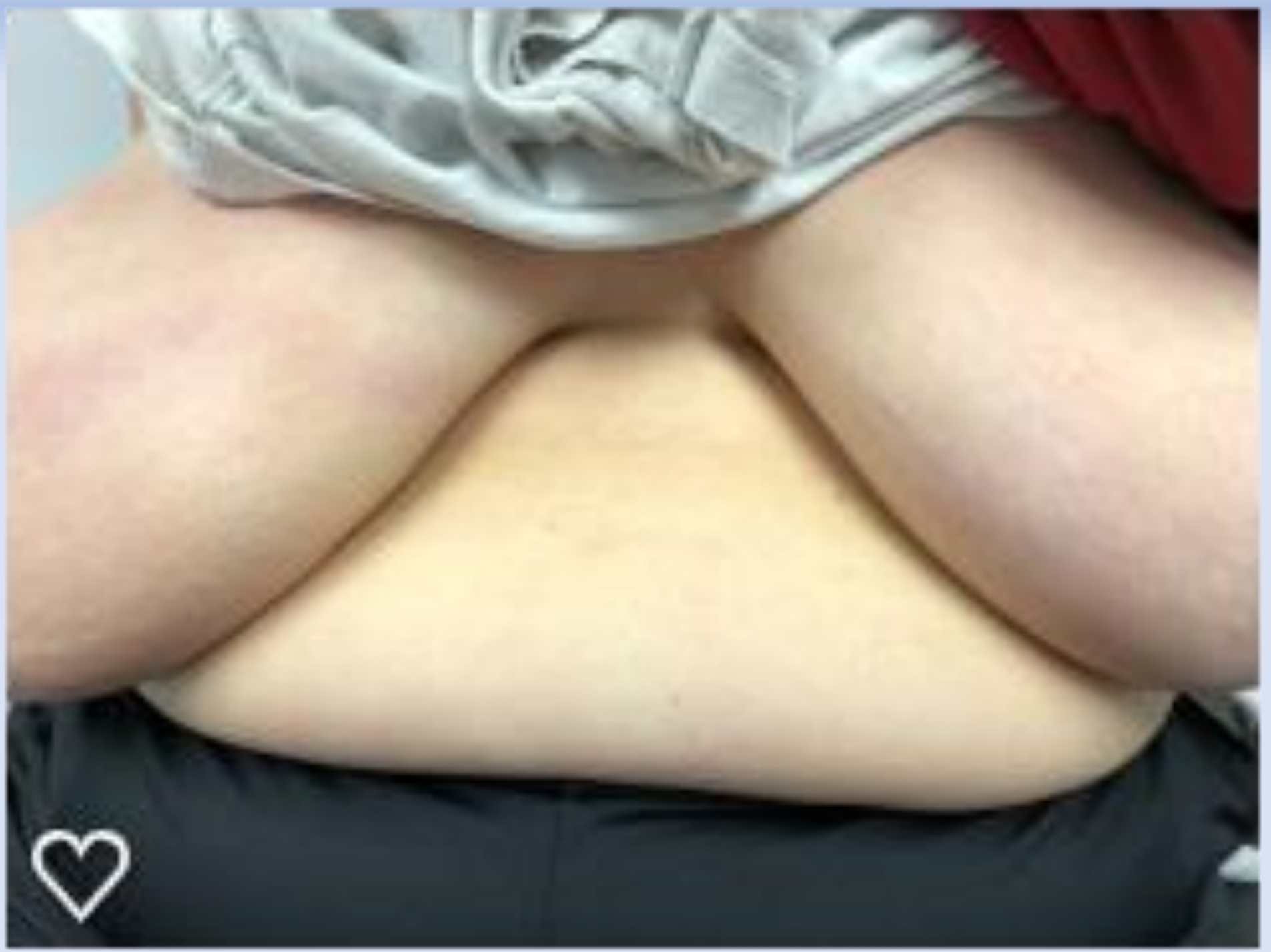
Pearls? -Diamond: Severe peripheral neuropathy – regardless of etiology, will NOT manifest upper motor neuron findings due to absent afferent loop. MSR's will NOT detect critical C or T stenosis w myelopathy of ANY etiology if there is afferent block. Longstanding IDDM + Critical C- stenosis- MSR's (DTR's) 0/4

You will only ever see one of three different patients.



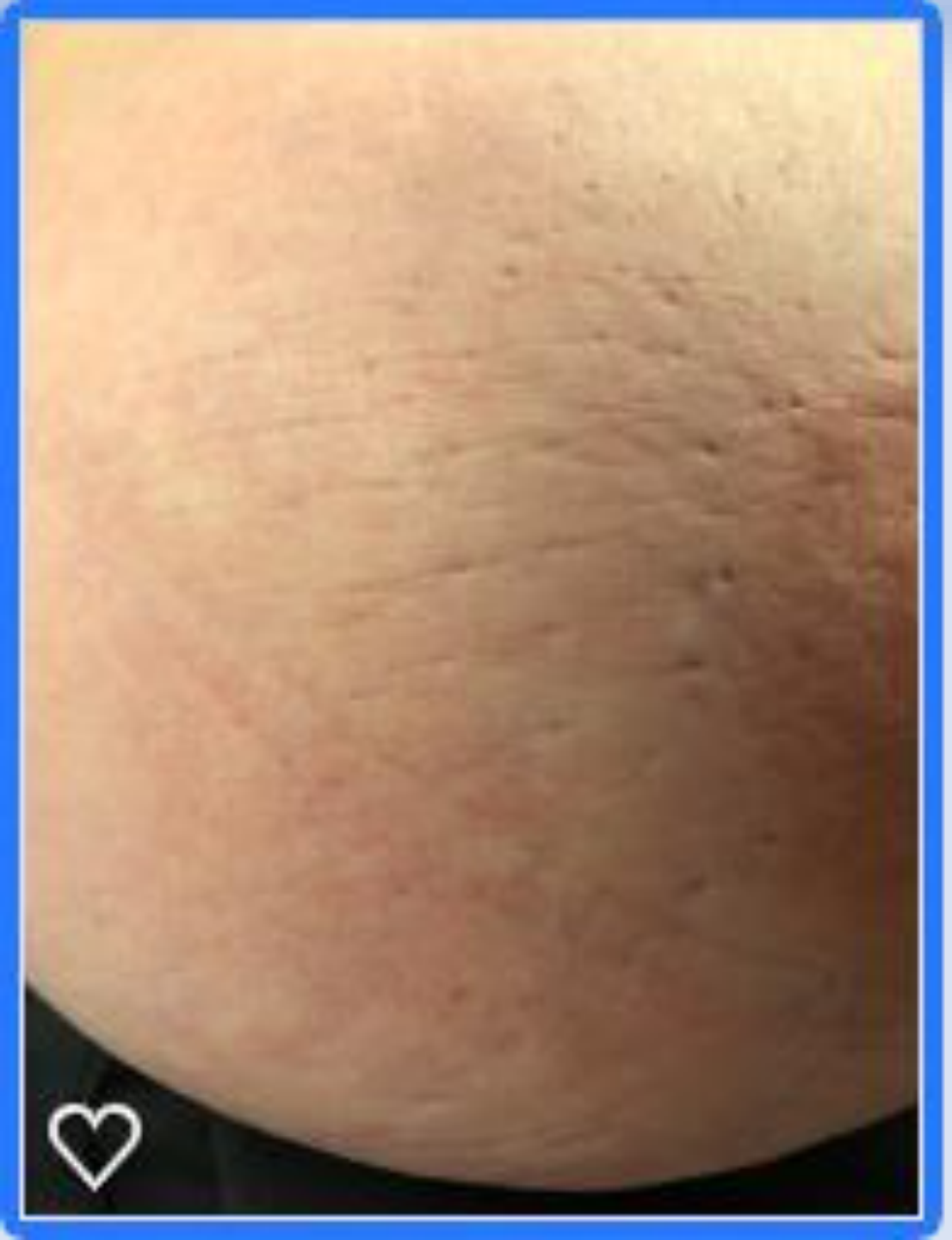
VIN: -> Hence you cannot detect myelopathy on physical exam with severe peripheral neuropathy

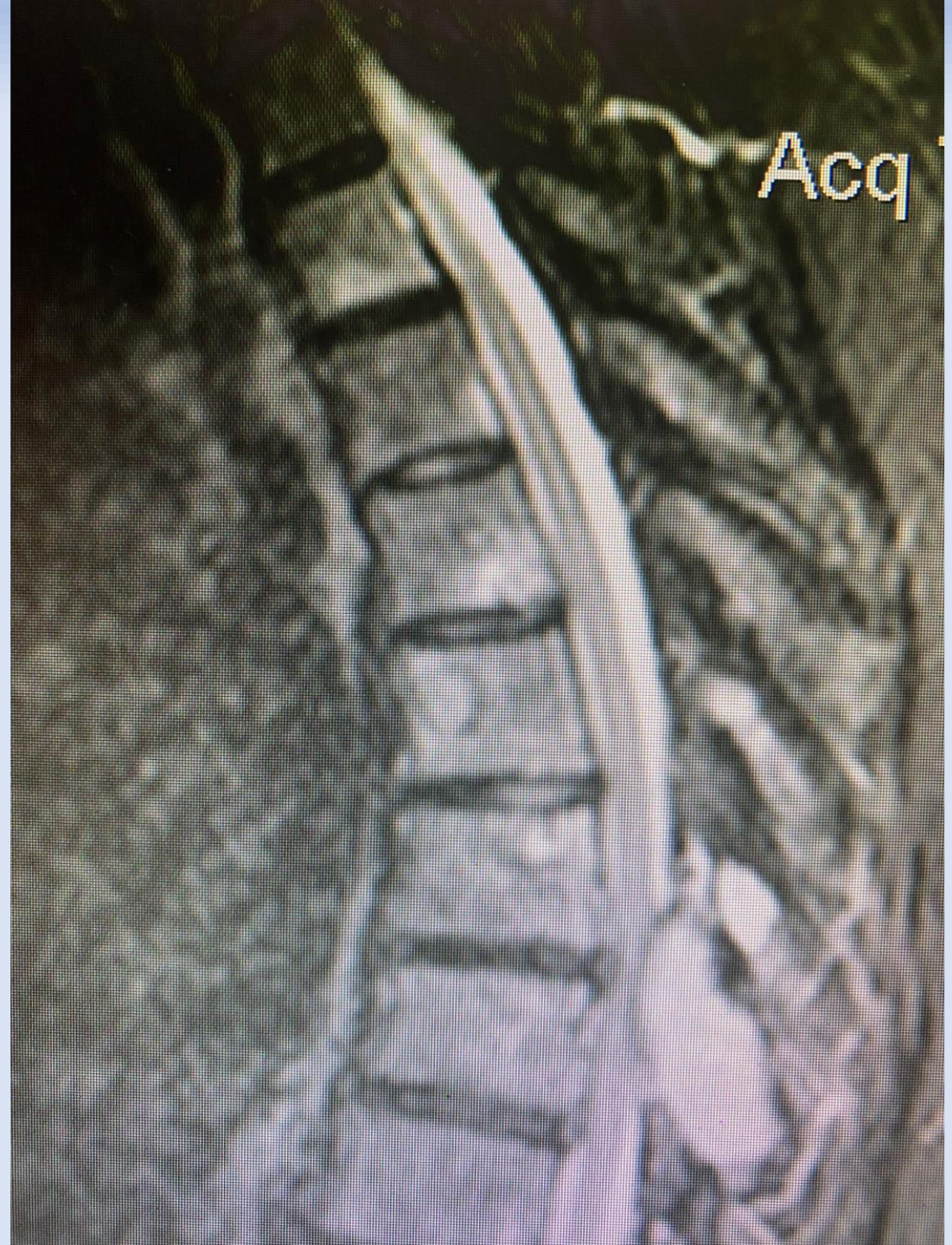
65 y/o RHD female 185 lb 5’9” 98.6 137/66 98% RA
Referred for “fibromyalgia” thoracic pain.
“You used to pop and do shots for my sister”
Non-smoker. Mild HTN
Parents died in their 60’s from “heart stuff”
Brother “doesn’t live around here”
Admits to some rib pain wrapping around the right.
Some GI upset – tums and “belly pain”
Remote hx of perc Cholecystectomy, no N/V/D, BM’d formed
Right side ribs and flank- UA neg
“My family doc has been after me to get a colonoscopy”



“Let’s take a peek at your back and make sure you don’t have any rashes you don’t know about”

“Let me look around the side where it’s hurting and make sure you don’t have shingles”

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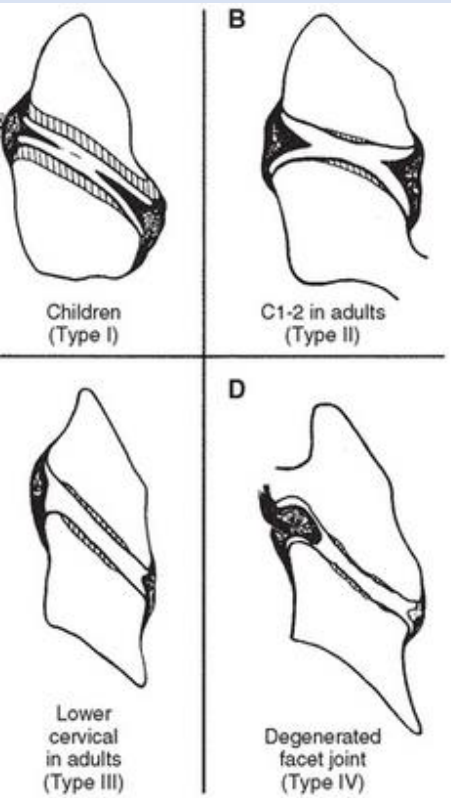
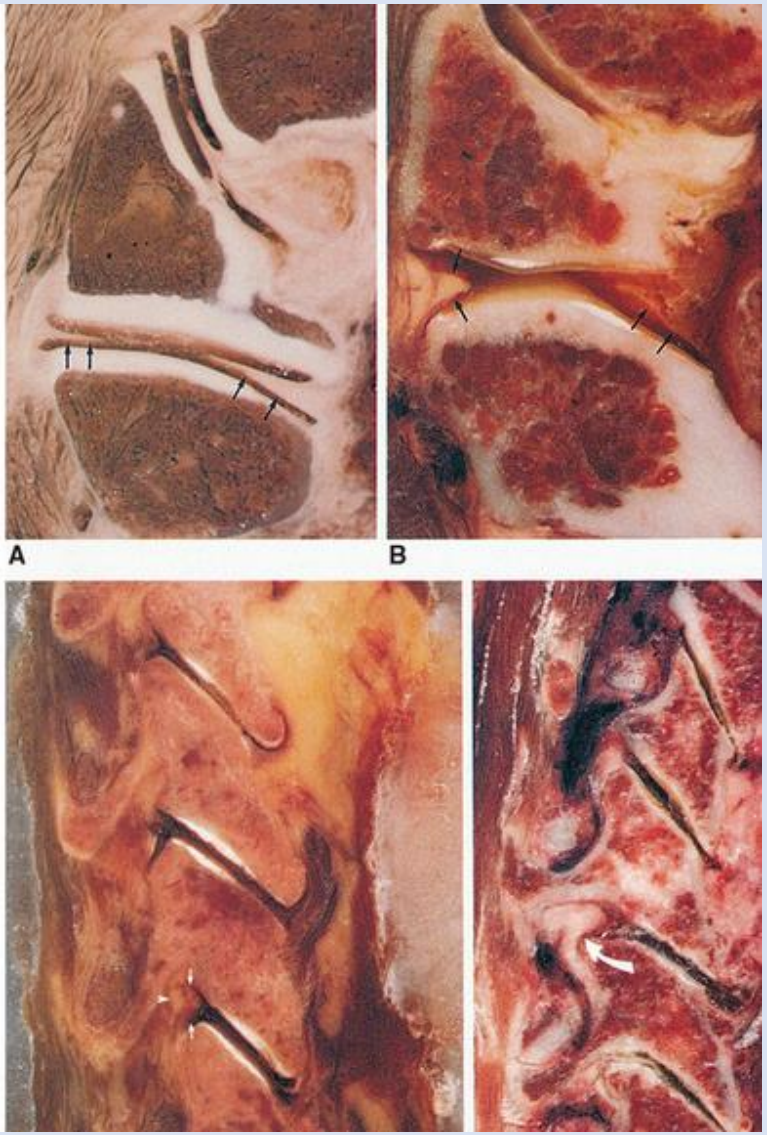
Spine-Based OMT requires us to discuss facet joints





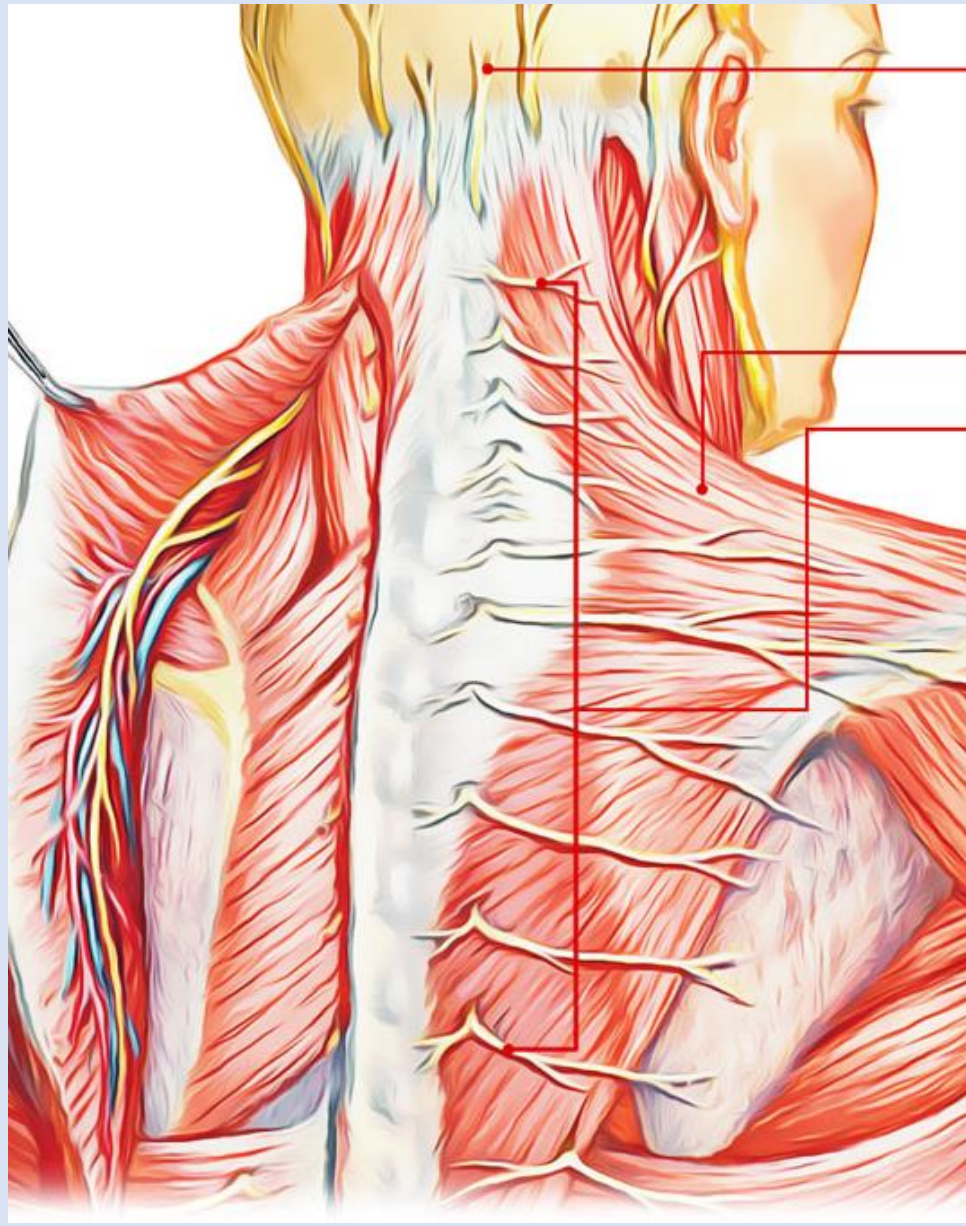
- Facet Joint Internal Anatomy is often oversimplified in atlases.
- True Synovial Joint, with menisci, synovial fluid, cartilage and end-plates.
- Joints of Luschka – med/lat stability
- Competing theories on articulatory benefit, central processing at the cord and higher levels
- Sound generation etiology?
- carefull @ sound generation expectation
- Microtrauma? Synovial Fluid?

