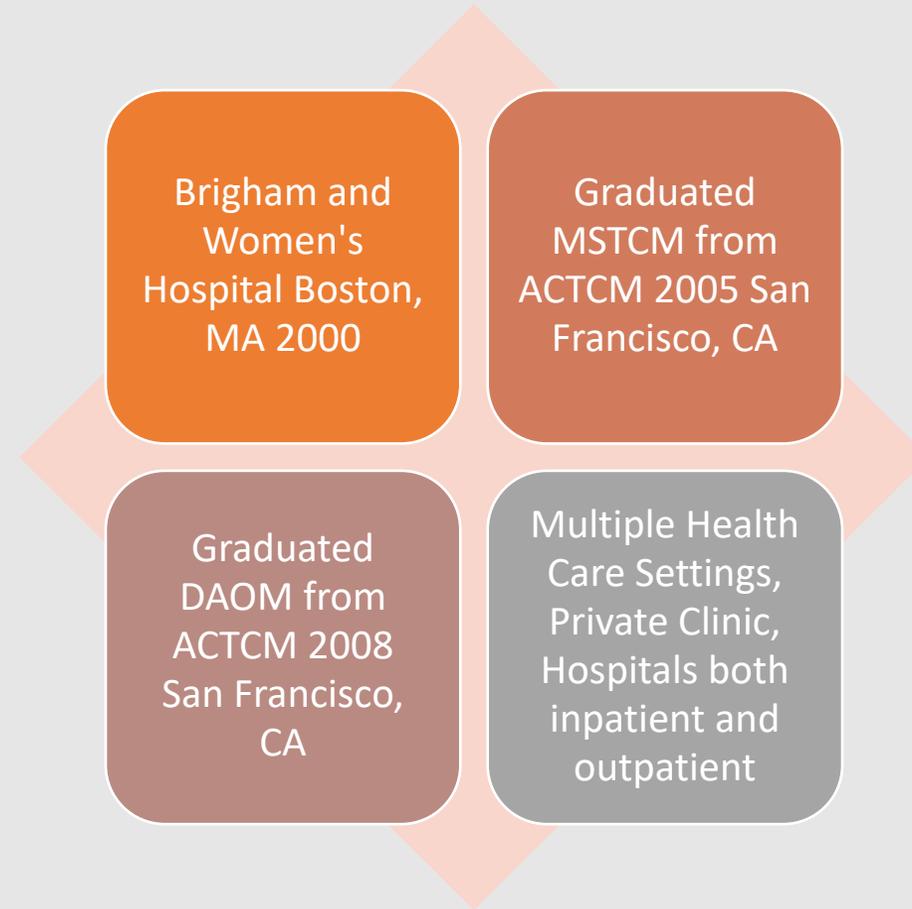


Foundations of Pelvic Floor Acupuncture

Jamie Hampton, DAOM, L.Ac.

Jamie Hampton, DAOM, L.Ac





But why?

- The big reason why: NO ONE WAS TREATING IT
- We do everything else, so why not this?
- Roughly One Quarter of **U.S.** Women Affected by **Pelvic Floor** Disorders. Nearly 24 **percent** of **U.S.** women are affected with one or more **pelvic floor** disorders, report researchers funded by the National Institutes of Health.Sep 17, 2008
- Up to 50% of women who have given birth have a pelvic floor dysfunction
- [Roughly One Quarter of U.S. Women Affected By Pelvic Floor ...](#)
- [www.nih.gov › news-events › news-releases › roughly-...](#)

Understanding the Pelvis as your foundation

- Everything is anchored to the pelvis, and it acts like a very complex structure that not only holds us together, but that distributes shear forces and pressure from our limbs and organs as well as external forces.
- It is important to step outside of our TCM paradigms and think about it purely as an exquisite work of architecture and structural engineering.
- Traditionally when we think of the pelvic floor, it's its own special structure, and we don't consider it outside of our patient's pain complaints. This is where we need to realize an important missing piece in the puzzle when our patients seek out treatments for lumbago, hip pain, abdominal pain (also consider gyn issues).
- We must integrate the Pelvic Floor into our treatments.

Treating Pelvic Floor Patients

- The principles that we use as acupuncturists to treat our musculoskeletal patients isn't terribly different than what we would do treating pelvic floor disorders
- As a matter of fact, there are so many right ways to treat your patients with Pelvic Floor Disorder that any help they are receiving from you is of course extremely beneficial, and provides relief they haven't been able to find anywhere else

Pelvic Floor? How did you get started in that?

- Love treating acute/chronic pain conditions
- You get results that patients feel immediately!
- Opportunity to help address factors contributing to pain
- Collaborating with other physical health practitioners (and learning from it!)
- Love for anatomy and physiology
- Natural curiosity for whole body health (emotional, visceral/physical)

Everything affects the PF, and Vice Versa

- What I mean by that is: if you have ever treated Hip Pain you have directly affected the pelvic floor
- If you have ever treated Low Back Pain, you have affected the pelvic floor.
- If you have ever treated abdominal pain, infertility, gynecological disorders, hernia, Lower GI disorders you have ALREADY begun to treat Pelvic Floor structures.

Simple Graphic:



What is the pelvic floor?

- Functions: Stability and Support
 - Posture, walking
 - Holds and supports digestion and reproductive organs
 - Helps with sexual and digestive function (urination, bowels, sex)

•

What is the pelvic floor?

- It is a hammock comprised of 14 (!) different muscles, as well as ligaments and fasciae
- Divided into layers, compartments, and triangles to help us organize it
- Fasciae covered in more detail in the advanced course

What is covered this weekend?

- This class we focus on anatomy and the location and needling of muscles and ligaments, which will have a huge impact on treating pelvic floor dysfunctions
- This class also covers palpation, needling technique, treatment considerations, ethics, and many other extremely important aspects of treating pelvic floor patients