Basic Thoracic Mobilization

- Where most medical schools start
- If you had to pick one treatment
- “Kirksville Crunch” – “Crunch Bunch”
- Single Biggest Bang for the Buck
- Gratifying. F.U.E.L. acronym
- 2+ thenar positions, rostral to caudal
- Towel/pillow rolls – underused
- TRACTIONAL technique variation
- Thoracic dysfxn / “fibromyalgia”
- Teach HEP Corner stretches
- Mid respiratory cycle, not exhalation
- Easiest & Safest but Random/Imprecise
- Potentially “dis-elegant”
- Often does not get Primary Lesion
- If using Muscle energy- commonly done seated – axially loaded spine
- Ribs usually correct with Thoracic correction
- Upright Hug variant – very non-Precise
- Lateral C7-T1 variant – s/p CABG 2 reasons
- Seldom gets the “Golden C7-T2”
- Prone C7-T1-2 – lip, E is Thoracic
- Knee extension technique – be gentle
- “Chesty”

Thoracic Pain, Pre-OMT, Fibro considerations

- Bear in mind the soft tissues
- Is it an acute event? Chronic Ischemic? Depo v Lido
- Preparation for HLVA/ME
- Lidocaine greater motor block than Marcaine
- Trigger Point Injections definition vs Motor Point Blocks and their + effect on manual medicine
- Rationale Behind Corner Stretches
- What I was told critically in Med School about
- “Those old-school DO’s putin’ hot packs on em’ goin’ seein’ another patient then comin’ back and just crunchin’ em’ ”
- Maybe it’s not only not such a bad idea, but maybe it’s a very good idea.

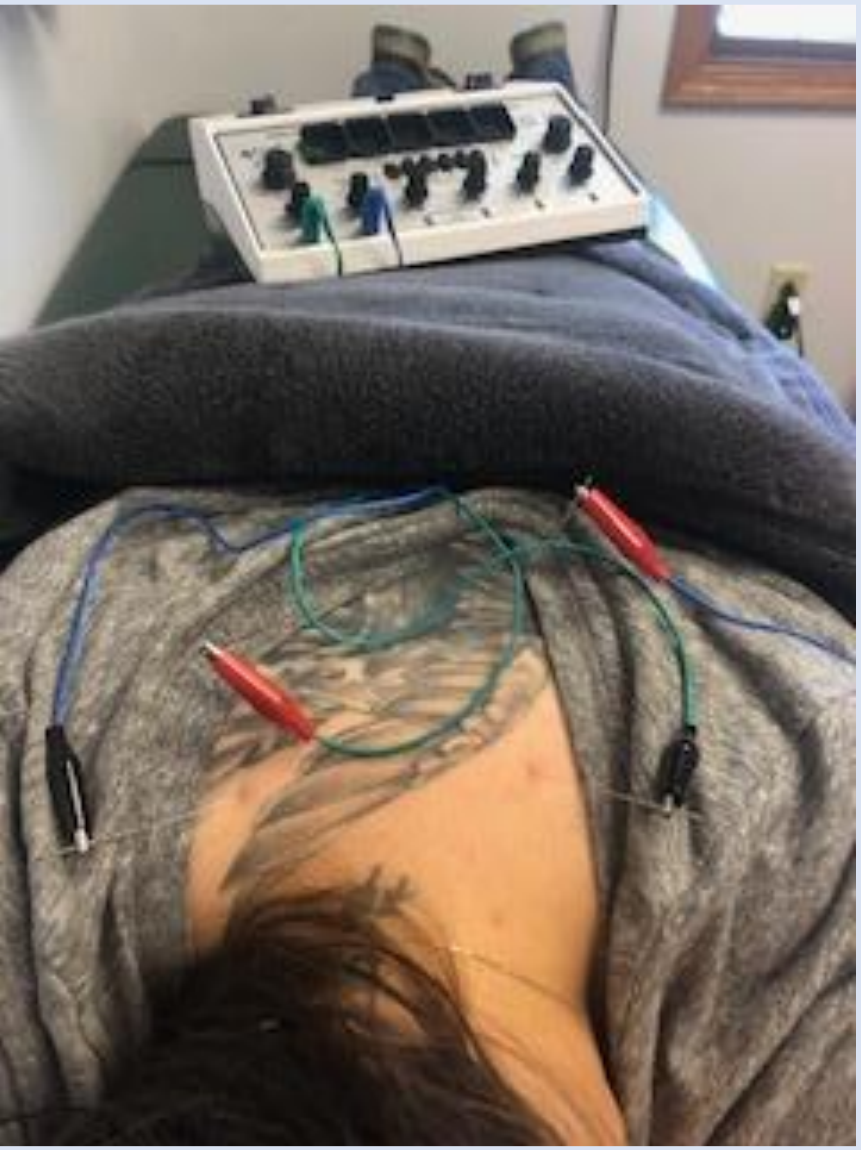


“Hydrocollator” – Pre manipulation and as a Passive Modality
Decreased pain, spasm, & reduced guarding – makes HLVA less traumatic

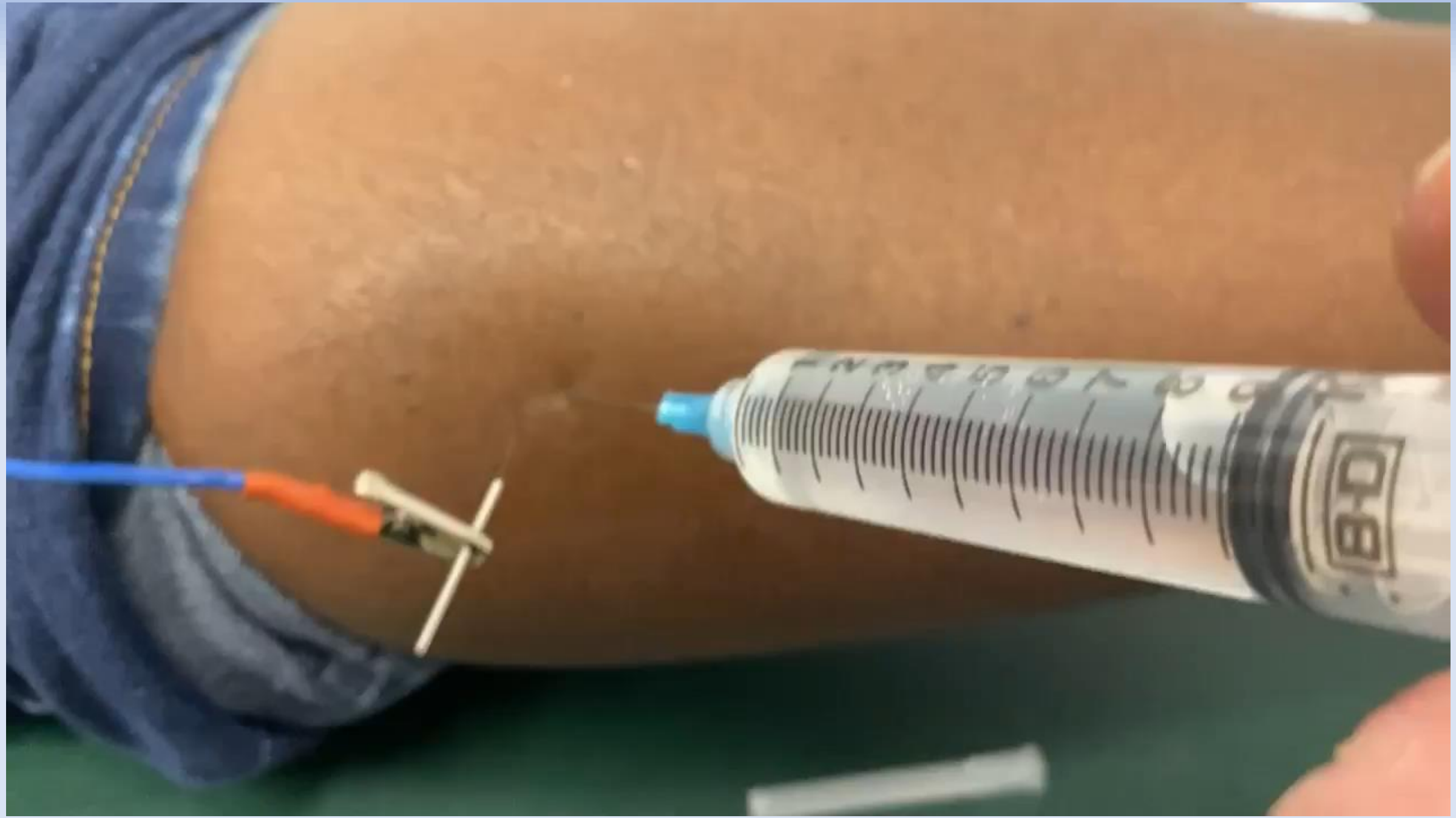
Similar to Dermatographia relaxes patient – establishes trust CPT 97010
Gives me a minute to think, review chart/labs etc. “Those old school docs”

Basic Thoracic Mobilization – “Kirksville Crunch”
More than one thenar position. F.U.E.L.

OMT and the Battle of Long-Term Myofascial Thoracic pain without constant use of deposteroid.



- ***Treating the Myofascial COMPONENT of the pain syndrome***
- Average Chronic Myofascial/"fibromyalgia" patient
- Patient apt frequency expected vs. needed
- Apipuncture / Apitherapy (venom vs. live bees)
- D50 (Dextrose 50% carboject amp and vial)
- EAP electroacupuncture
- Sarapin pitcher plant extract – availability issues
- Bicarb (IA) most Dz states are acidotic - locally
- Lidocaine/Marcaine
- Pumice stone extract
- Phenol … unforgiving – cannot take back
- Botox $
- Twitch Response Technique, 2% lido w/o epi cheap, but time-consuming and operator dependent, PneumoTx Risk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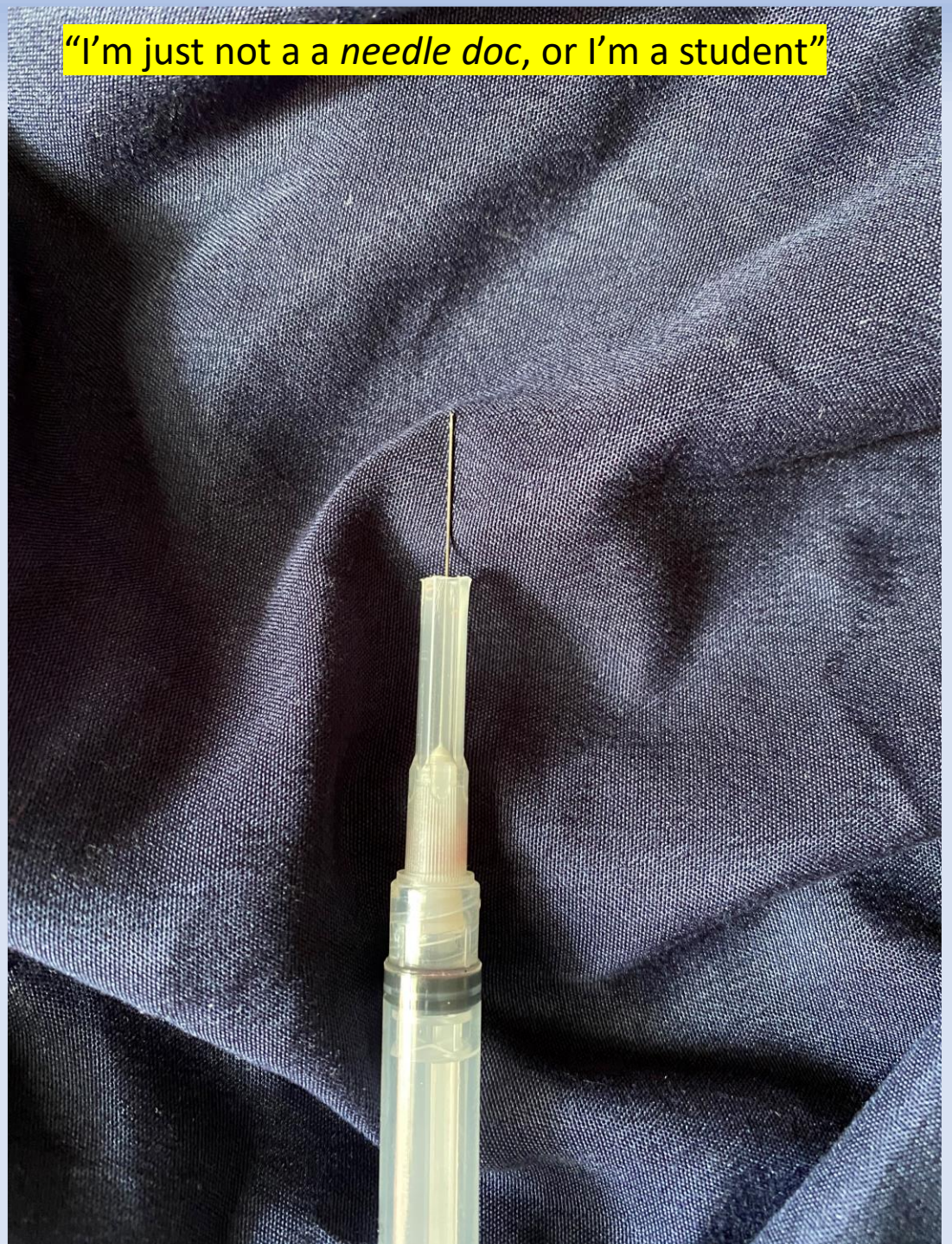

“I’m just not a a *needle doc*, or I’m a student”

Dogma? “We never use creams or skin lubricant”… ok, why?
Topical treatments alone or in conjunction with therapeutic ultrasound. 0.0 - 2.2 watts/cm2
Pulse and non-pulse mode

3:1 ratio, (v/v)
Aloe Vera – EMG gel
“Menthol Based Substrate”

Myofascial along PSM’s

Save and protect your hands

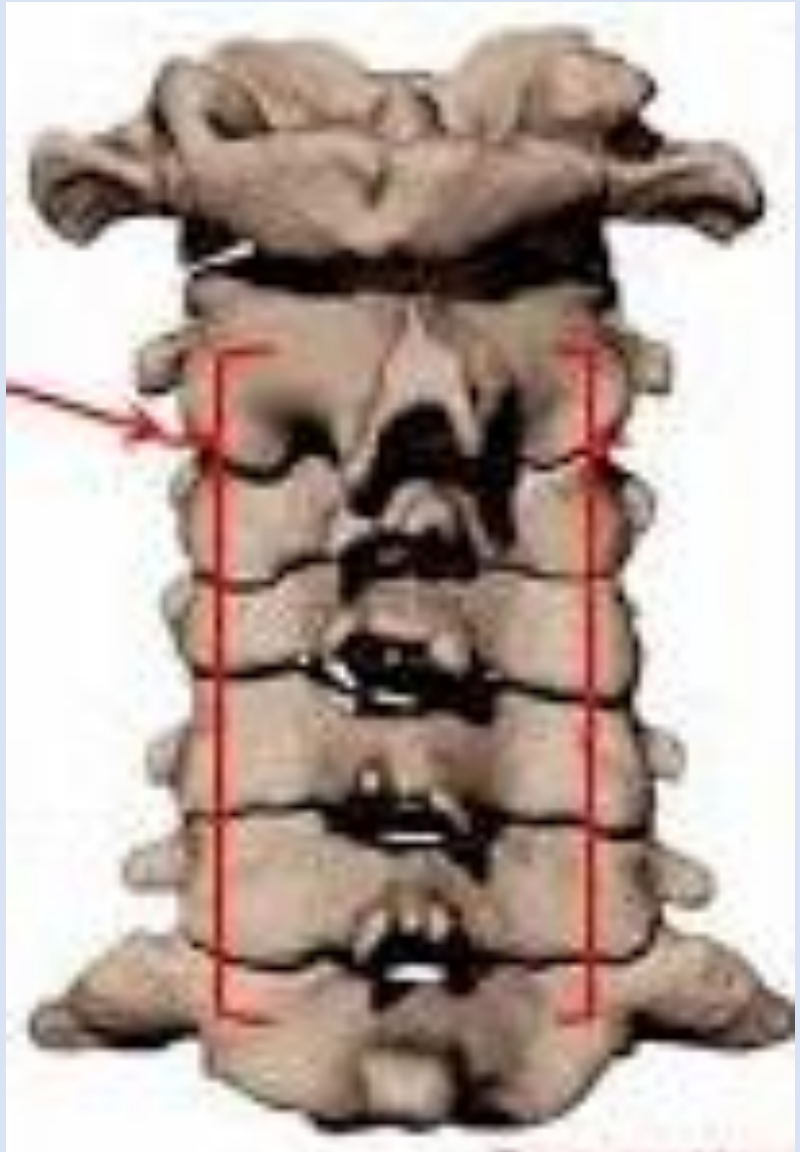
Glass local Anesthetic Bottle
50ml
Smooth stone