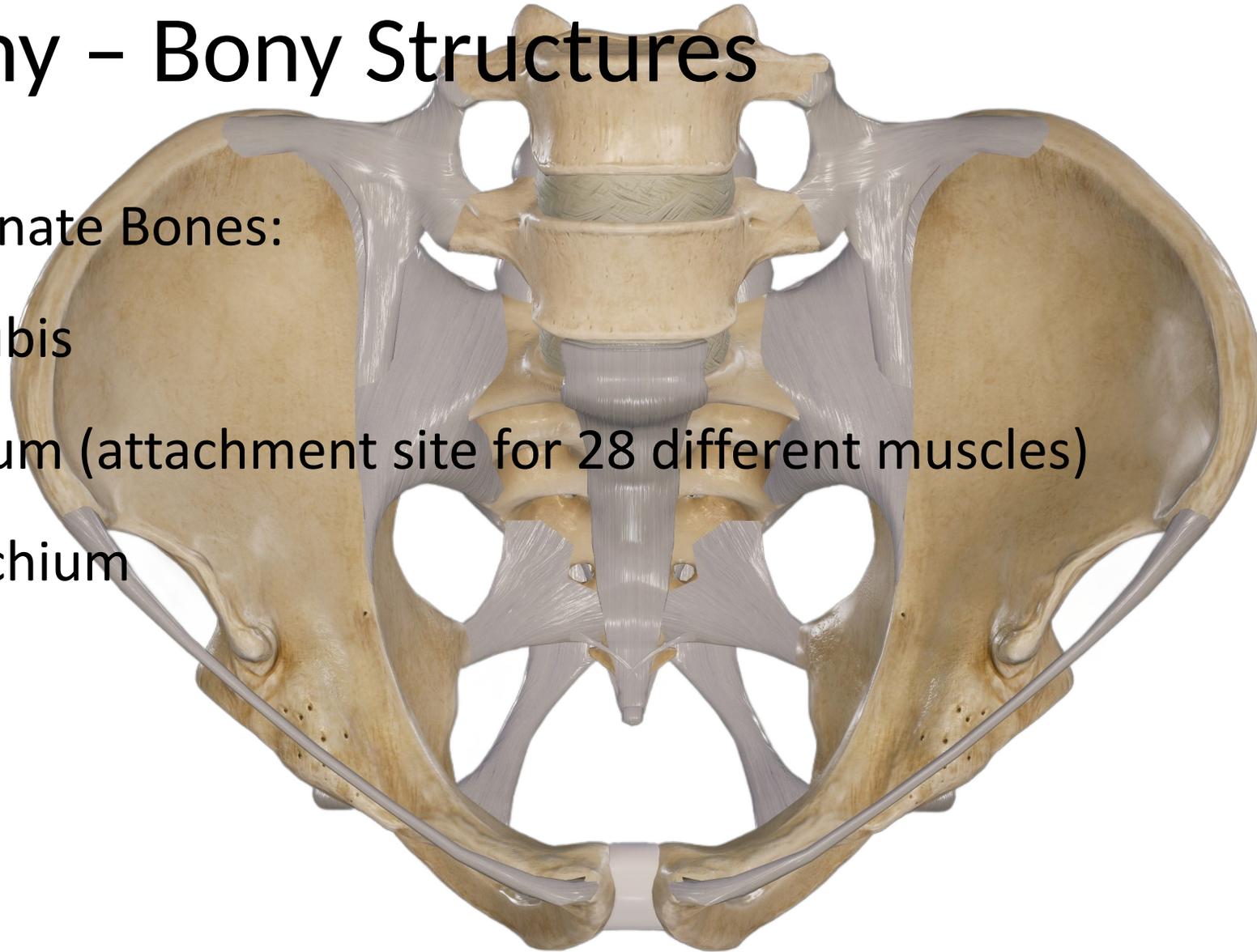
Unwrapping the Pelvis

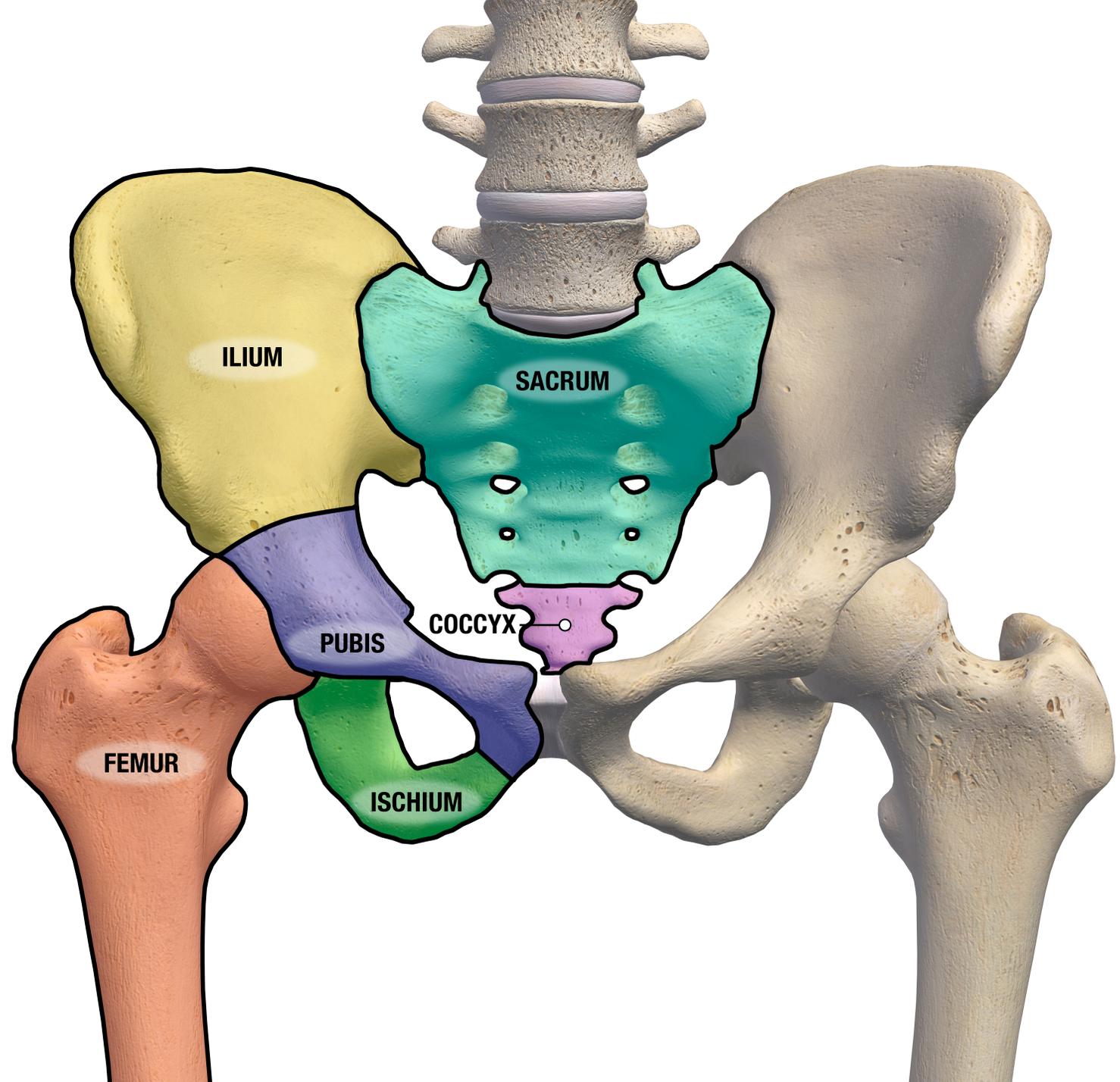
- We will construct the pelvic floor and dive into foundations of the structure
- Seeing this model in real time will help you understand the tensegrity of this strong, yet somewhat mysterious structure

Anatomy – Bony Structures

3 Innominate Bones:

1. Pubis
2. Ilium (attachment site for 28 different muscles)
3. Ischium





ILIUM

SACRUM

COCCYX

PUBIS

ISCHIUM

FEMUR

Coccyx

- Why is the coccyx important?
- Despite its small size, the coccyx has several important functions. Along with being **the insertion site for multiple muscles, ligaments, and tendons**, it also serves as one leg of the tripod—along with the ischial tuberosities—that provides weight-bearing support to a person in the seated position.
- Attachments include:
 - Sacrococcygeal Ligament
 - Coccygeus muscle, gluteus maximus, and levator ani all have attachments

The coccyx - is it “useless”?

- From Wikipedia:
- “The coccyx is not entirely useless in humans, [\[11\]](#) based on the fact that the coccyx has attachments to various muscles, tendons and ligaments. However, these muscles, tendons and ligaments are also attached at many other points, to stronger structures than the coccyx. It is doubtful that the coccyx attachments are important to the well-being of humans, given the large number of coccygectomy procedures performed annually to treat coccydynia...”

The "useless" coccyx

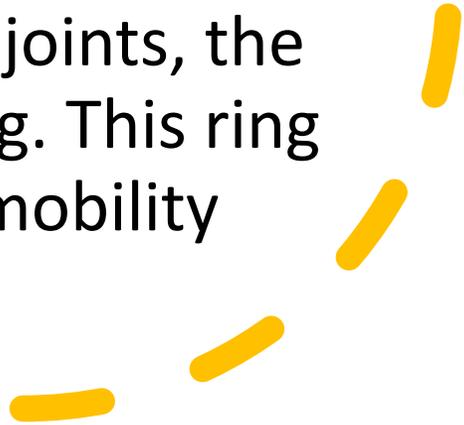
- “Reviews of studies covering more than 700 coccygectomies found the operation was successful in relieving pain in 84% of cases.[\[12\]](#)[\[13\]](#) 12% of the time, the only major complication faced was infection due to the proximity to the anus. One notable complication of coccygectomy is an increased risk of perineal hernia.”
- What other long-term affects could this have? Function and imbalances created long-term and not recognized
- Arrogance of removing a part of the body and thinking there are no long term consequences
- Remember “junk DNA”?

Sacral/Pelvic Ligaments

The main ligaments of utmost importance:

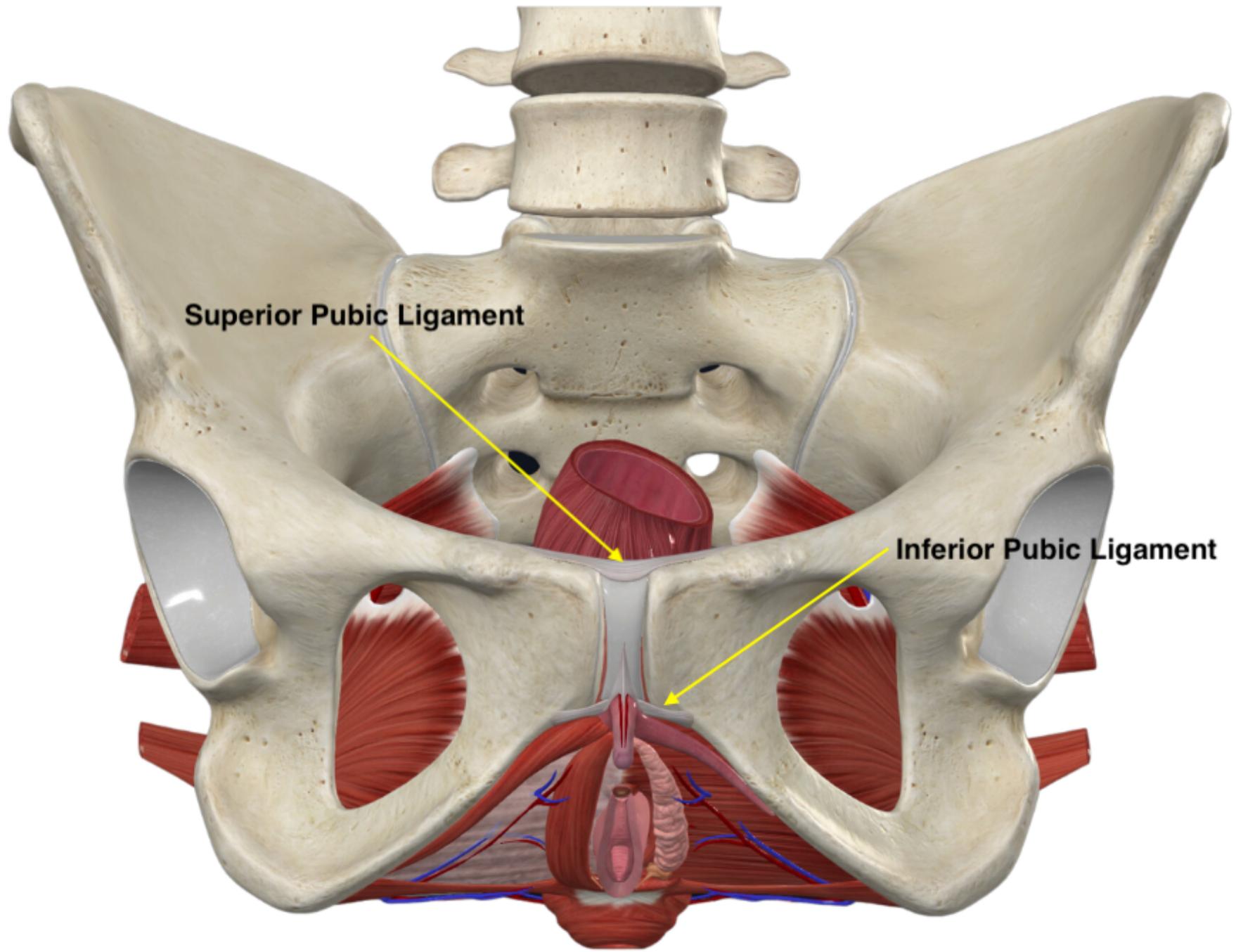
- Pubic Symphysis (cartilaginous joint) + SPL and IPL
- Sacrotuberous Ligament
- Sacrospinous Ligament (both the STL and SSL are major contributors to Pudendal Neuralgia)
- Posterior Sacroiliac Ligament

Pubic Symphysis

- The pubic symphysis is found on the anterior side of the pelvis and is the anterior boundary of the perineum.
 - It is a fibrous cartilaginous joint in the median plane, the symphysis pubis.
 - The joint keeps the two bones of the pelvis together and steady during activity
 - In cooperation with the sacroiliac joints, the symphysis forms a stable pelvic ring. This ring allows for only a small amount of mobility
- 

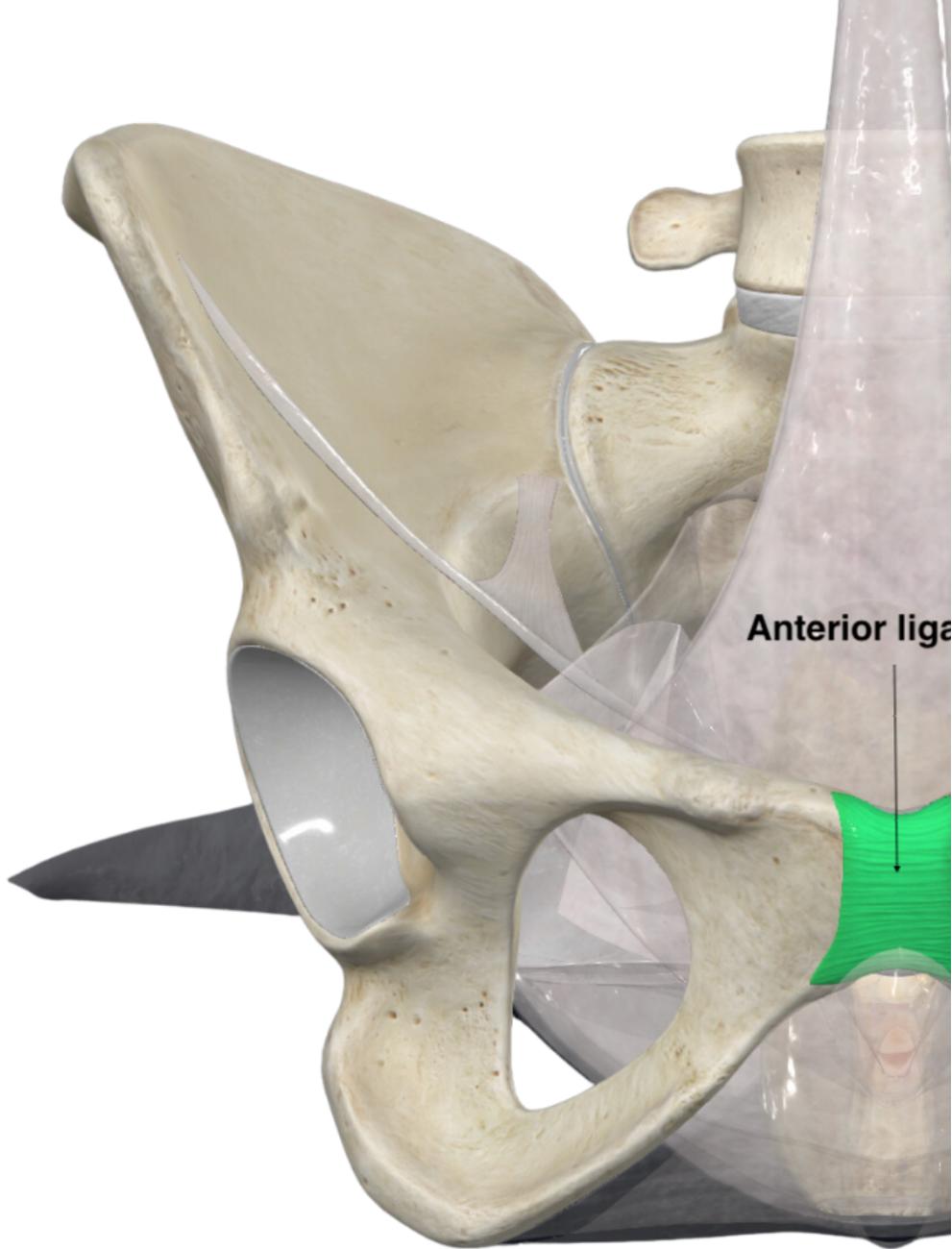
Pubic Symphysis Ligaments

- Superior surface is the superior pubic ligament
- Inferior surface is the inferior pubic ligament (arcuate ligament)
 - Form the lower border of the pubic symphysis and blends with the fibrocartilaginous disc.
 - Rupture of this ligament can cause groin pain from resulting lack of stabilization of the symphysis pubis
 - Joint stability is mostly given by the arcuate ligament and is also the strongest one
 - Also anterior and posterior ligaments
 - All ligaments resist shearing, compression, and tensile forces of pelvis