Time-consuming – train staff

Safe. Practice Builder – prep for articulatory techniques

CPT code 97035 for US. Regional OMT 98925-7

Basic C-Spine - Initial Palpatory Set-Up.
YOUR finger Pads rest on their Cervical Pillars



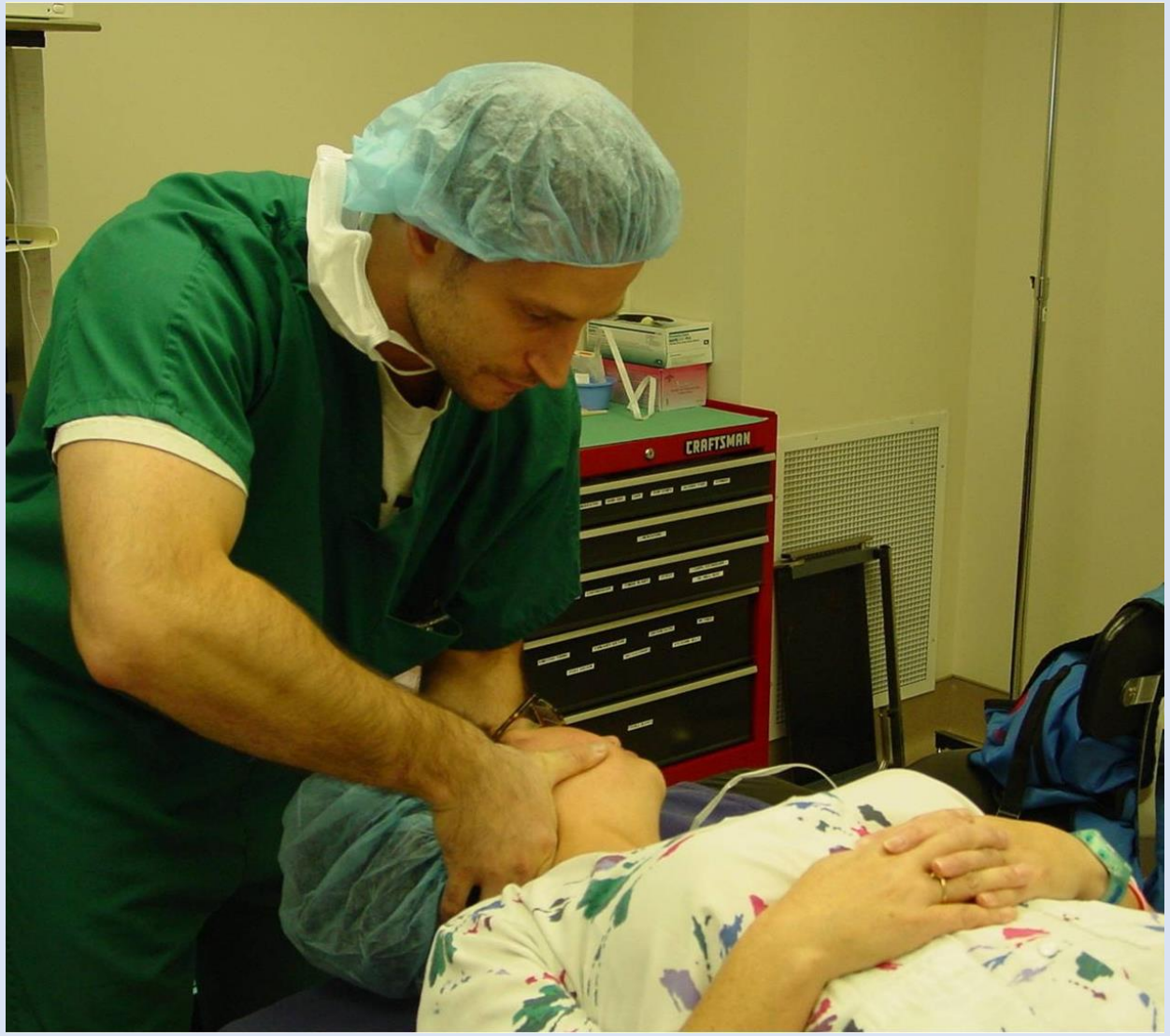
Gently Lift – just to engage your pads on deeper palpation.
The gentle almost rhymical side to side rocking 10-12x
Take your time and you will notice asymmetry.
Pay attention to what you notice and what you feel releases – your subconscious will register it as a dysfunction

Basic Cervical Spine Mobilization

- Take a step back from Fryette Mechanics
- Palpate C Pillars first – lift ½”
- Look Straight Down, work side/side
- Start with Side bending ONLY
- “Tip Towards – Turn Away”
- Avoid Extension
- Short and Long Lever techniques exist along a spectrum
- Anterior pillar technique - carotid
- Not getting OA/AA, usually not C2/3 either
- Direct and Indirect Releases
- Transition to Suboccipital release, CV4
- “Nudging” is ok - bilaterally.
- 30-millisecond delay on H reflex (NCS)
- Double Nudge to Thrust during “repolarization” phase
- This Dr has found little utility in direct AA/OA trust techniques – ME, Resp A
- “I know you didn’t hear it pop, but it’s ok, it moved. You’re lined up”
- if they really are, if they are not, then go back- nudge indirect release then back and forth again

Next. Gentle Side-Bending and back & forth “averaging”

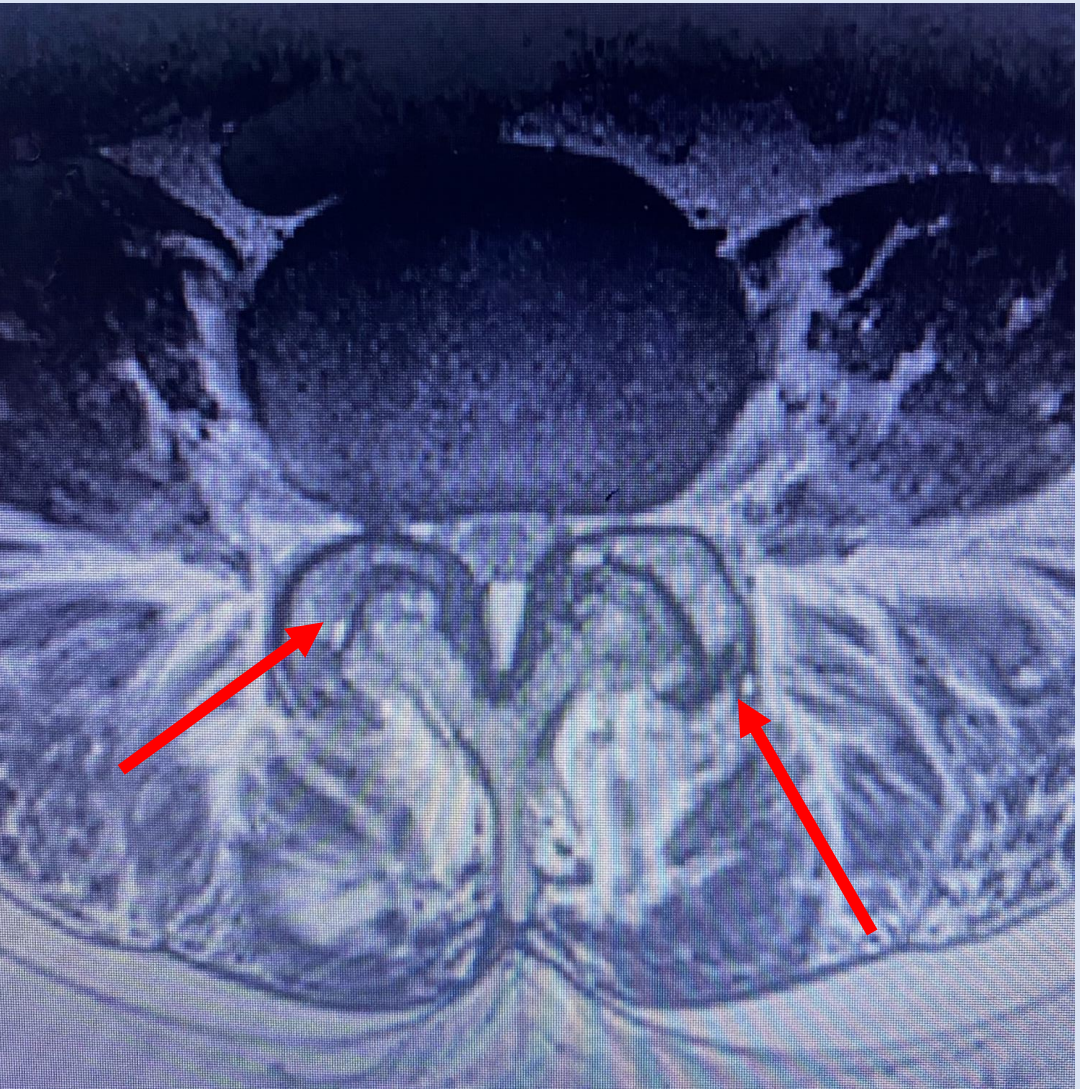
Transition From the palpatory exam into correction
Thumb along mandible – adj along long/short lever prn



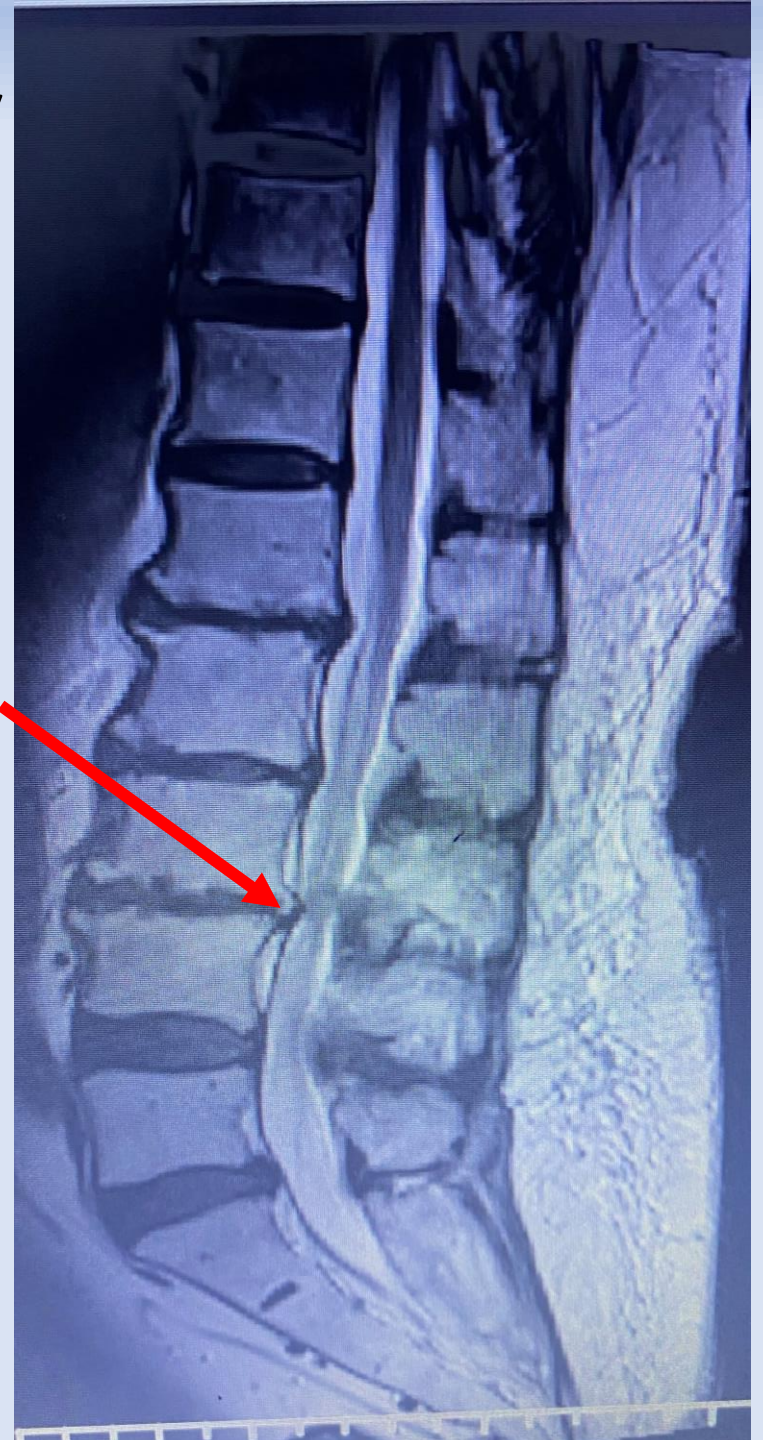
Moving on to Lumbar Mobilization

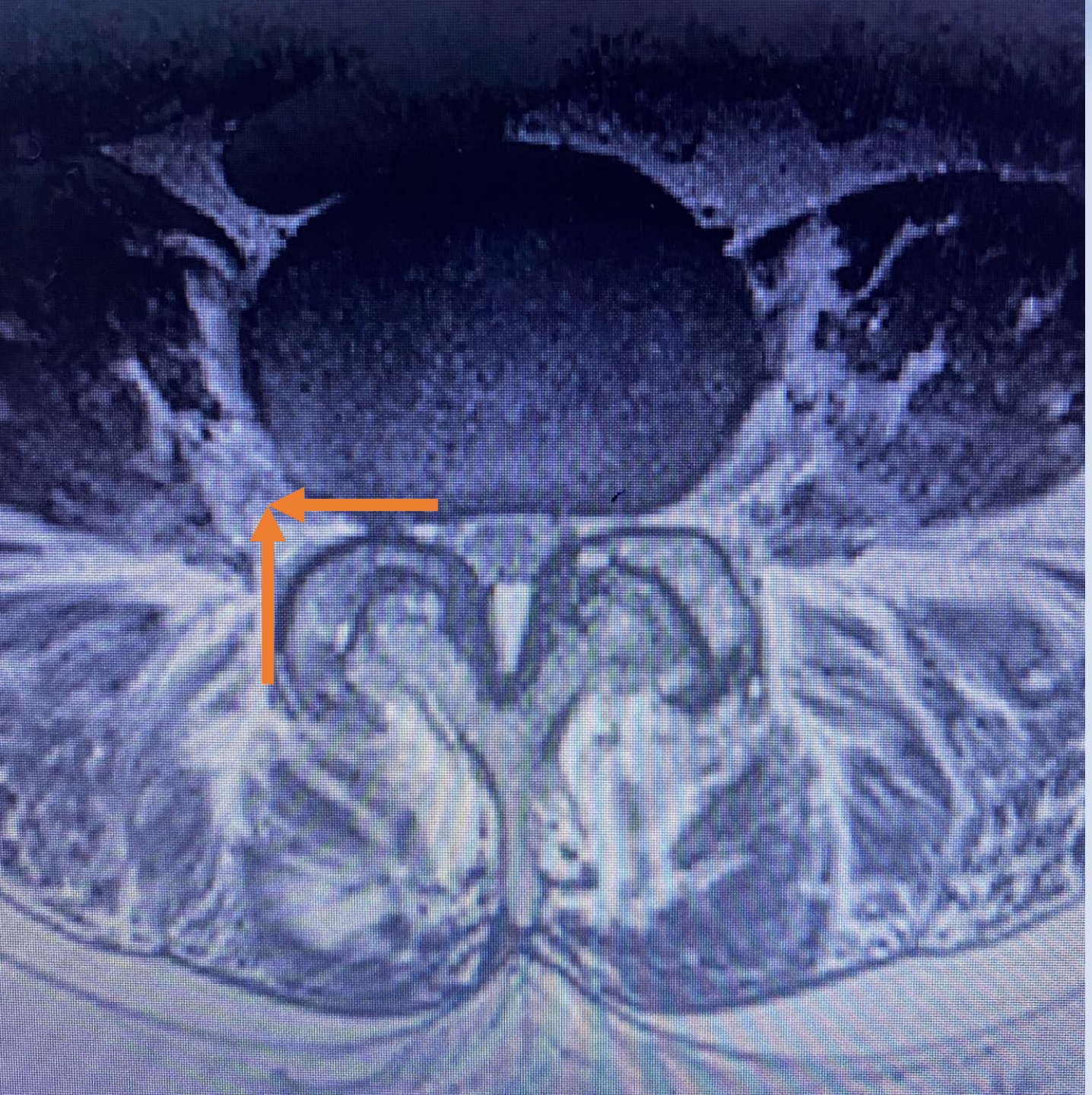
- LBP? Low threshold for ESR/CRP/UA
- Plain Films Flex/Ext views
- Consider infectious etiology/peds
- SIJ primary or along for the ride?
- When positioning - L flex/ext.? –
- In lateral recumbent - Do not look to Thoracic.
- Thoracic will be flexed in order for L2,3,4,5 to be in neutral. This is OK. This is how we lock out upper segments and direct Kinetic Energy into L segments
- "Walk Around" - "Million Dollar Roll"
- Post partum, Post MI, thoracotomy, sternotomy, high BMI or "Dolly Parton's Shoes"
- Wait for ASIS rise, then counterforce
- Hard to really hurt someone
- Imprecise – Diselegant? – but global/lymphatic/initial
- Establishes trust –then on to more
- Can stress C Spine and shoulder if they say "stop", "stop" but also let go.

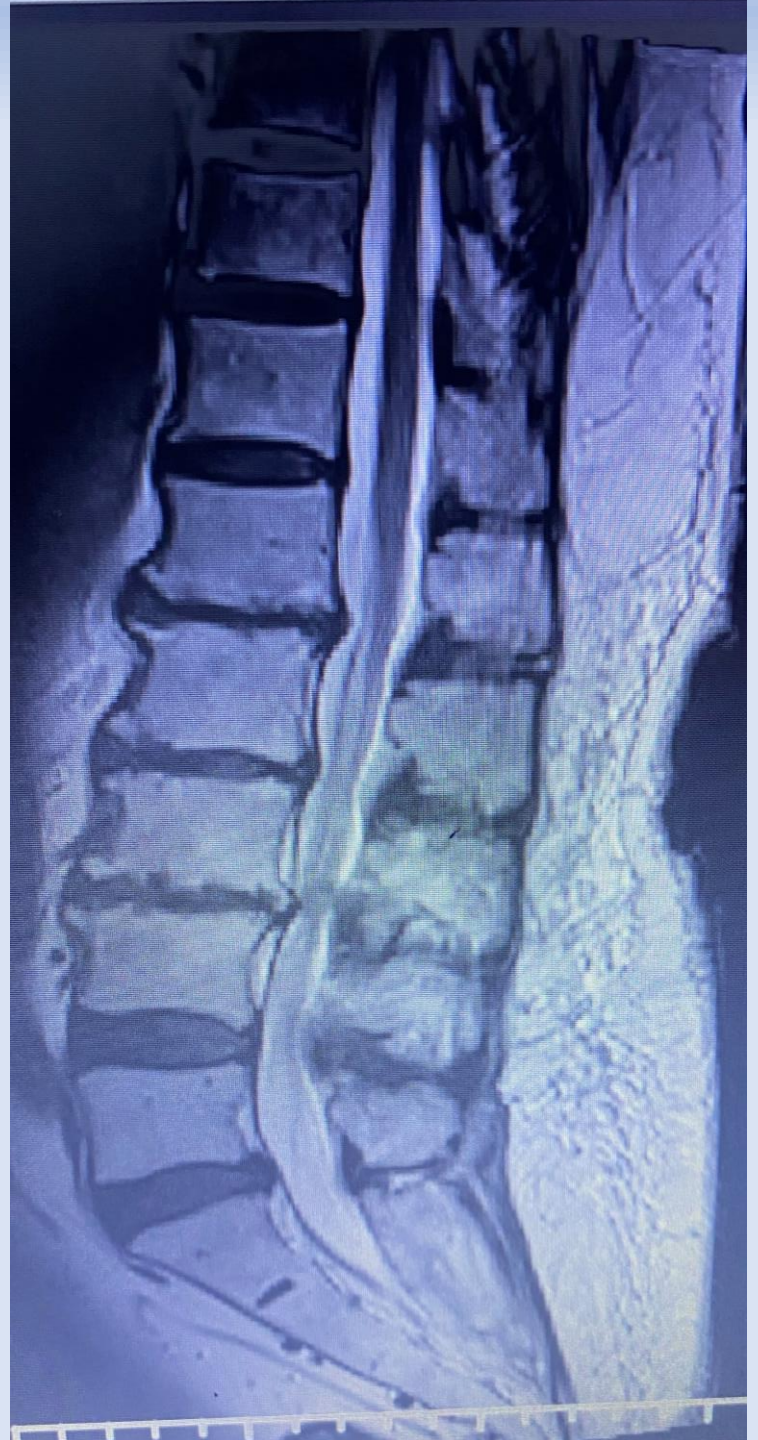
Let’s be realistic- Facet Hypertrophy Essentially Fused –

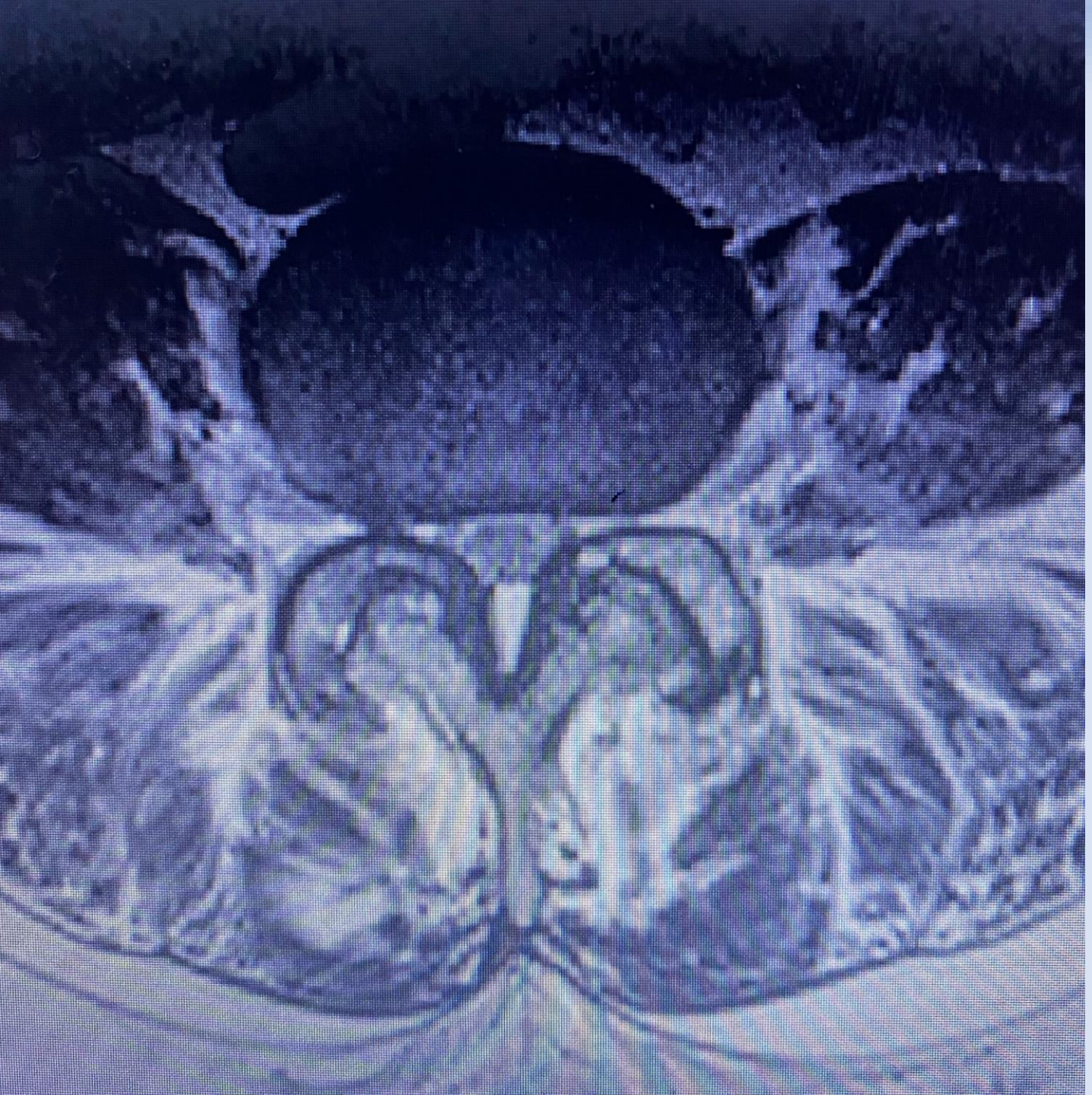


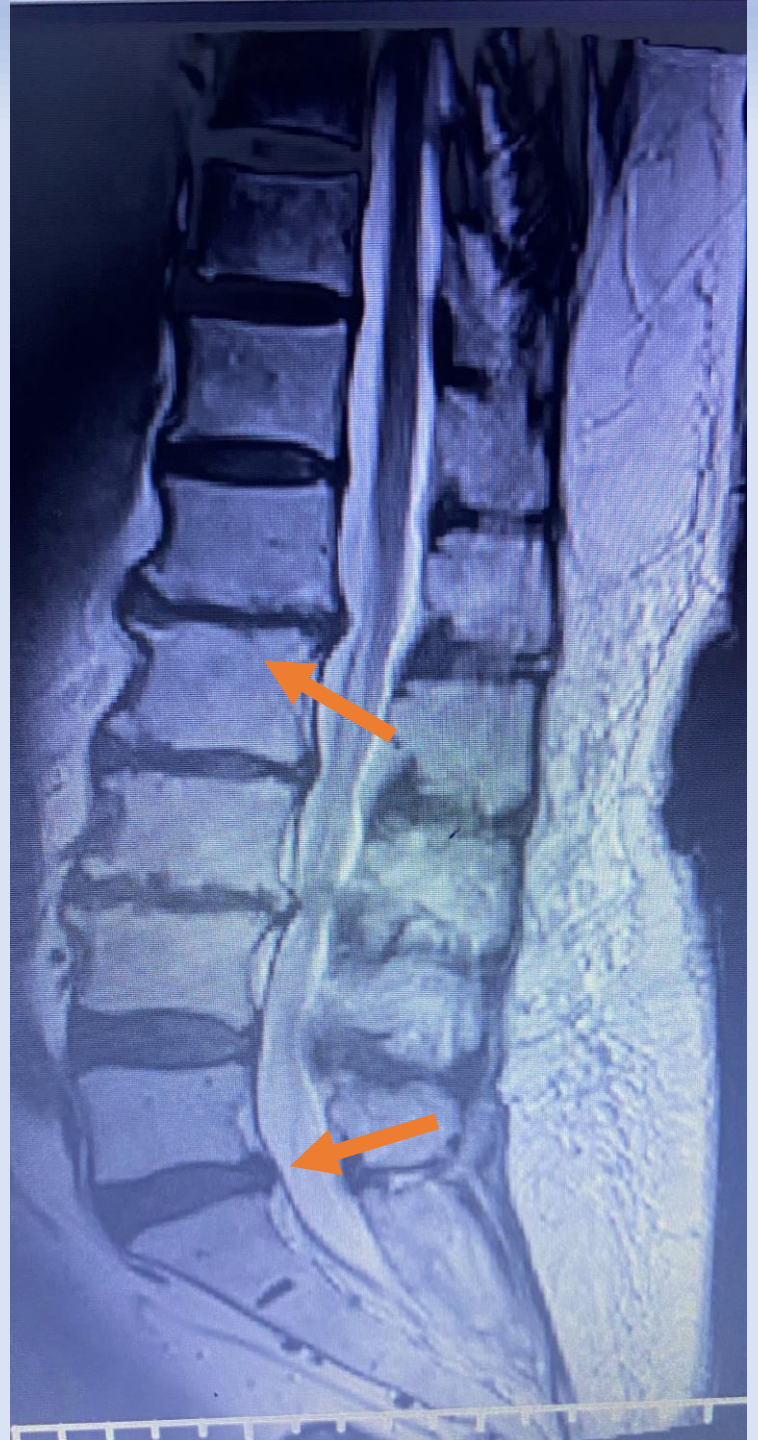
these joints are obviously not going to move, articulate and/or “pop”











Basic Lumbar Roll – a good place to start for Lumbar Post partum, Post MI, Post Sternotomy, Pancreatitis

Lateral Lumbar Mobilization, (notice non-Popliteal – that's SIJ)

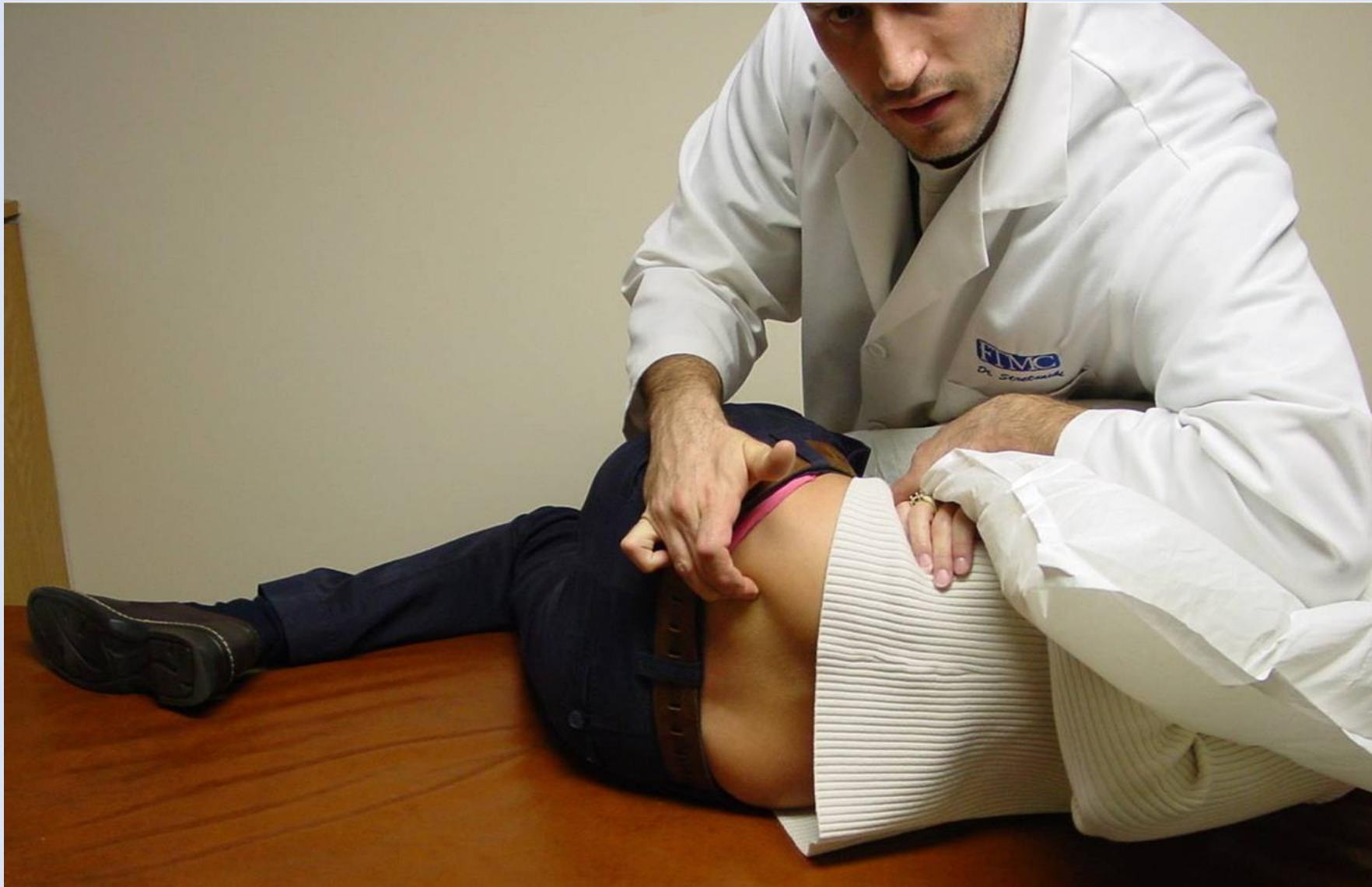
Simplify … Initially

Rotated Left? Left Side Up
Rotated Right? Right Side Up

Getting the L Spine into Neutral almost always requires Thoracic Flexion

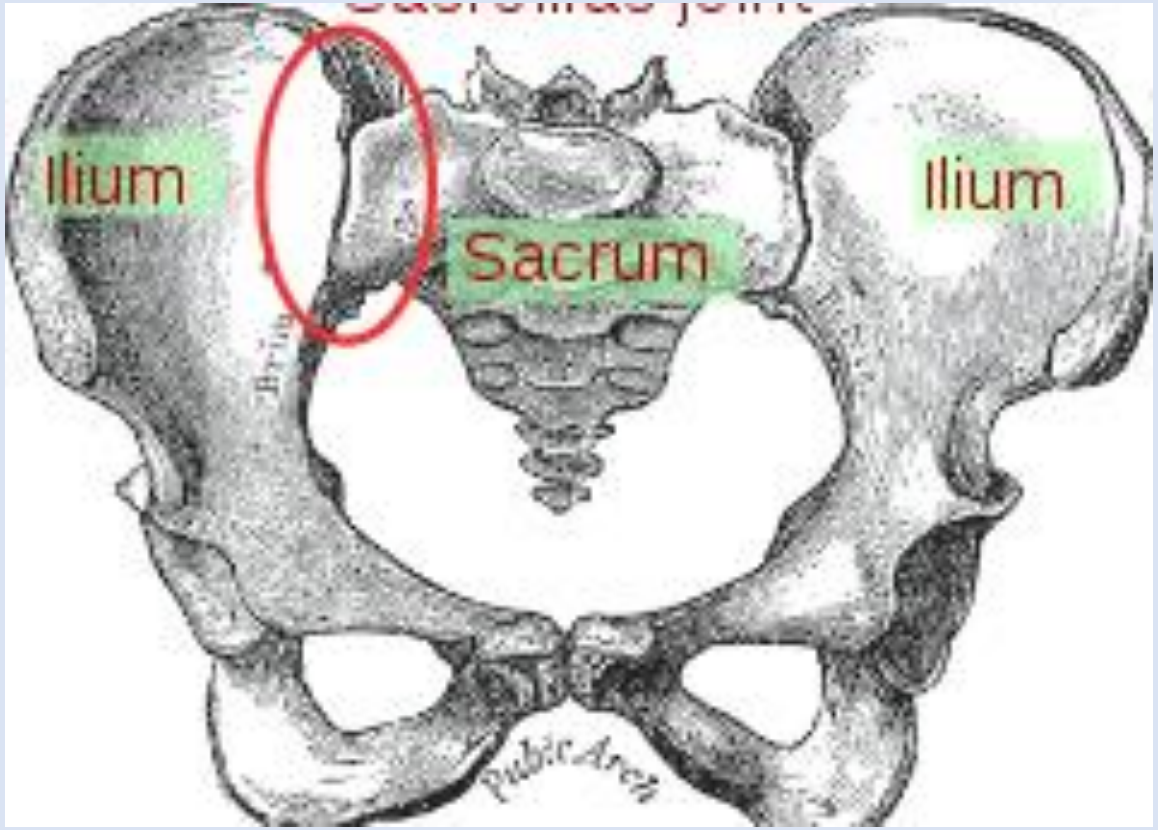
When in doubt, or legitimately short on time or just being empirical -, position the painful or more painful side up first. Then nudge both sides – again all restrictions are bilateral.

Academics and Purists may cringe, but high safety and efficacy.