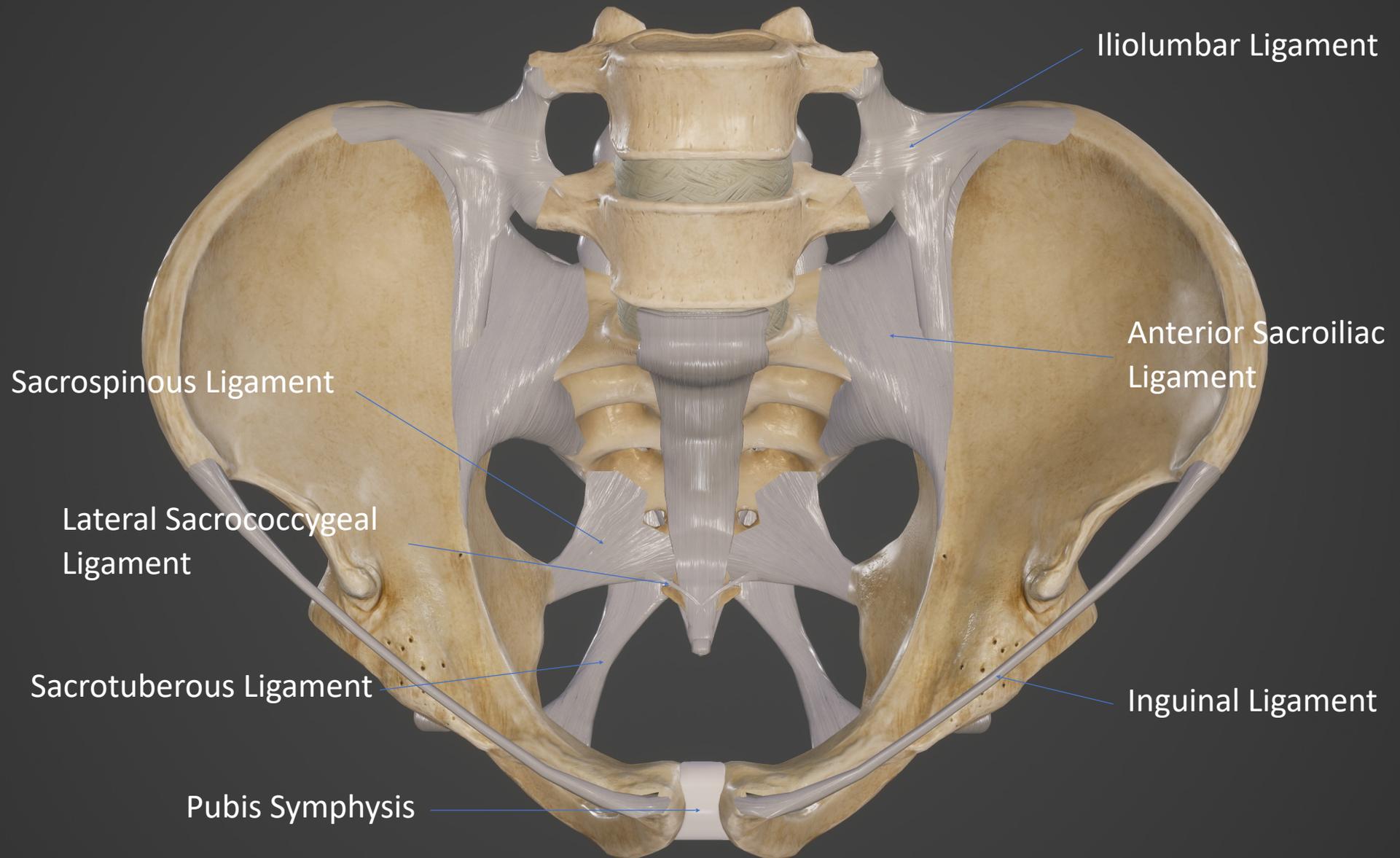


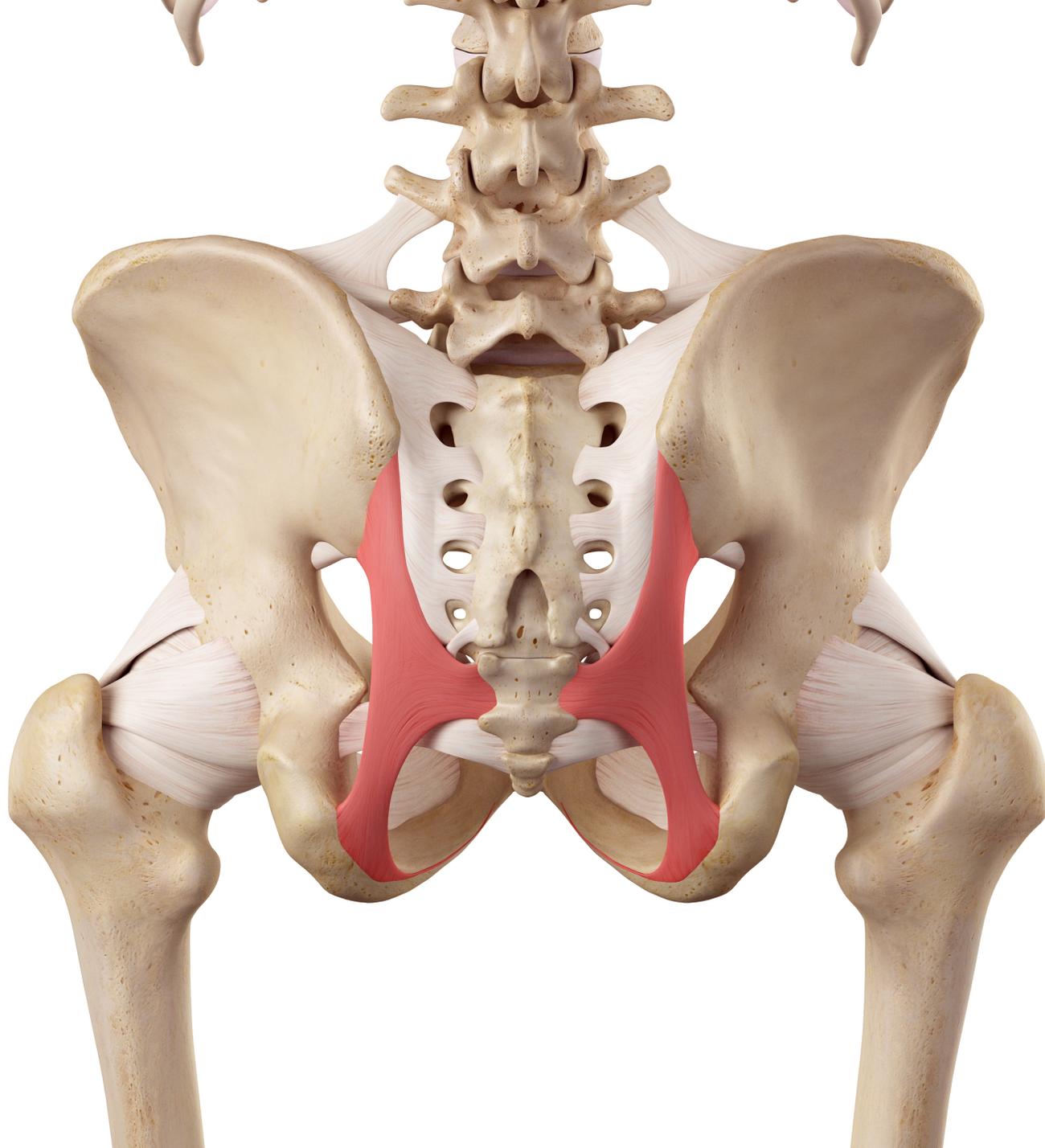
Superior Pubic Ligament

Inferior Pubic Ligament



Pubic Symphysis Anterior Ligament





Sacrotuberous
ligament

Sacrospinous Ligament - STL

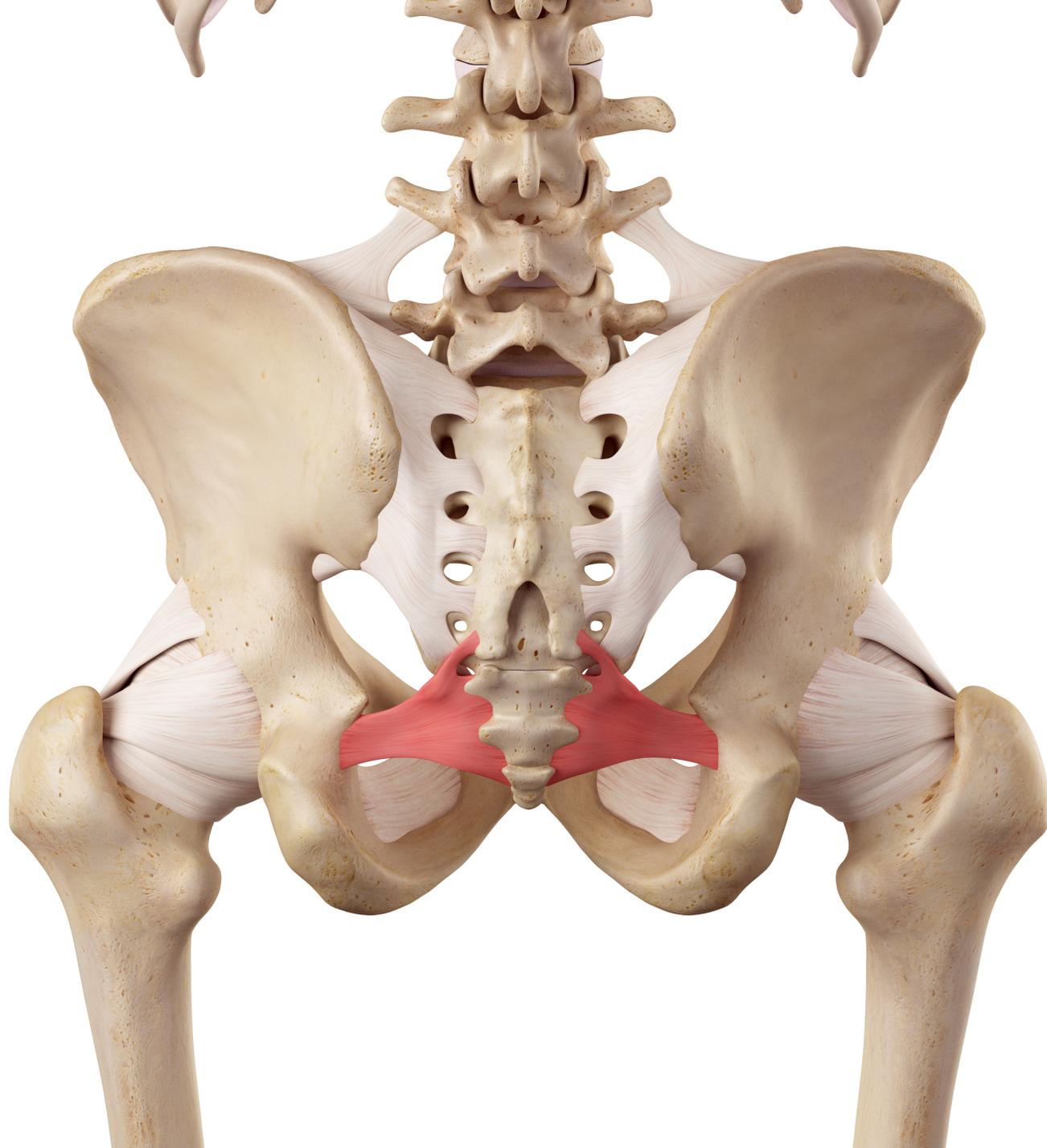
- The STL has a broad fan-like origin from the sacrum, [coccyx](#), ilium and sacroiliac [joint](#) capsule. Its fibers converge to course caudally to insert into the medial ischial tuberosity and additional fibers (known as the falciform ligament) extend to the ischial ramus
- Function: The (STL) is a stabilizer of the [sacroiliac joint](#) and connects the bony [pelvis](#) to the vertebral column
- Assists in pelvic stability
- Prevents rotation of the ilium
- Prevents excessive twisting of the pelvis, LB and SI joint

Sacrospinous ligament function

It forms a boundary of the greater and lesser sciatic foramen. Many of its fibers blend with other musculotendinous structures:

- Provides extensive insertion for the [gluteus maximus muscle](#)
- Distal fibers partially blend with the proximal tendon of the long head of [biceps femoris](#)
- [Sacrosinous ligament](#)
- Dorsal [sacroiliac](#) ligament

•The sacrotuberous ligament is pierced by coccygeal branches of the inferior gluteal artery, the perforating cutaneous nerve, and branches of the coccygeal plexus.



Sacrospinous
Ligament



Sacrospinous ligament

- ATTACHMENTS:

- The upper end is attached from above:

- Downwards to the posterior superior iliac spine,
- Posterior inferior iliac spine,
- Lower section of the posterior surface, Lateral border of the sacrum,
- Adjoining upper section of the coccyx.

- Its lower end is attached:

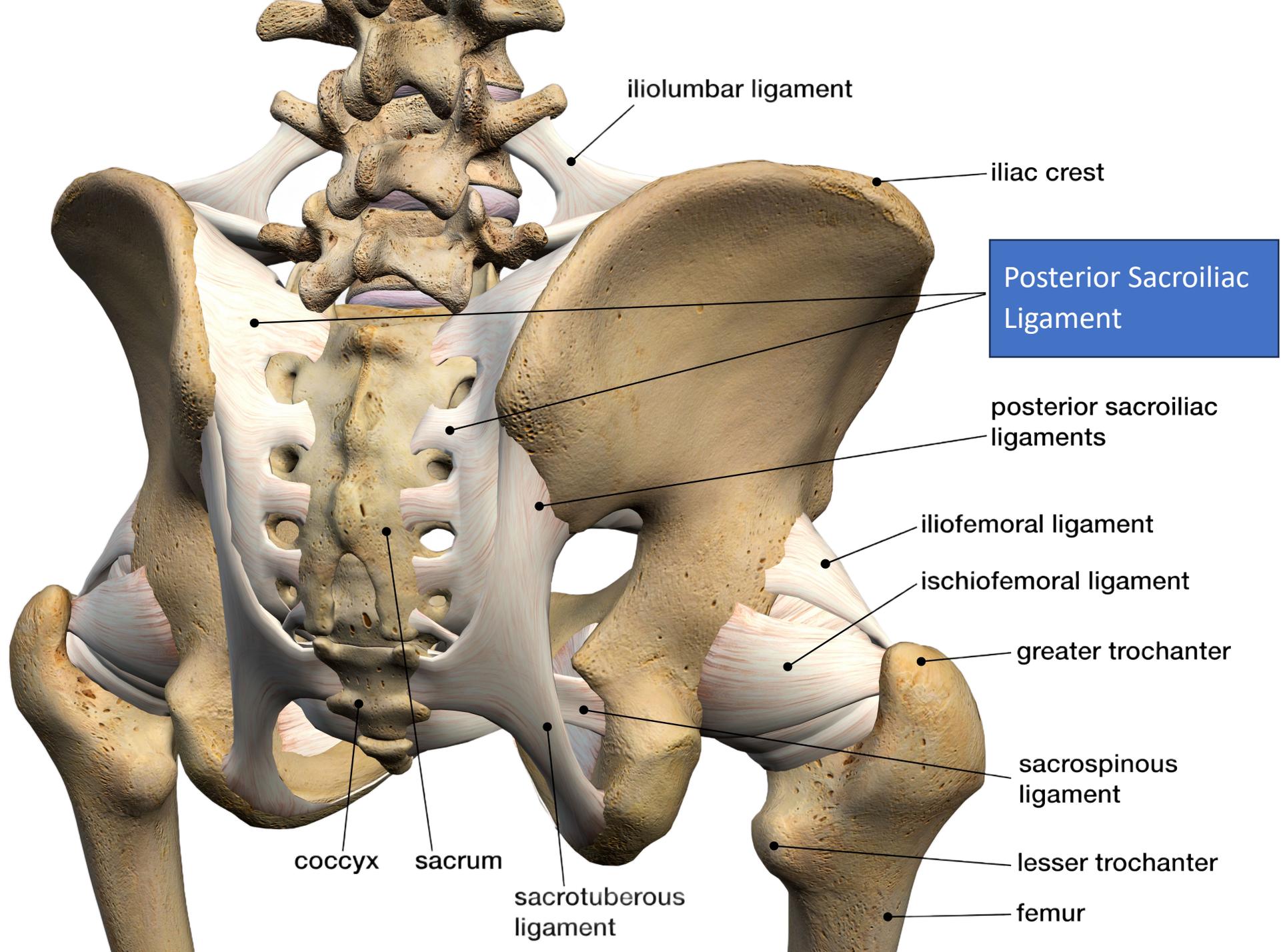
- To the medial margin of the ischial tuberosity.
- A few of the fibers from the lower end are continued on to the ramus of the ischium to form falciform process.