Innominate, Pubic, Sacral Torsions & SIJ

- The painful/tender SIJ PSIS is usually the posterior side
- May benefit from injection
- Sacrum rotates towards P innominate
- P- “Posterior” - “Popliteal”
- Sacrum wants to return to lowest state of energy –w/o torsion – correct the innominate and torsion comes back along for the ride- might not palpate as anatomic neutral, but may be WNL <u>for them</u>.
- “Go ahead and move around a bit and tell me how that feels”



Clinical Observation

- It’s amazing what you can get used to, especially when you either don’t know it or you have no choice. Peds and prosthetics

- Chronic Hb 5.o vs. acute 9.o
- The average person over 35 is walking around with and compensating for a slightly anterior innominate on one side and posterior on the other with the sacrum torsion. They are also usually tender over one sacral sulcus and have at least one tender trochanteric bursa.
- Is this compensation or design?
- Probably not developmental

Innominate Rotation- Usually Primary Prone and Supine Exam

– ASIS anterior and Inferior

Contralateral Posterior and superior

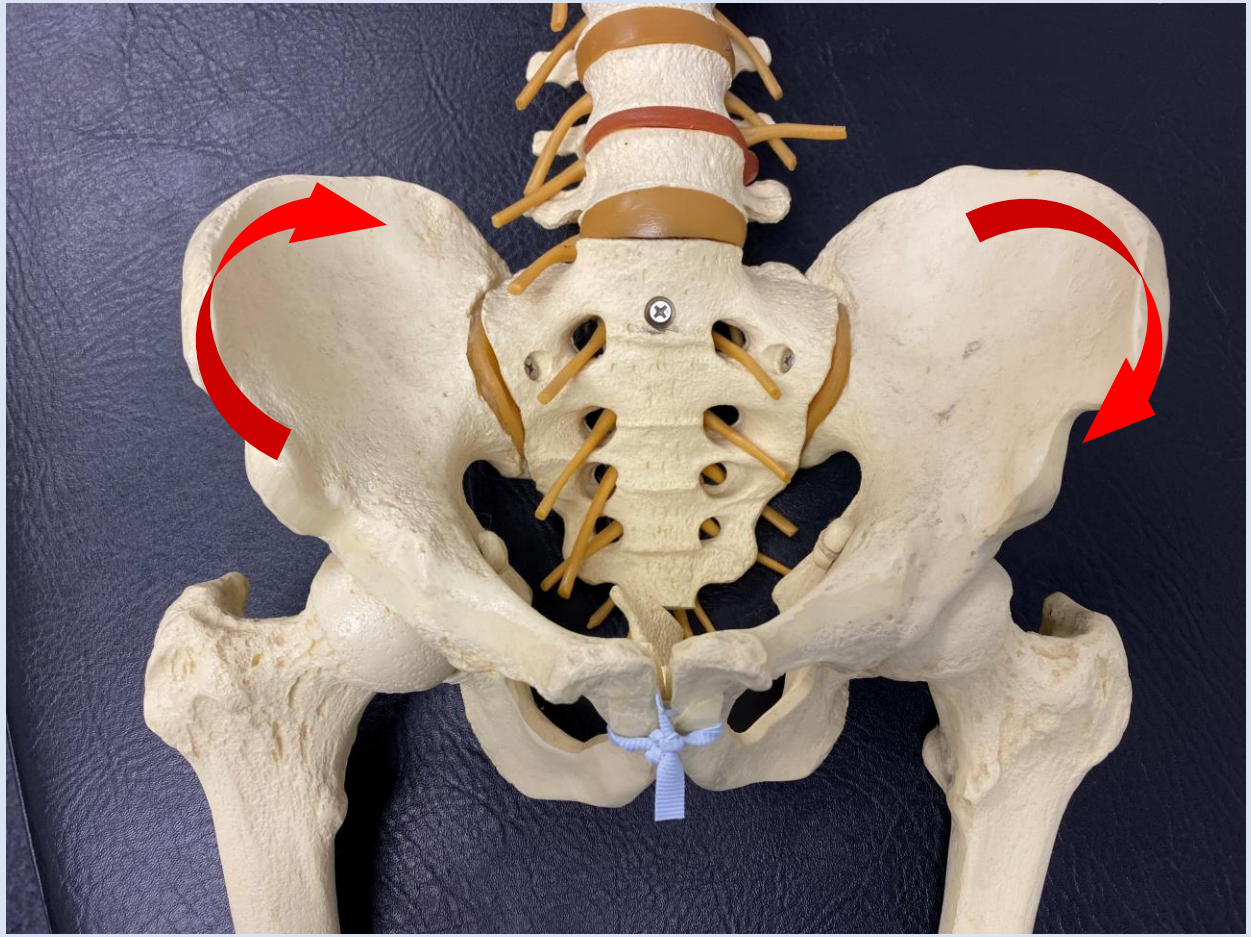
Public Bone in Restriction or

Pubic must have a *Rotational* Dysfunction

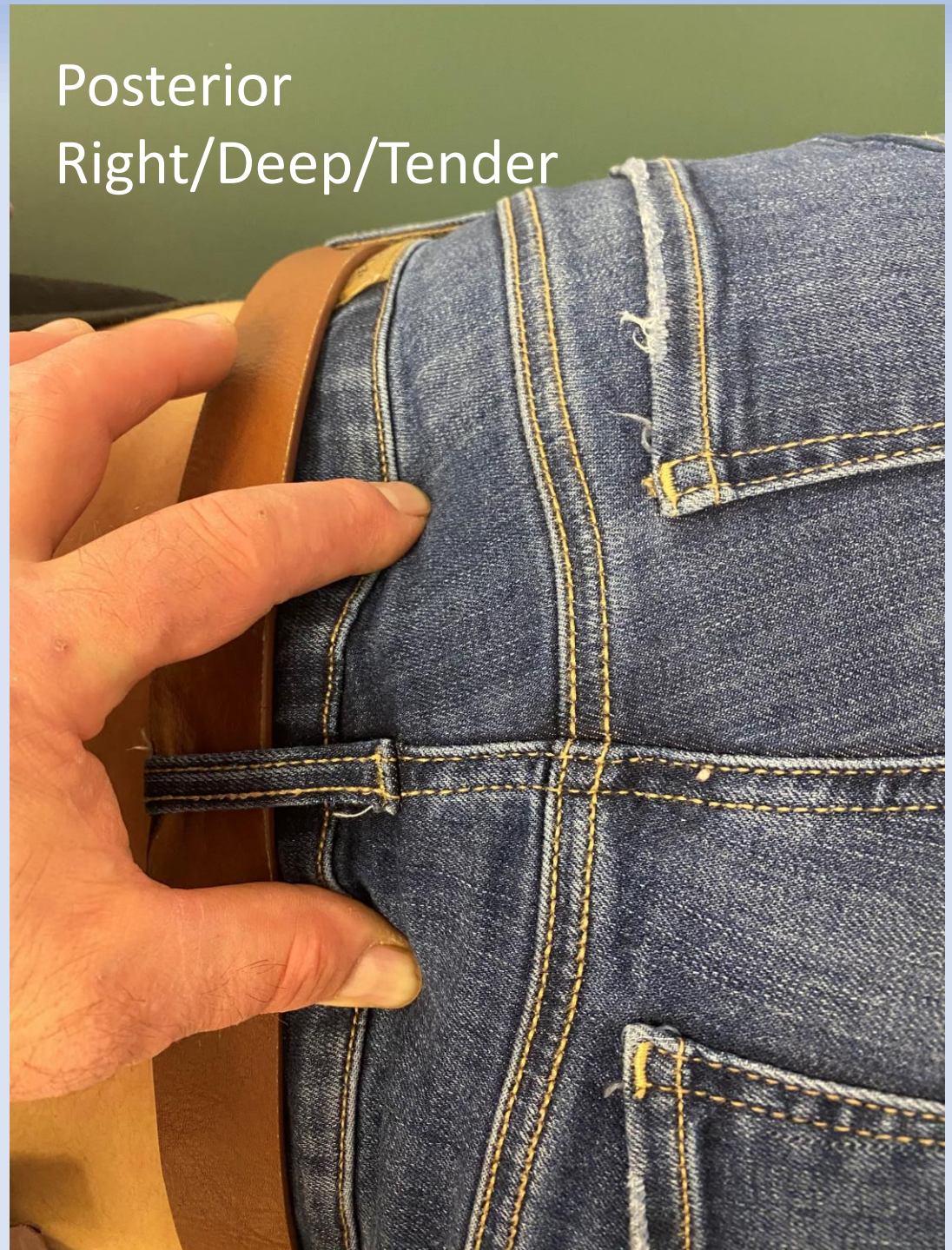
- Anterior Leg Longer
- SIJ Likely Tender

“Prone PSIS Posterior Popliteal”

Pubic Symphysis is being “held” and it just wants to go home



Posterior
Right/Deep/Tender



Leg length difference might be subtle or subjective

Type II Muscle Energy for the Pubic Symphysis component of the Pelvic/SIJ/Innominate Dysf'n

Abduction and Hip/Knee Flexion s/p Pubic Symp Tx

Patients can be taught this as a self manipulation supine or standing

Their own fist or a Beachball

UDS +THC, +methamphetamine, +oxy

Script MSIR 15 mg #14,, 4 days ago

Final GC/MS on UDS + hydrocodone, neg MSO4

First visit told “no” to opiate mgmt, but offered quaternary Care and/or MAT

“Ok, just give me my medical card” told “no” but has it.

Underwent Thoracic mobilization and C spine MEII and myofascial release following HC

Elected to be seen PRN

Returned Day 7, wanting to be seen again

Regular OMT, EAP. “I took my Dad’s Bup”

Offered Chem Dep Counseling and Assessment

Non-existent insight into addiction or behavior

“They’re not supposed to chase you above a certain speed” Cluster B traits

Mobic, Lamictal (no help)

Butrans 5 mg q 7d

Poorly tolerant of EMG. “I don’t like needles” it’s a pin not a needle. “Put something in it and we’ll talk”

ME of ROM and contractures / adhesive capsulitis

Finger Pad to Finger Pad for ME II and stretching (we will demo)

No carpal reseating techniques – protect graft.

No Radial head artic techniques – no dysfunction

Unable to treat AC joint with articular techniques GH adhesions

Supra-scapular N block and ROM, PT if trained in handling of shoulder p Block

Modified Kirksville with Left arm at side and towel roll under the contra-lateral (right) elbow across his chest, More ‘Lift” traction with me left arm

He continues to be seen at regular intervals for OMT. Q2-4wks. Occasionally just a few days apart then good for 4 weeks. No missed appointments. Now polite with office staff.

“Doc, pop my back like you did that one time with your hand under me but can you go a little lower?”

“Do that thing where you turn my head, the other way, no wait ..” (definitely has right left confusion)

Subsequent UDS + THC, neg for all other. (6 weeks)

IM Toradol/Zofran. Asks for the Hydrocollator on arrival.

Plays with the office puppy in a positive way. Has not asked for meds in a month.

No obvious response to internal stimuli no echolalia, clanging or word salad but such an odd affect that but I am concerned about schizophrenia. Refuses formal psyche referral. “I’ve talked to them already”

5mg transdermal buprenorphine.

- 38 y/o RHD female Axial and Left LE radicular features 50/50. former MA. Patient 12 years+
- Seen periodically for OMT (6-8 times per year), plantar fasciitis, myofascial pain, trigger-points and cosmetic Botox. “Can’t you just pop me back into place”
- VAS (legit) 9/10. Tearful. Has not been this way before
- Literally can’t walk. 3 legged walk with her girlfriend to get into office
- Absent Achilles reflex (S1)
- Hyperalgesia to pin and light touch mixed L5/S1
- Off work 6 days. No meds. UDS clean
- Sexually active one female partner 6 yrs., who is also known to me and to the practice – “good people”
- LOMN for MRI LS X 4. denied, under review etc. 4 weeks

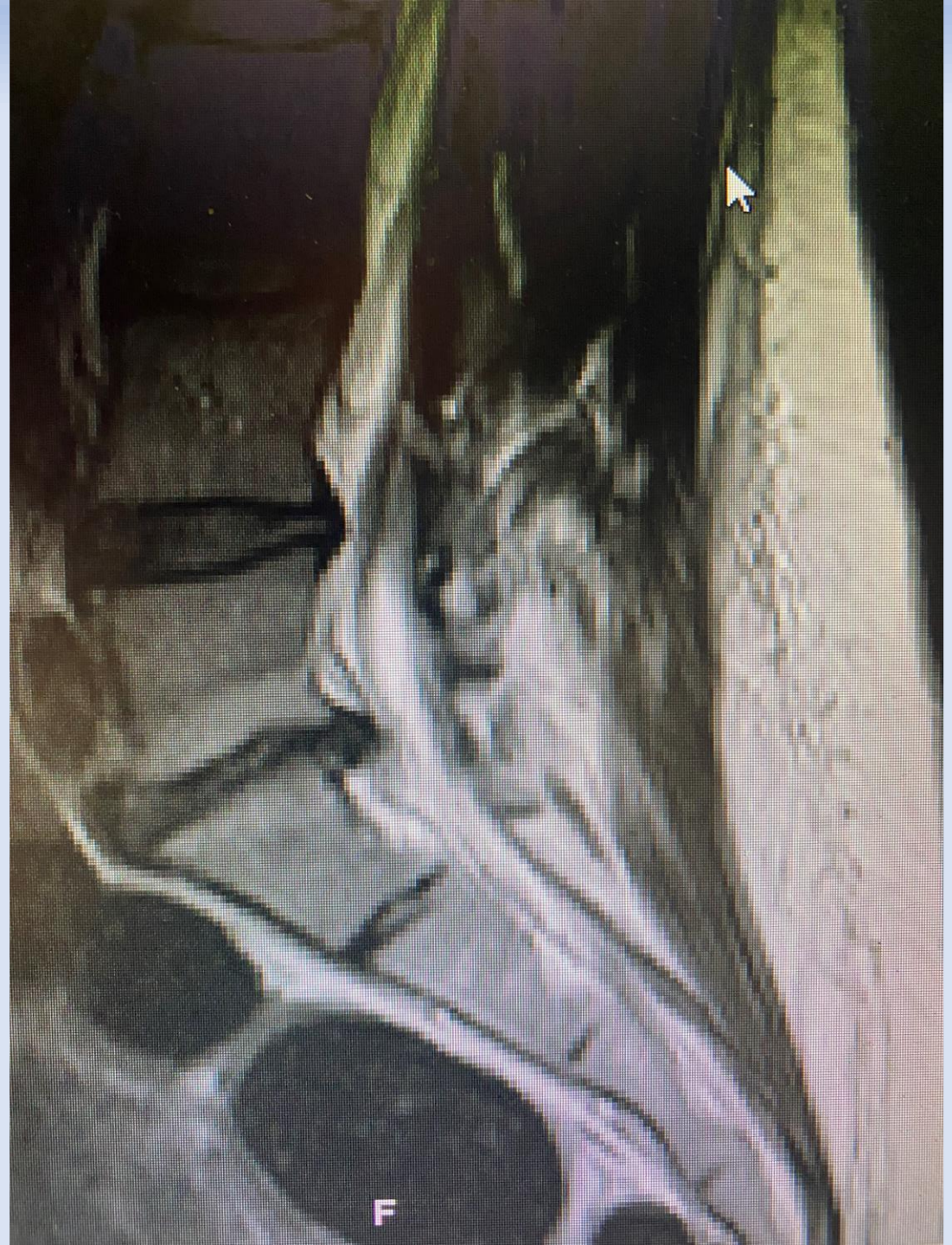
Failed prednisone burst from PCP/NP. Started on Norco 5/325 tid and gabapentin 48 hrs later. Discontinued gaba 300,300,600HS and attempted pre-gabalin at week 2.

After 4 weeks of weekly TP's and OMT. Plantar flexion was getting weaker and some loss of ADF (ankle dorsiflexion) "Dr Mike. You've always been able to put her back in place before"

Called Third-Party payor and was told they had it in review and would arrange a peer-to peer next week. Reviewed that we had done a peer-to-peer the week before and that she is getting weaker and this is my follow-up to the peer-to-peer. Said they needed medical records…

I had no choice but to admit her. (pre-covid)

Plan: Direct admit. Regular Medical Floor
MRI w/o contrast this AM
Tentative Lumbar epidural at noon after MRI review
Neurosurgery consult
NPO – Maintenance fluids pending Neurosurgery Consult


F

neuroforaminal narrowing.

At L2-3, there is no significant disc displacement, central or neuroforaminal narrowing.

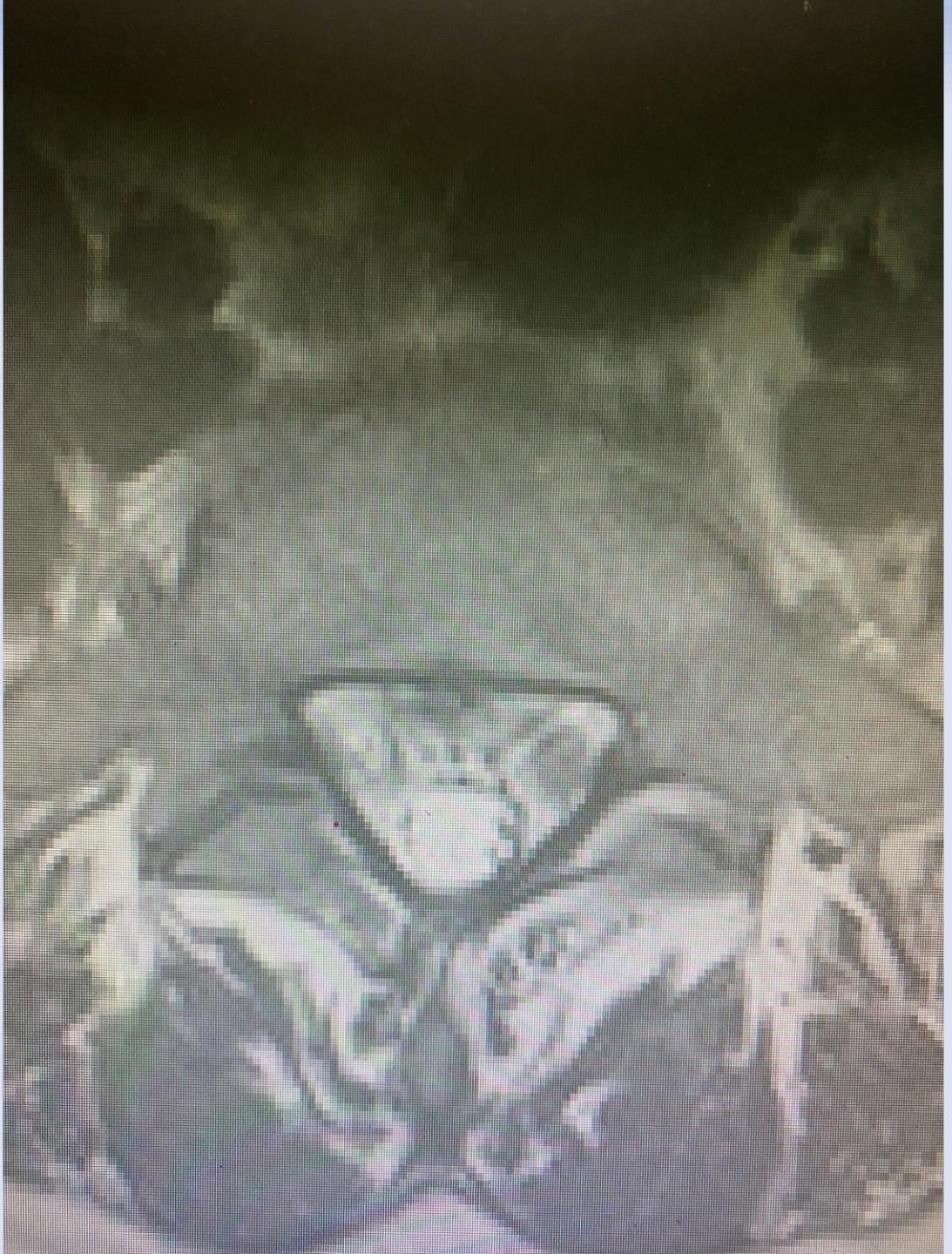
At L3-4, there is no significant disc displacement, central or neuroforaminal narrowing.

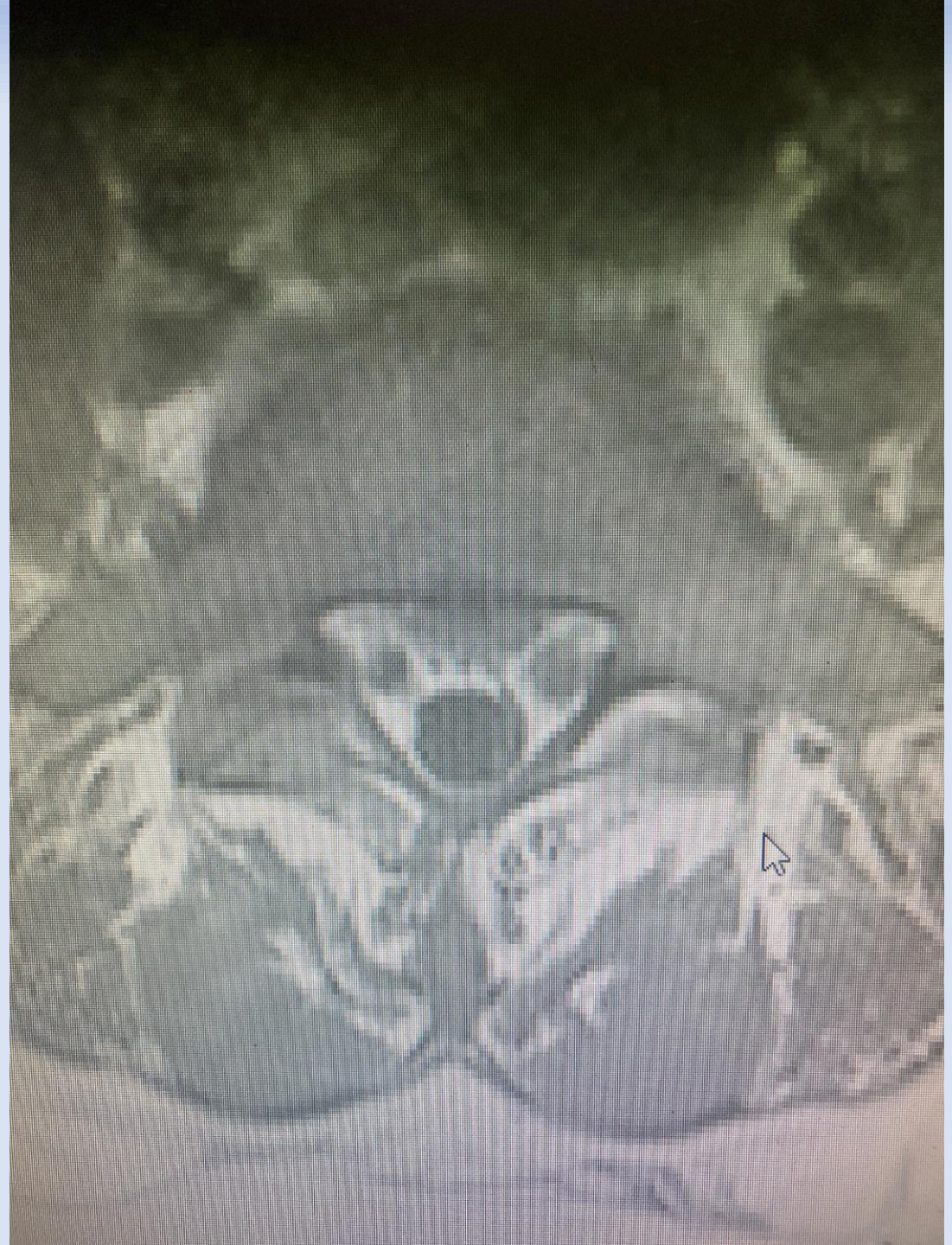
At L4-5, a minimal disc bulge is present without significant central canal or neural foraminal narrowing.

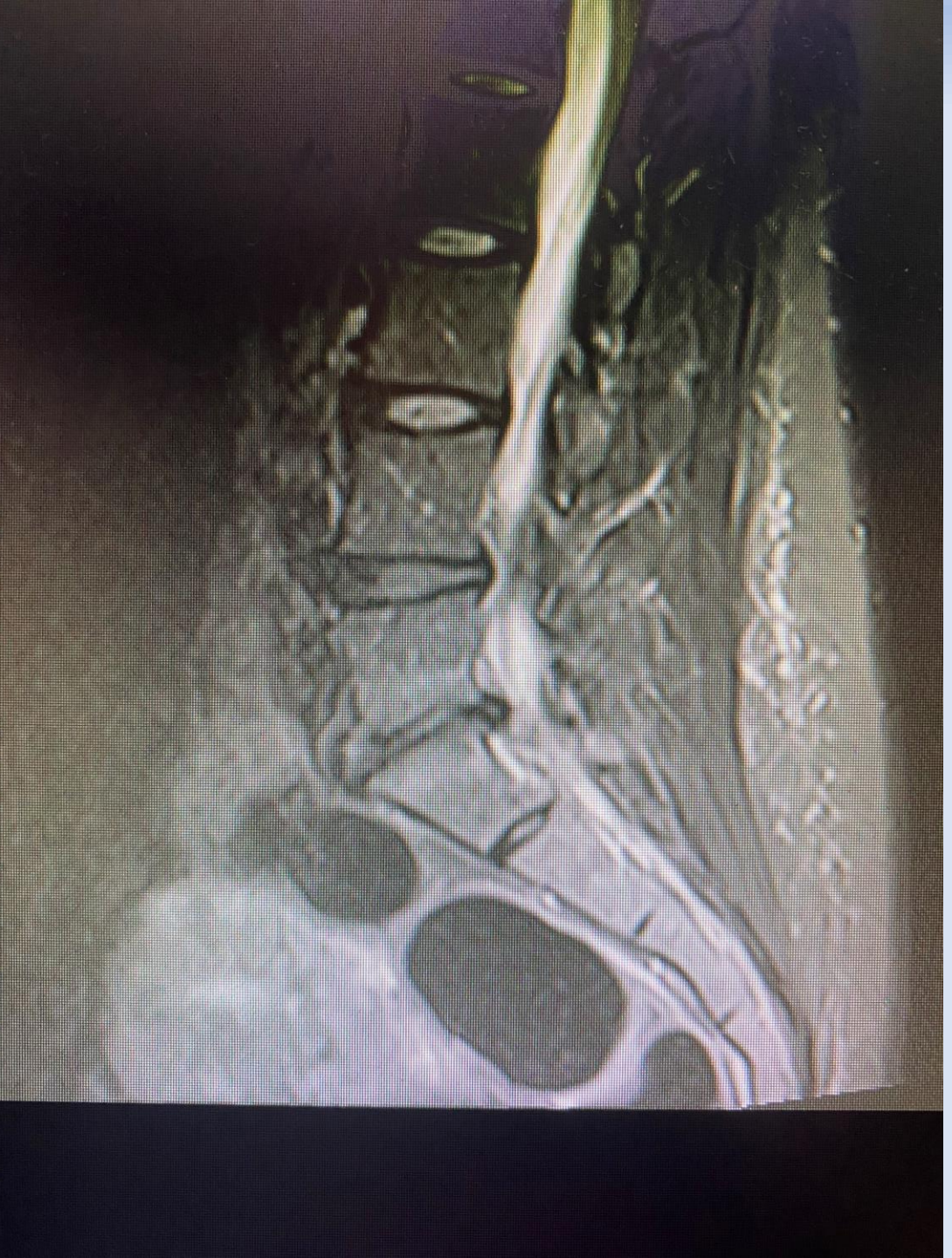
At L5-S1, a disc bulge is present. Along with mild facet arthropathy this results in mild central canal narrowing and moderate bilateral neural foraminal narrowing.

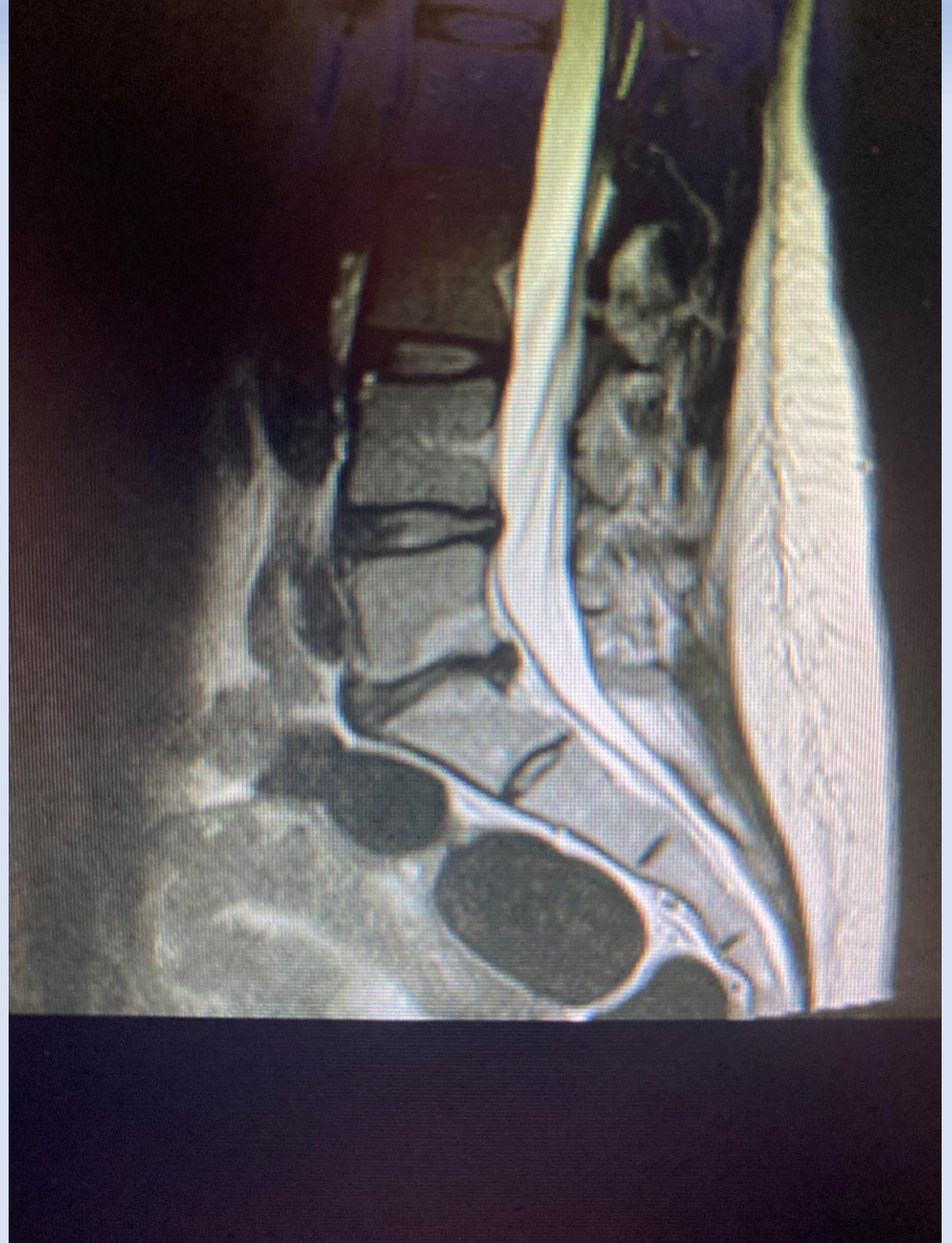
The visualized paraspinal soft tissues and retroperitoneum reveals no focal signal abnormality.

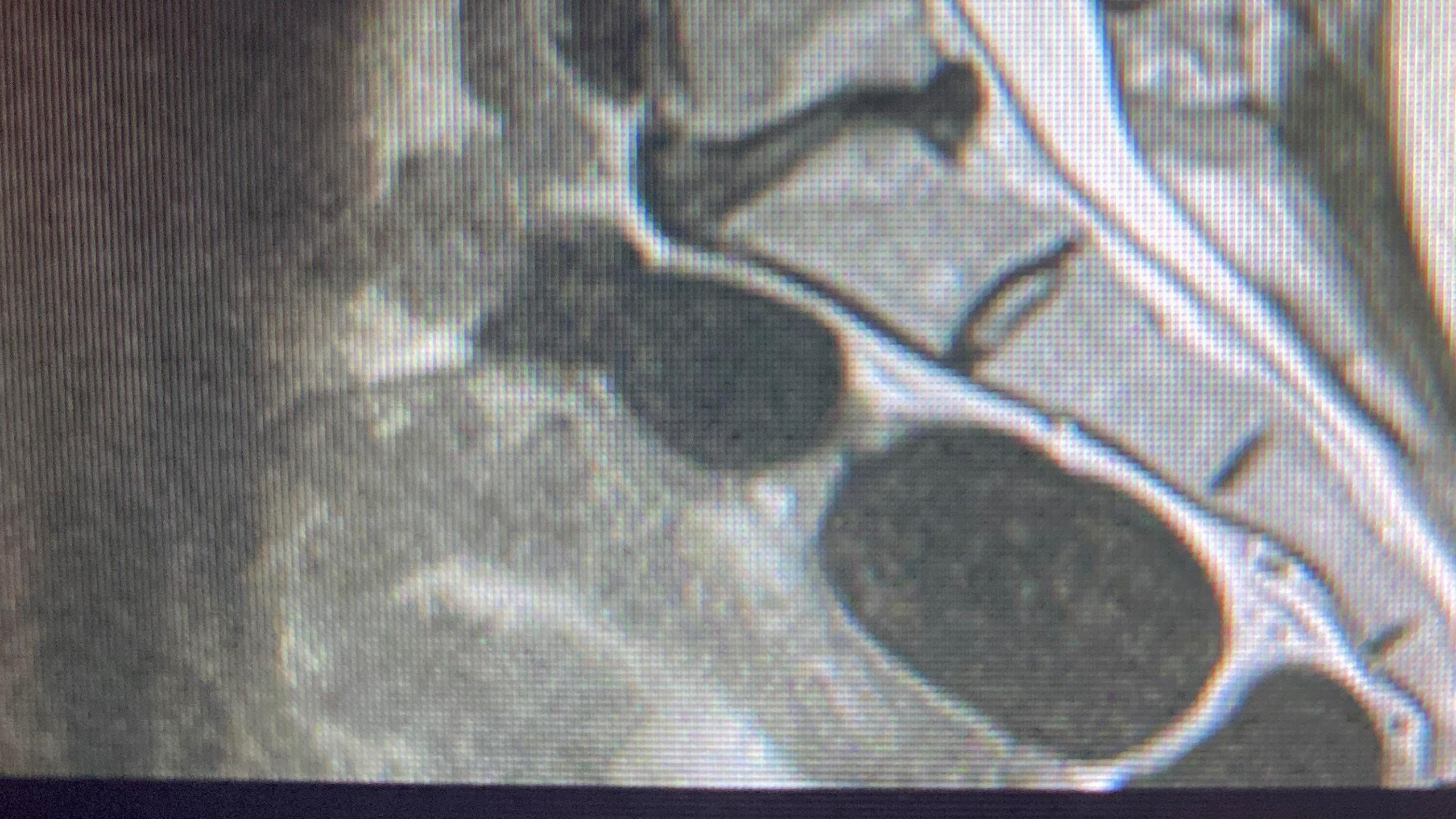
IMPRESSION:
Disc disease and facet arthropathy at L5-S1 results in mild central canal narrowing and mild bilateral neural foraminal narrowing.











What happened next - Ordered HCG based on initial Urine from initial intake

HCG +, Blood Quantitative 8-12 weeks

Patient terrified. Panic attack - Actively vomiting. Truly had no idea.

Patient identifies one potential father – pleading to “keep this a secret”.

The potential father is married to a person other than her and has a “certain career”

Recent history of complicated issues with men of that same career in her geographic location interacting with women resulting in negative outcomes who have had similar unsuspected urine result for this same test.

Patient expressed her intent/plans quickly and vehemently.

ESI canceled – mostly due to contrast

Neurosurgery consult canceled.

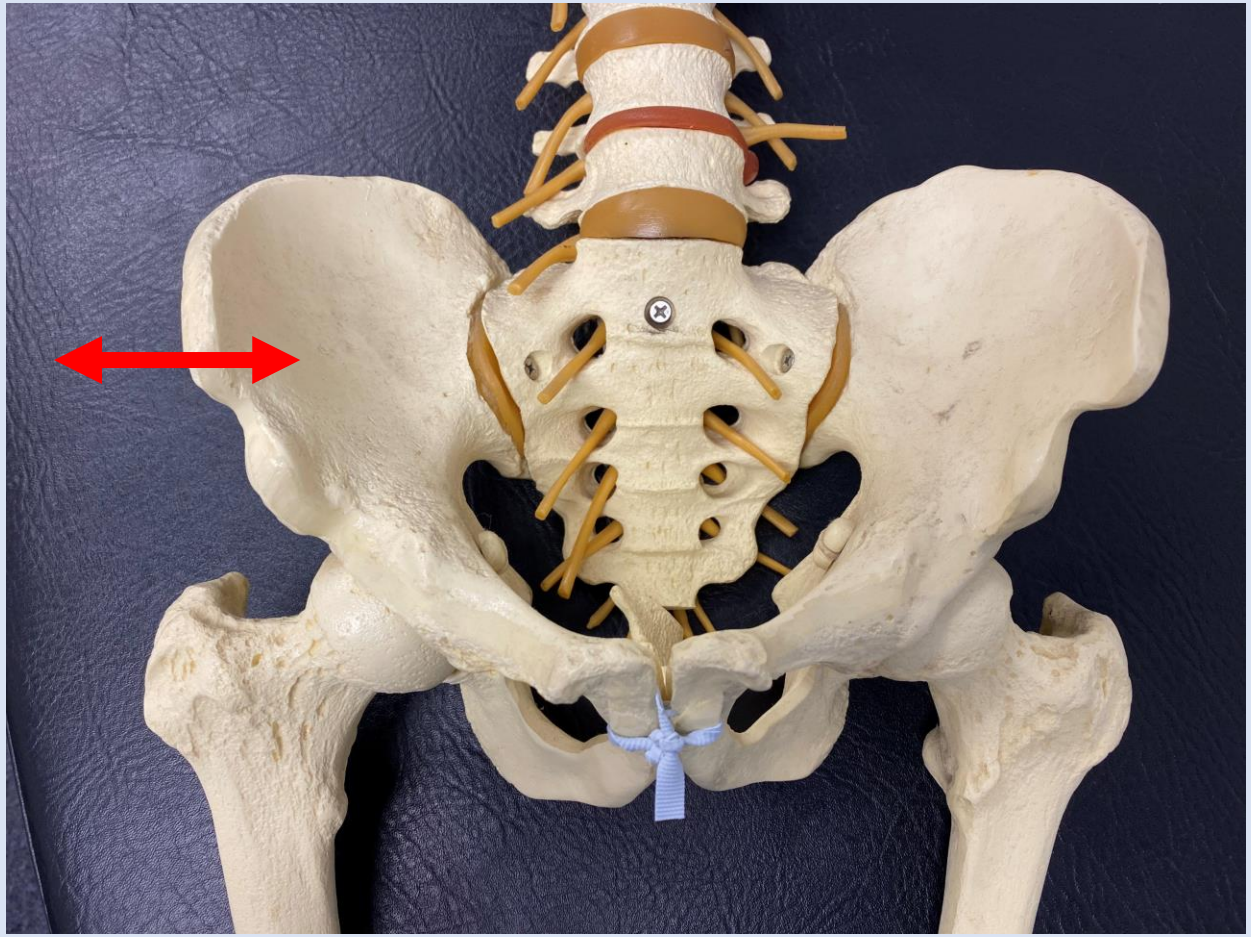
Ordered pre-natal vitamins 1 po QD
“Please pop my back” – L –roll – and lateral due to hospital bed
OB/Gyn consult initiated – patient was grateful but refused.