Sacrospinous ligament

- The sacrospinous along with sacrotuberous ligaments are major constituents of the lateral pelvic walls.
- Sacrotuberous ligament together with the sacrospinous ligament help define the apertures between the **pelvic cavity** and adjacent regions through which structures pass.
- They also transform the greater and lesser sciatic notches of the pelvic bone into foramina.

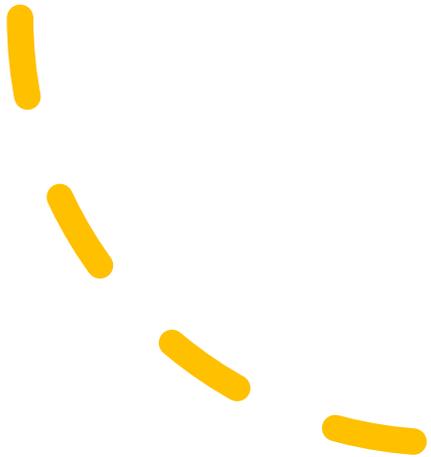
Sacrospinous ligament

- The **greater sciatic foramen** lies superior to the sacrospinous ligament and the ischial spine.
- These ligaments stabilize the **sacrum** on the pelvic bones by inhibiting the upward tilting of the inferior part of the sacrum
- Prevention of the lower end of the sacrum and the coccyx from getting rotated at the sacroiliac joint due to the weight of the body is done by sacrotuberous and the sacrospinous ligaments.

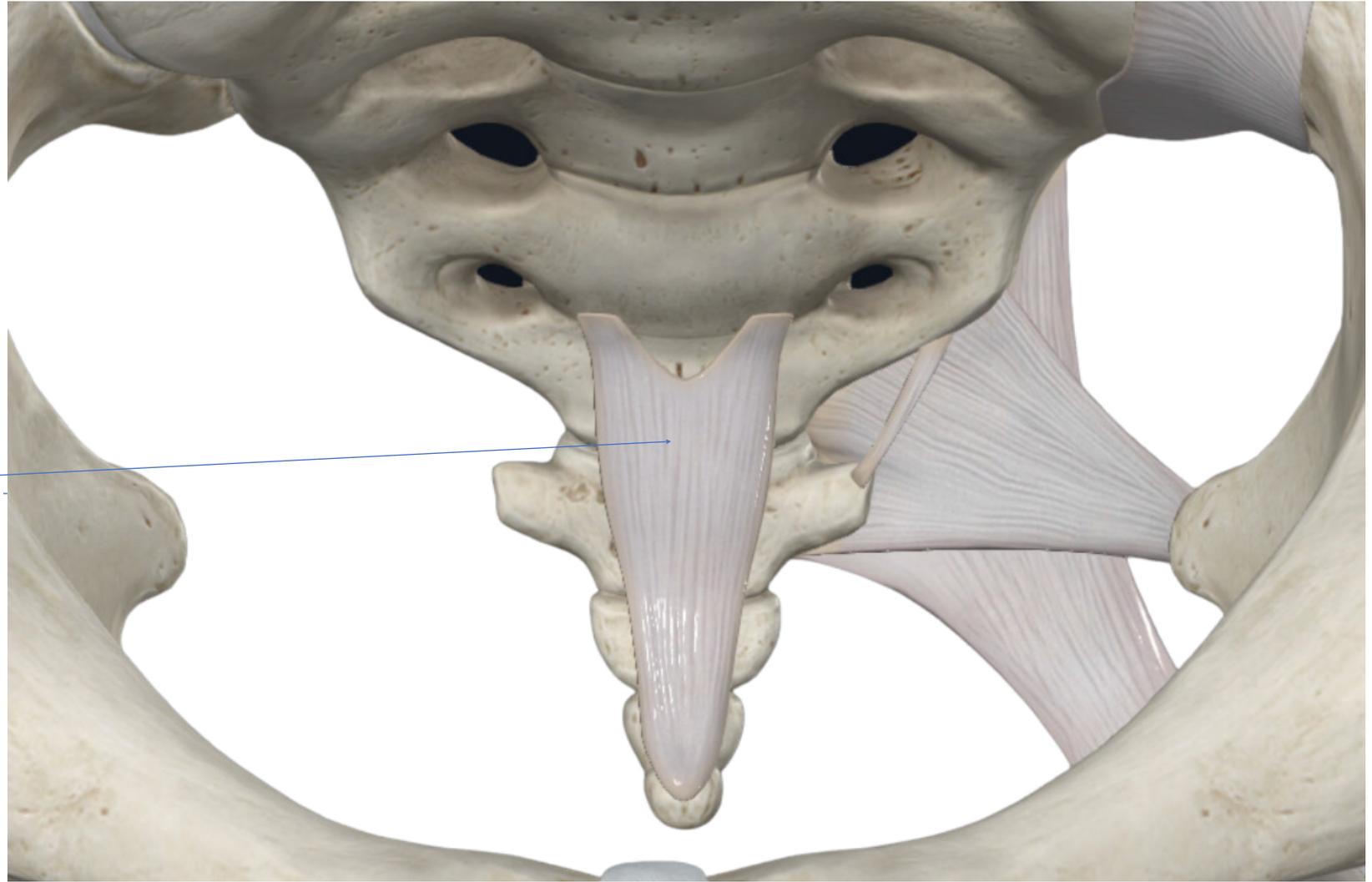


Posterior Sacroiliac Ligament

- The posterior SI ligament runs **along the back of the sacroiliac joint** and provides considerable stability. The ligament connects the back of the hip bones (posterior-superior iliac spine and iliac crest) to the sacrum. There are two components of the posterior SI ligament: Long posterior sacroiliac ligament.