Second dose required, plus 2 mg MsO4 IVP

Bedside caudal ESI under local with 0.5 Ativan PO with water soluble dexamethasone 10 mg and solumedrol 125 mg

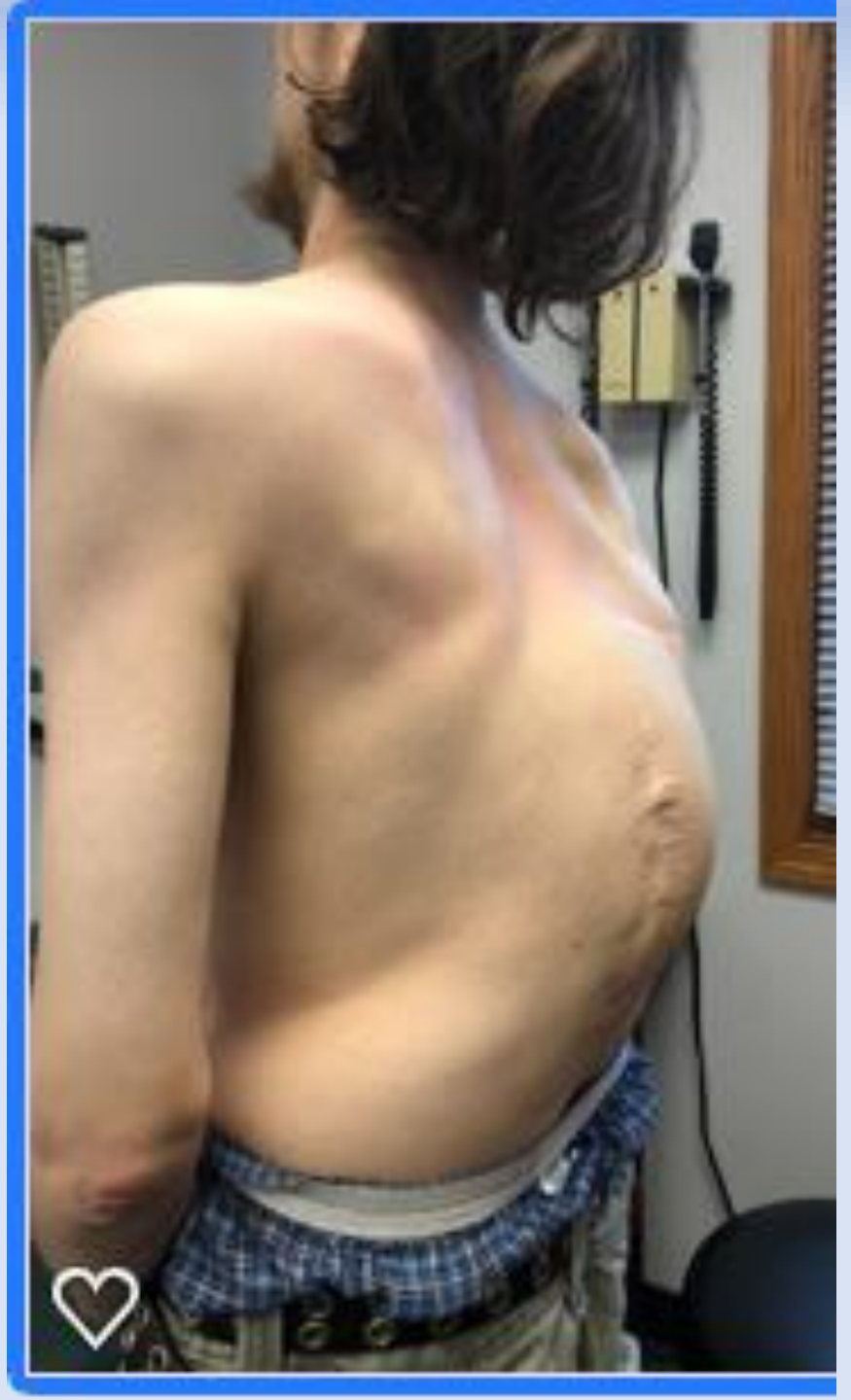
Innominate Inflares and Outflares (treat, re-examine)

– ASIS towards or away from midline
Public Bone in Restriction or
Potential Pubic Dysfunction
Upslip or Down slip Position
- Leg length typically same
- SIJ Likely Tender
- Rarely Primary
• Knee at 90, ME toward midline
Knee>90 and ME medial knee to sky
Always assoc with an innom dysfyxn
Treat Innom first



– vertebral abnormalities
 – anal atresia (absence or closure of anus)
 – cardiac (heart defects)
 – esophagus and the trachea don’t connect correctly
 – esophageal abnormalities
 – renal or kidney problems and radial problems
 – other limb abnormalities

Multiple Spine Sx
One kidney
Colostomy
Prior Trach/PEG
Buprenorphine MAT



VATER Syndrome (VACTERL association) describes a cluster of conditions that affect various body parts. A child is diagnosed with this condition when three or more body parts are involved.

What is Pediatric VATER Syndrome (VACTERL Association)?

VATER syndrome, also known as VACTERL association, is a term used when a child is diagnosed with birth defects in three or more body parts. The acronym stands for:

V – vertebral abnormalities

A – anal atresia (absence or closure of anus)

C – cardiac (heart defects)

T – tracheal anomalies in which the esophagus and the trachea (windpipe) don’t connect correctly

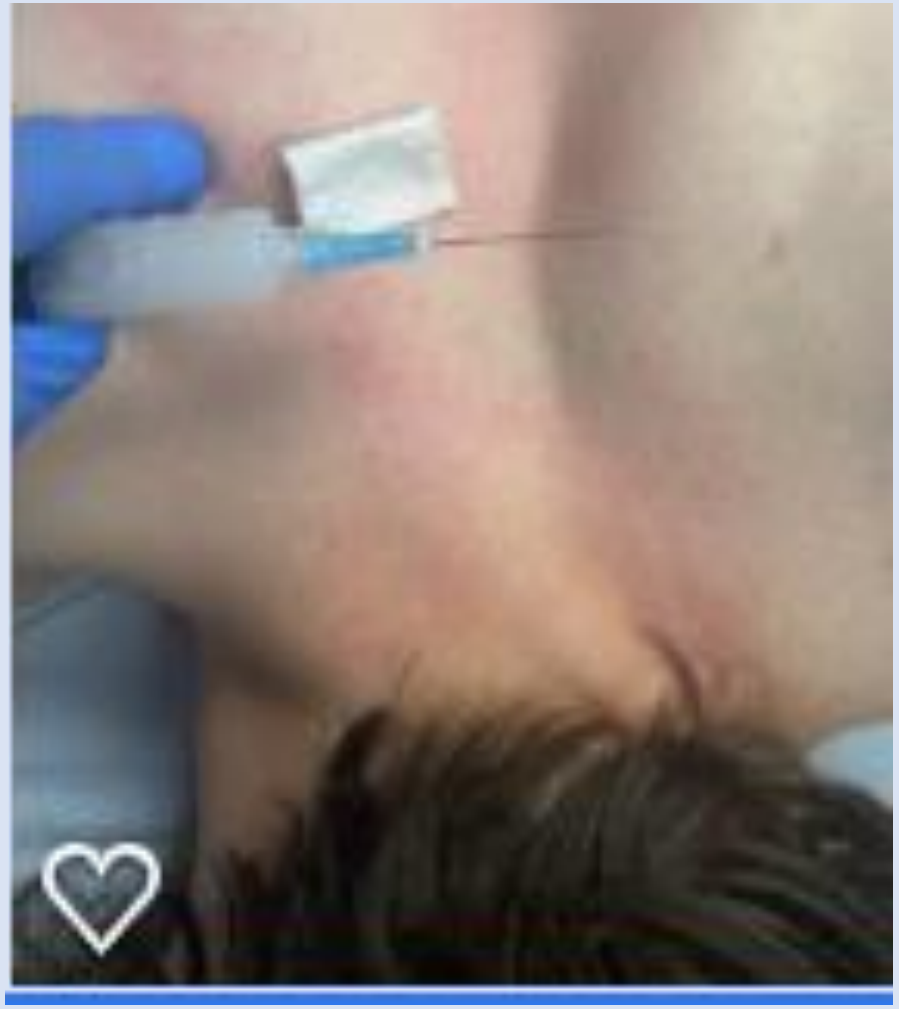
E – esophageal abnormalities

R – renal or kidney problems and radial (thumb side of hand) problems

L – other limb abnormalities

Cutaneous manifestations of Osteopathic Dysfunction as viscero-somatic reaction

No hard data – the older I get the more I believe it



Superior and Inferior Innominate Shears

Upslip or downslip

(innominate moves up or down along SIJ)

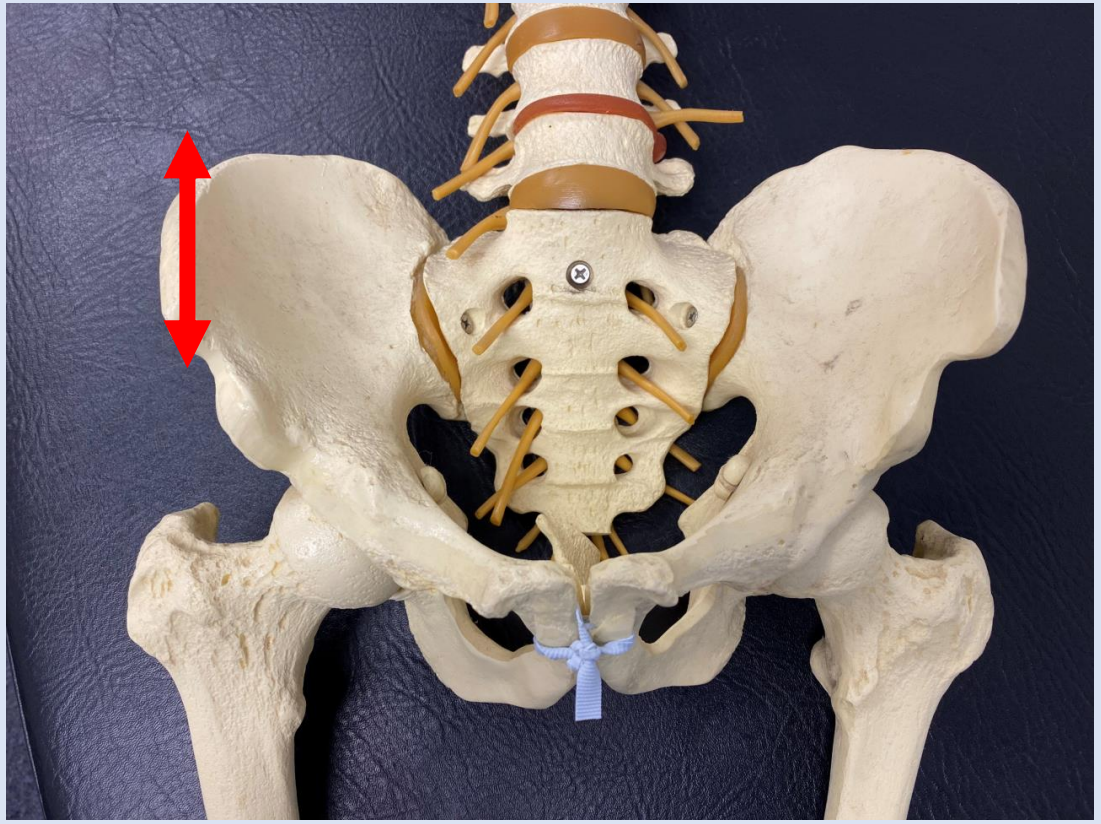
- Leg shorter on Upslip

Step off a curb

Fall Off Back of a truck bed

- Leg Longer on Downslip
- Down slip is exceptionally rare
- Football side tackle – self correct

• Bad Decision on Sled Squat



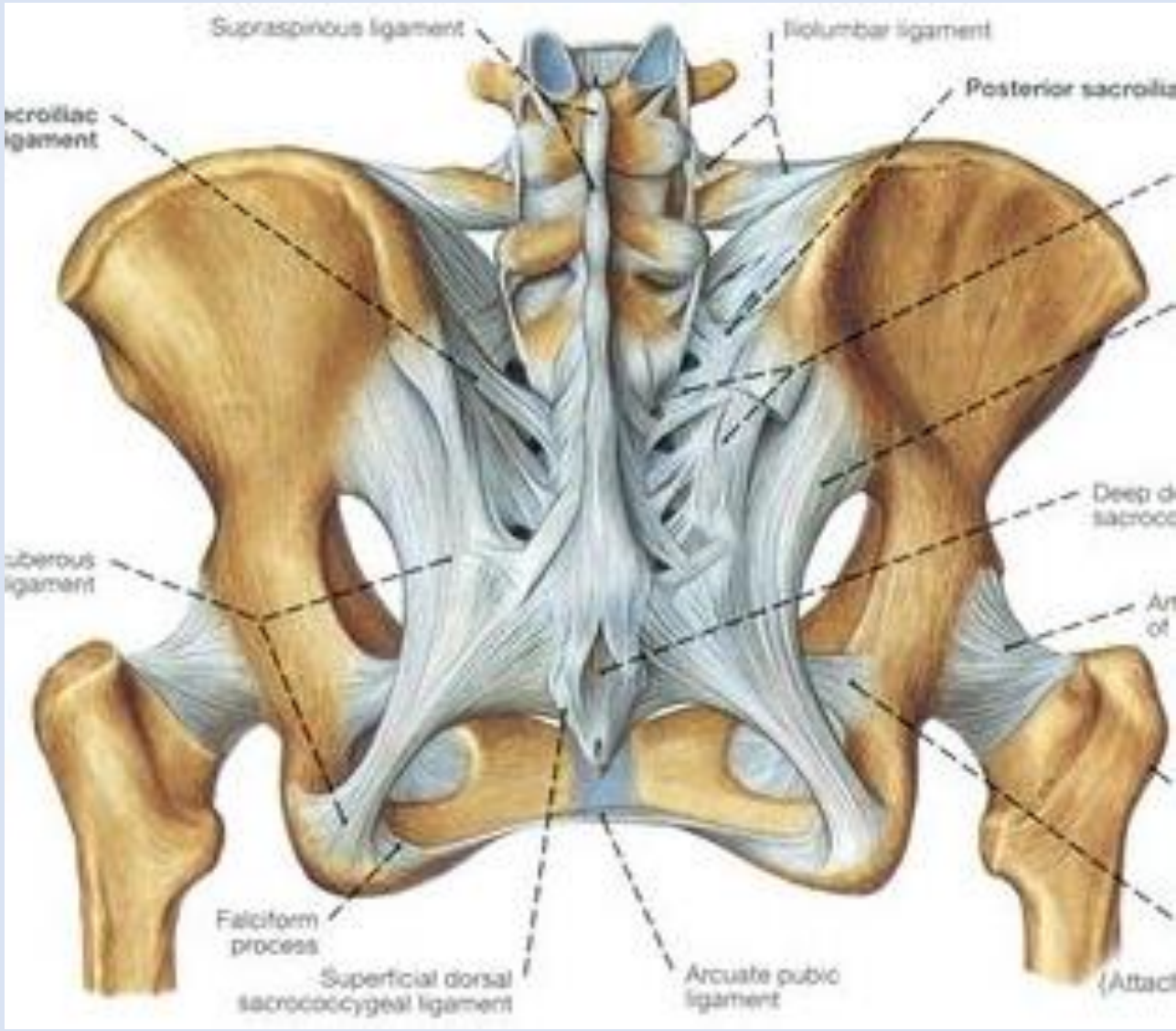
Why it is not mandatory to <u>initially</u> be neurotically precise about sacral and pubic dysfunctions

Sacrum is kind of just *chillin' with the innominate* and kind of goes with the flow but under circumstances or trauma, OB, or post-Op the sacrum can be primary and/or recalcitrant

Many ligaments, become
Under tension -
Tender
Painful
Inflamed
Enthesitis

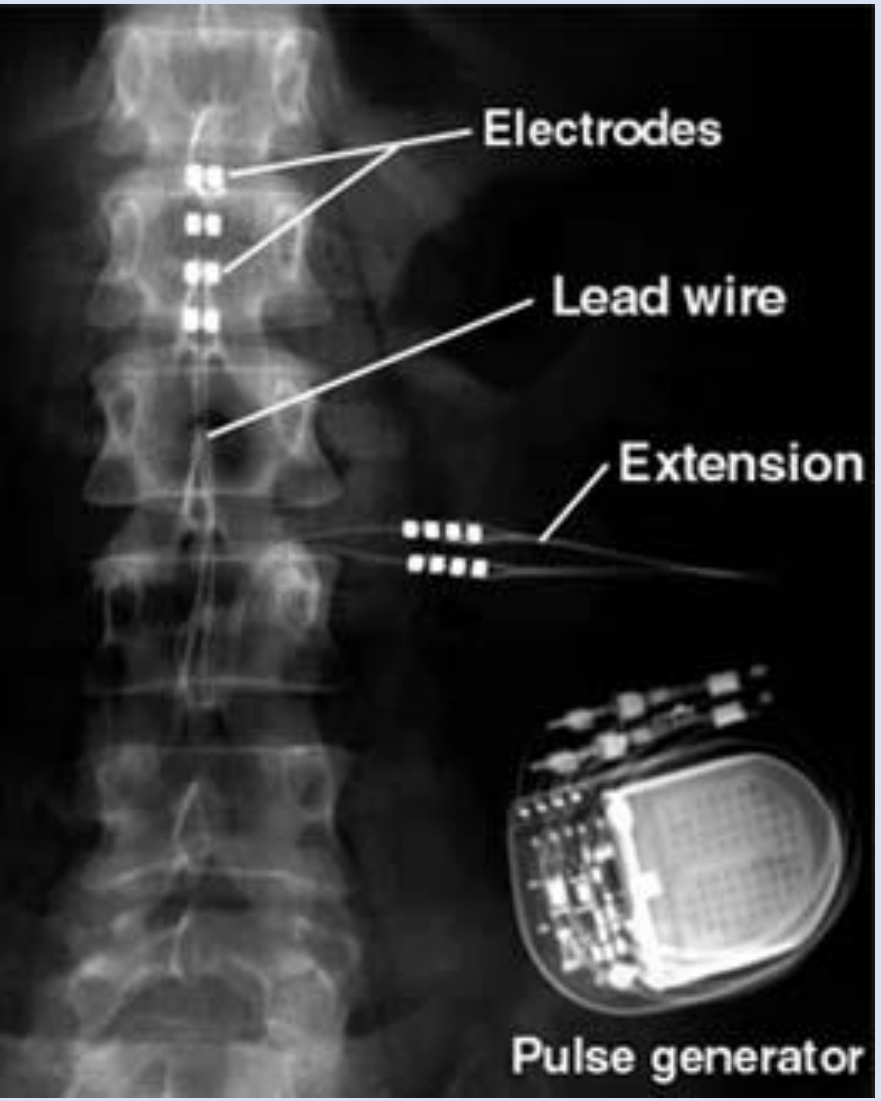
Sacrum WANTS to restore to lowest state of Entropy

The Sacrum isn't looking for trouble – but to just to "go home"



OB/post partum – sacral extension. pubic symp pain

Implantable Technologies – be mindful, not fearful
Spinal Cord Stimulators and Pain Pumps



Bring the manufacturer's technical representative in for a visit.