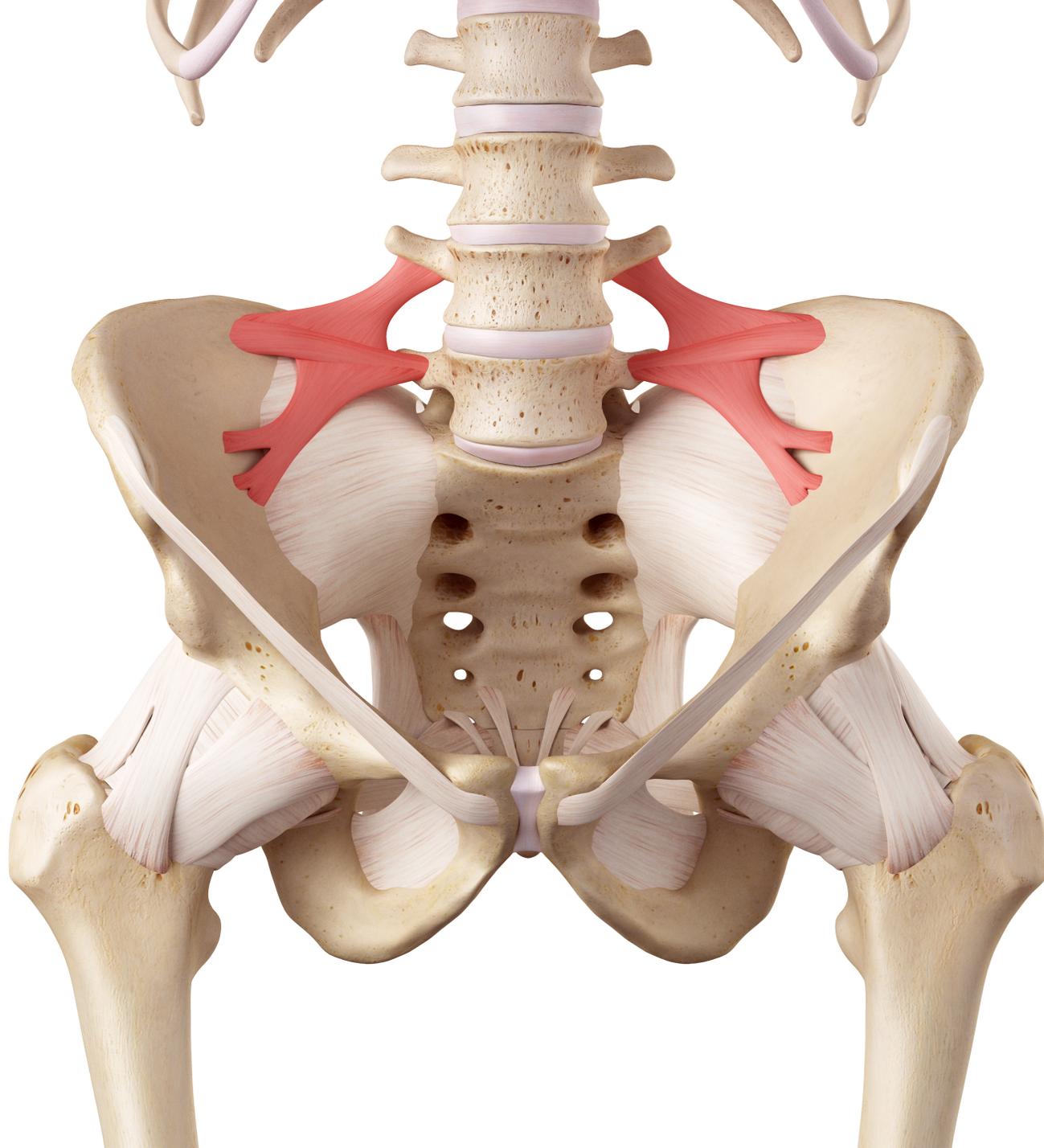
Sacrococcygeal Ligament



Sacrococcygeal Ligament

- Dorsal sacrococcygeal ligament

- Deep portion - from the inside sacral canal at the 5th sacral segment to the dorsal surface of the coccyx; continuation of the posterior longitudinal ligament of the spine
- Superficial portion - from free margin of sacral hiatus to dorsal surface of the coccyx; corresponds with the ligamentum flavum of the spine
- Lateral sacrococcygeal ligament - from the inferior lateral angle of the sacrum to the transverse process of the 1st coccygeal vertebra



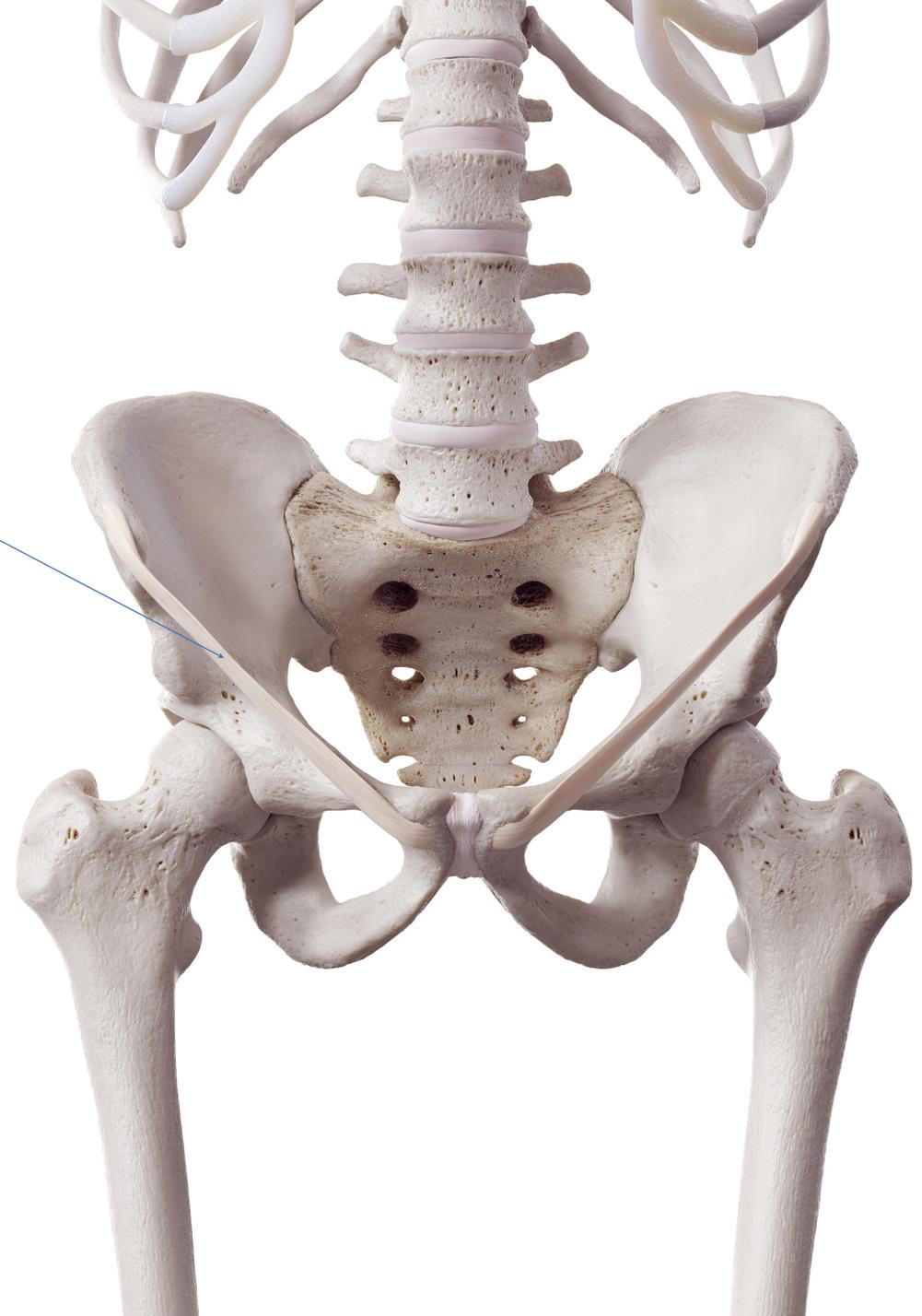
Iliolumbar ligament

- Iliolumbar ligament - from the tip of the transverse process of L5 to posterior aspect of the inner lip of iliac crest; strengthens the [lumbo-sacral](#) joint.