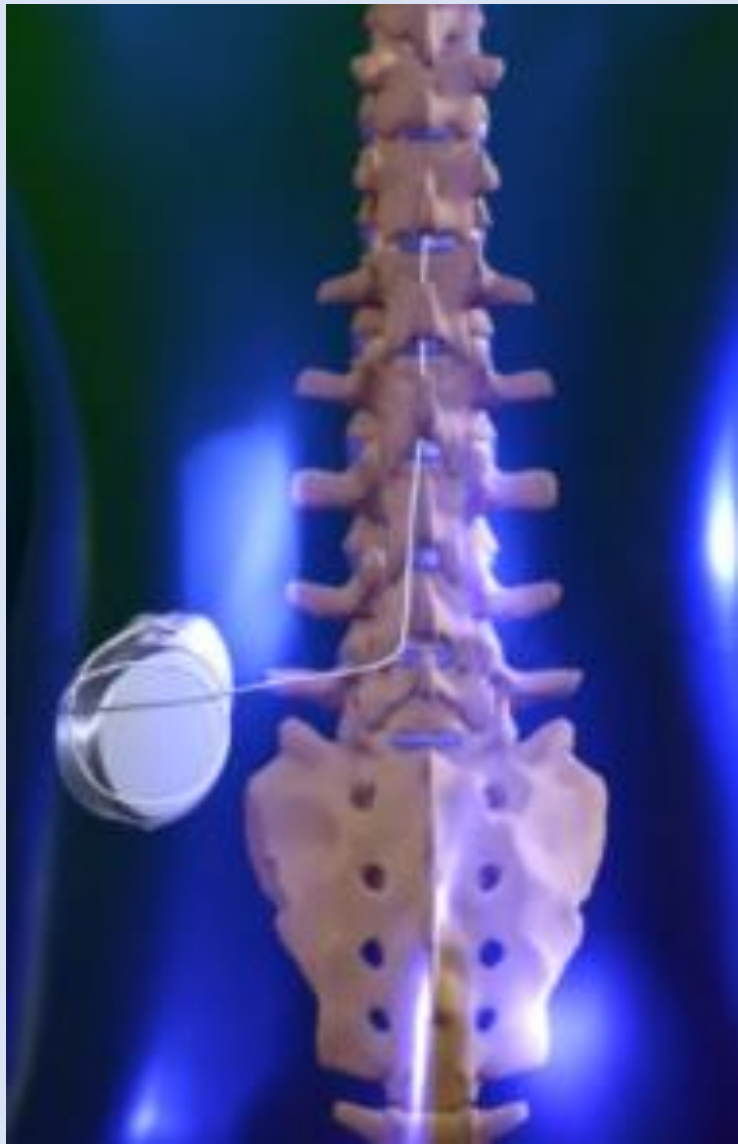
"Drug Rep Lunch"

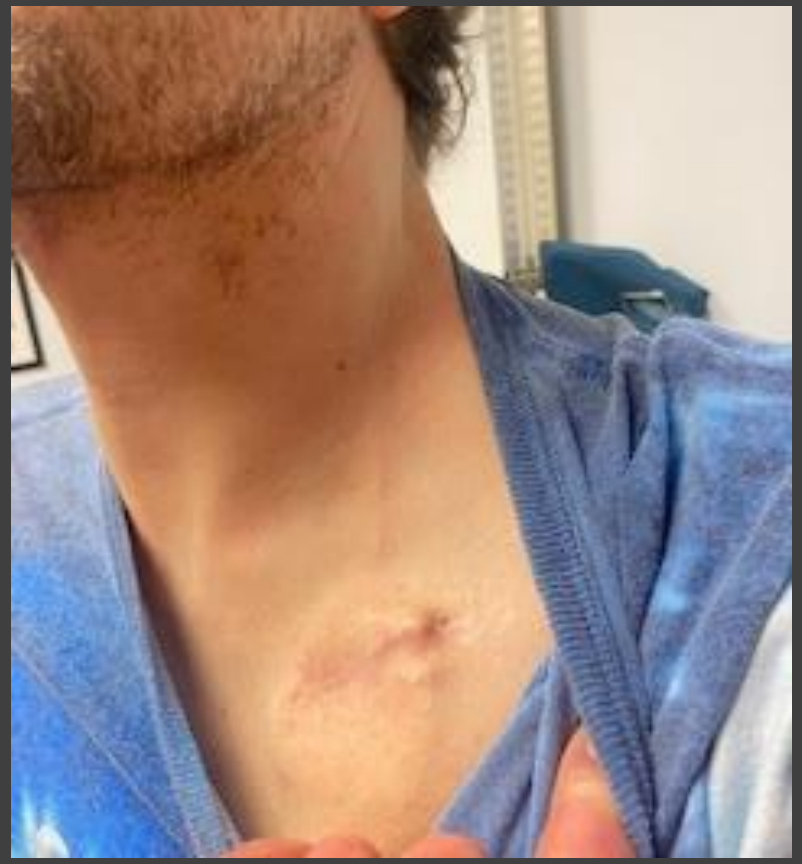
"Equipment Rep Lunch"

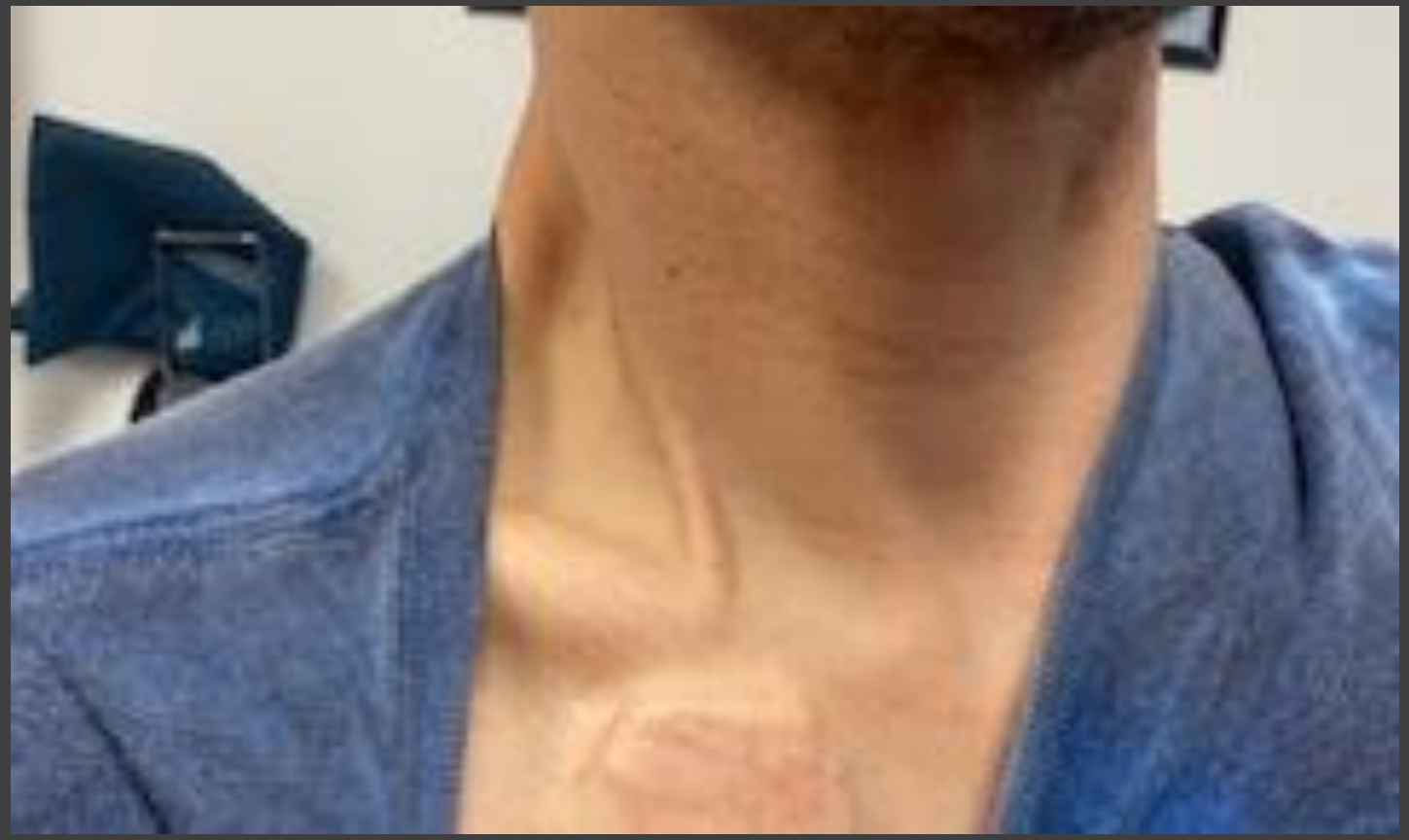
Please let them program stims in your office. VSS
Generally, do not change pumps.
Geography, severity, mobility

Immediately able to take L roll or K ville

If recent implant. Protect like any other surgical wound.







Still technique / Cranial / LAR
muscle energy, not ROM
Sub-occ release
Poster case for
restriction in Neutral

- Intracranial stimulation for Idiopathic non-familial dystonia – could be athetoid CP. Very short ROM, very fast velocity HVLA

OMT is safe and reasonable in any appropriately implanted, anchored SCS, Interstim or Pump after a 12-week post-op period, but there may be a higher risk of lead migration in high C-Spine placement with end ROM. The DO should take the underlying pathology that was the reason for the implantable technology into consideration when choosing and executing their chosen techniques and modalities. ME, myofascial and Cranial can be done POD#1 if ROM is kept neutral and the incision is minded like any other surgical wound.

SUMMARY – Safely Heading Home … and Demo

OMT is most effective as a tool with context of advanced imaging and conventional pain mgmt & MSK techniques. You are a physician, not just a manipulator.
Everyone needs a good initial neruo-MSK exam esp for UMN findings

Thoracic is an easy good starting point
2-3 positions of thenar eminence “pop” is not necessary
Ribs go along for the ride – usually
Top C7-T2 “tractional component” pillows & prone. rolls & stones

Cervical Spine start with pillars
Tip toward/turn away, Direct and Indirect Release
Gentle nudge – articulatory rotation
Upper C spine? use ME, LAR and stretching

Lumbar is easy to do the L-roll – after K-Ville
Intimate with SIJ- tender side up
P=posterior innominate =Popliteal

Sacral torsions/pubic often correct with Innominate/lumbar corrections and pubic as lowest energy state

Do not be afraid of implantable technologies.

Start Demo and “I will be around”

- [ ] Questions

My OMT documentation copies are at the end of this PP. Read the Disclaimer

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DISCLAIMER

These are my personal general OMT templates – They need to be modified often on a case-by-case and they don't specify Left/Right. They reflect how I personally document what I feel and perceive and how I verbally express my treatment for documentation. They are not endorsed by any organization, not Iron-Clad and have never been anything other than essentially ignored when audited by Medicare. They have been received by and reimbursed in my area by third-party payors within the context of the rest of my NeuroMSKOrtho note.

They don't include not putting force vectors through fused segments – such as L3-5 laminectomy with fusion or C5/6 ACDF

Happy to email them to anyone in Microsoft word format, to edit.

If you choose to use them, use them as a starting point and make them what YOU feel and perceive. IV analogy

Template Exam-OMT dysfnx: PHYSICAL EXAM SECTION OF NOTE – justification for treatment

Multiple areas of intersegmental osteopathic dysfunction Thoracic and Assoc rib. T1-4 flexion and 4-6 extension. C4,5,6 RrSl, T1/2 restricted with Assoc 1st rib restriction. Taut banding and trigger areas with tissue asymmetry (TART) along thoracodorsal fascial and well up into C spine involving articulatory dysfunction and secondary soft tissue and fascial pain are noted on layer by layer palpation. Unilateral posterior innominate with contralateral anterior with Assoc pubic symphyseal restriction. Minimal Up slip on posterior innom side, not on contralateral. L5/S1 rotated towards posterior innom and secondary sacral torsion with axis on contralateral side. No flexion or extension sacral dysfunction. L restriction L1-4 with tissue asymmetry and guarding. ICD 10 M99.01-05, and 08. Pubic sympyseal dysfunction is inferred in rotation without up/down slip based on sacral and innominate dysfunction.

TEMPLATE for OMT Sub-Occiput

Sub-occipital release techniques in a supine position were performed with the use of type II muscle energy for rotation and nutation/counter-nutation appreciating the tight sub-occipital side on examination. Direct stretching without Type III muscle energy, V-spread techniques, and OA /AA stretching with rocking and nudging but without high-velocity OA AA techniques were employed. Type II muscle energy is used for AA rotation in the direction of the restricted side. Some recognition of and adjustment to the craniosacral rhythm was made approximating CV IV technique and V-Spread addressing the temporo-occipital sutures.

TEMPLATE "OMT CTR" in the covid era

Quick skin check again verifies clinically afebrile. Both the patient and my mask are verified intact, in place and snug. Multiple areas of commonly-seen previously documented osteopathic dysfunction, with associated rib dysfunctions mostly in inhalation, in addition to restrictions noted in Thoracic and Cervico-Thoracic junction, which had been identified and appreciated on exam are addressed. The patient understands smooth transition from physical exam into treatment sequence is routine in this office.

The hydrocollator was removed from the prone patient, and the patient positioned supine. A Standard "Kirksville" maneuver with Tractional vector and F.U.E.L . acronym technique, approximately T1-4 flexed and T4,5,6 extended, was gently articulated. Specific attention was given to the C7-T1 which was articulated separately with extension hand-up move. Multi-level, bilateral rib dysfunctions reseated with the modified side bending and K-ville using the fulcrum more laterally. Lower thoracic mobilized from AP compression as well with side-bending consideration. Additional levels mobilized in neutral and lateral tractional rotational maneuver lifting the shoulder from the back and rolling towards me while placing a counter vector into the ASIS. Well/ poorly/ marginally tolerated and subjective improvement was noted/denied/uncertain.

Cervical restriction appreciated in side-being plane was articulated with a Tip-Towards, Rotate-Away technique articulating C3,4,5,6 RrSl and C6/7 Rl,Sr. Some myofascial tractional work was then done with the patient still supine and direct articular release of the C7/T1 was done with a gentle tractional technique. Long-lever mechanism used putting no force vectors through the cervical spine and maintaining slight C flexion. No force vectors were done through C-spine, just articulatory opportunity manuevers. This physician inhaled prior to treatment and did not exhale until 6 feet from patient. Patient was told to breath out before K-ville.

TEMPLATE "UE OMT"

The lunate/ mid-wrist was re-seated and longitudinally gapped with pressure over the mid-wrist and a wrist extension muscle energy and whip technique. Ipsilateral AC joint was reseated with facilitated positional release and shoulder anterior rotation Radial head was verified with/ without osteopathic restriction. Type II Muscle energy was used for pronation/Supination for ROM symmetry.

TEMPLATE Lumbar Stabilization

Reviewed basic isometric abdominal stabilization program and core strengthening . Gave tactile and verbal feedback during pelvic tilt. Advised to hold for 10-20 seconds and rest for 10-20 seconds and 5-10 cycles in the evening such as during TV show, doing them during commercials etc. Explained how is it not quite a sit-up but similar, and they can progress to sit-ups and then elbow to opposite knee. Advised to avoid Lumbar sacral extension, and focus on tightening their abdomen. Went over this being the most important exercise in all of back care.

TEMPLATE Corner Stretches

Demonstrated “corner-stretches” as a home modality/exercise program for anterior chest stretching for 15-30 seconds and leaning in slowly, not jerking, as part of the myofascial home exercise/stretching program. Using a 90 degree corner and placing hands at or slightly below level of shoulder/GH region. Reviewed then alternating with the posterior rhomboid isotonic contractions with elbows at 90 and shoulder ABDucted, done in-between the corner stretches holding for 10-15 seconds and the corner stretches in between, and a TheraBand or other resistance can also be used. Reviewed that this is approaching myofascial pain as a type of relative deconditioning and is the early portion of a home exercise program. Physical therapy consult initiated/ held off for now/ sent for training only/ sent for band only.

Paraffin Bath. Deep Heat. Skin and MSK. TV. Raise Hands. Multiple Dips/Wrap.
Physician Wellness is not Important it's critical and Underestimated