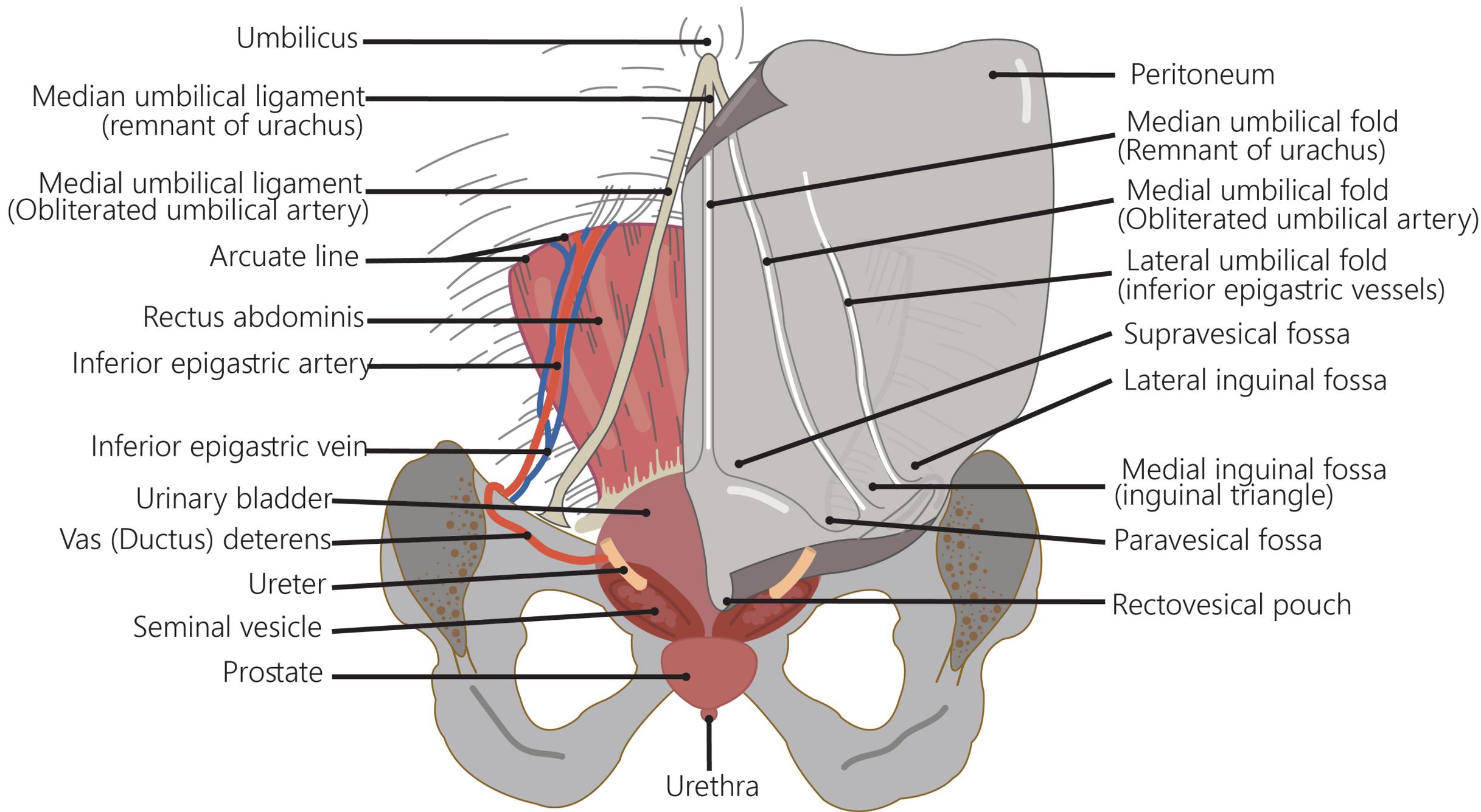
Inguinal Ligament

- ASIS to pubis symphysis
- Can be an area of nerve entrapment
- “It is formed by the free inferior border of the aponeurosis of the external oblique muscle, which attaches to these two points”
- <https://www.kenhub.com/en/library/anatomy/inguinal-ligament>



Urachus/Median Umbilical Ligament

- Composed of smooth muscle fibers close to the bladder
- It becomes more fibrous as it approaches the umbilicus.
- Attaches to the apex of the bladder and travels superiorly to the umbilicus. This structure is also known as the urachus.
- Function: The median umbilical ligament is a remnant of the allantois, a canal that ran from the apex of the bladder to the umbilical cord in the developing fetus. Its function was to allow for the exchange of gases and removal of liquid waste (Dorland, 2011). The allantois largely closes and is referred to as the urachus or median umbilical ligament after birth. According to the conventional medical thought, as an adult this structure serves no function.



Umbilicus

Median umbilical ligament
(remnant of urachus)

Medial umbilical ligament
(Obliterated umbilical artery)

Arcuate line

Rectus abdominis

Inferior epigastric artery

Inferior epigastric vein

Urinary bladder

Vas (Ductus) deferens

Ureter

Seminal vesicle

Prostate

Urethra

Peritoneum

Median umbilical fold
(Remnant of urachus)

Medial umbilical fold
(Obliterated umbilical artery)

Lateral umbilical fold
(inferior epigastric vessels)

Supravesical fossa

Lateral inguinal fossa

Medial inguinal fossa
(inguinal triangle)

Paravesical fossa

Rectovesical pouch

Endopelvic Fascia Ligaments

Ligaments and fascia hold everything in place

- Pubovesical ligaments – extension of the detrusor muscle (bladder); attaches bladder to pubic symphysis
- Sacrogenital - these are thickenings of the fascia, not specific ligaments
- [Uterosacral ligaments](#) - attach upper vagina, upper portion of cervix and uterus to the 3rd sacral vertebra

Endopelvic Fascia Ligaments

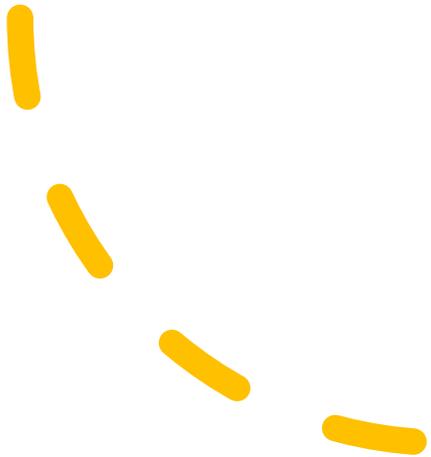
Ligaments and fascia hold everything in place

- Cardinal ligaments (aka Mackenrodt's) - attach upper [vagina](#), cervix and uterus to the sidewalls of the pelvis
- [Round ligaments](#) - attach the [uterus](#) to the mons pubis AND Labia Majora
- Broad ligaments - attach the uterus to the medial aspect of the ilium
- Urachus ligament - attaches bladder to the umbilicus (formed from the remnants of the umbilical vein)

Penile Suspensory Ligaments

Penile Suspensory Ligaments

- Penile Suspensory ligament - attaches to the anterior aspect of the interpubic disc and divides in two to sling around the penis

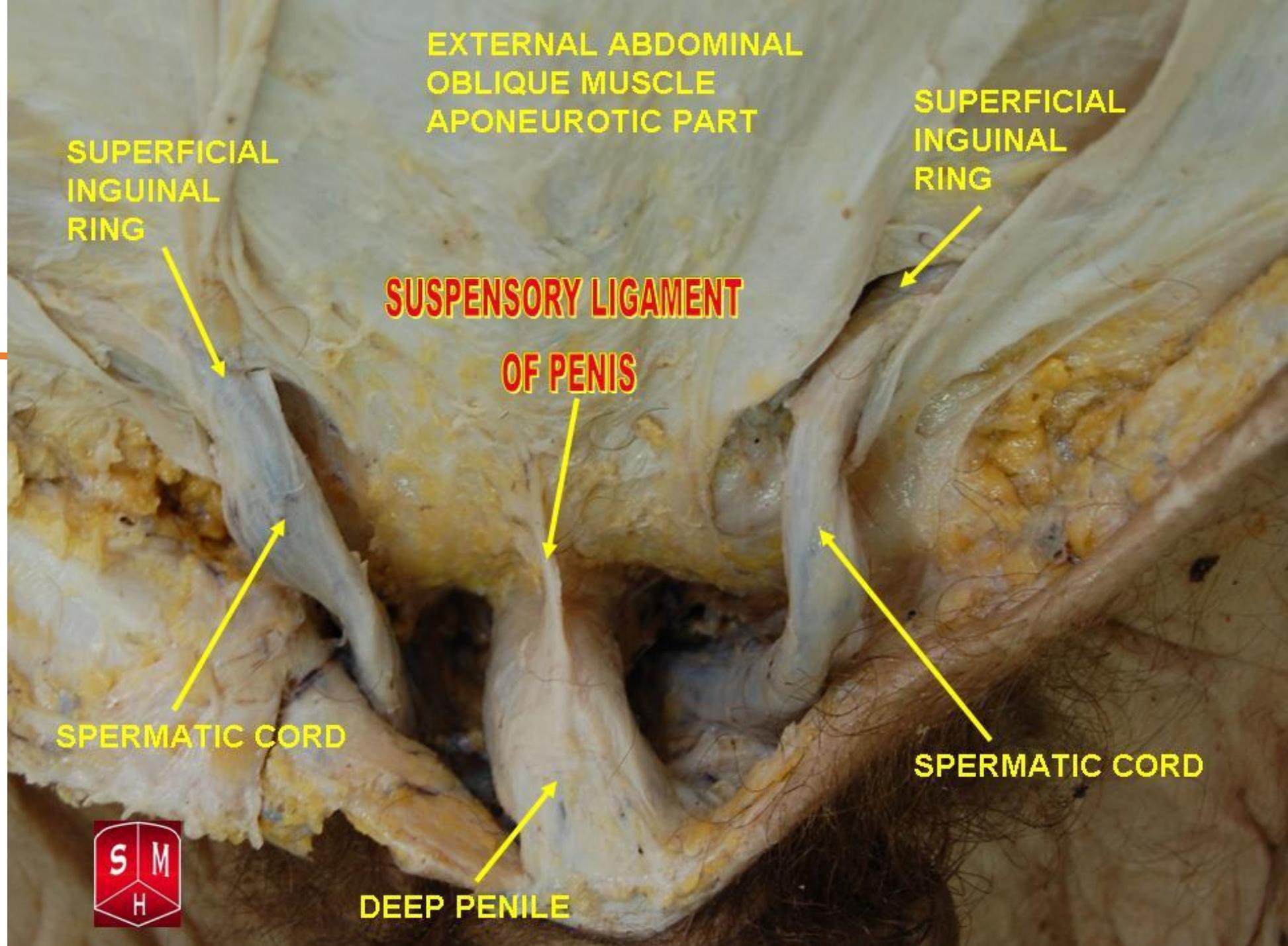


Penile Suspensory Ligaments

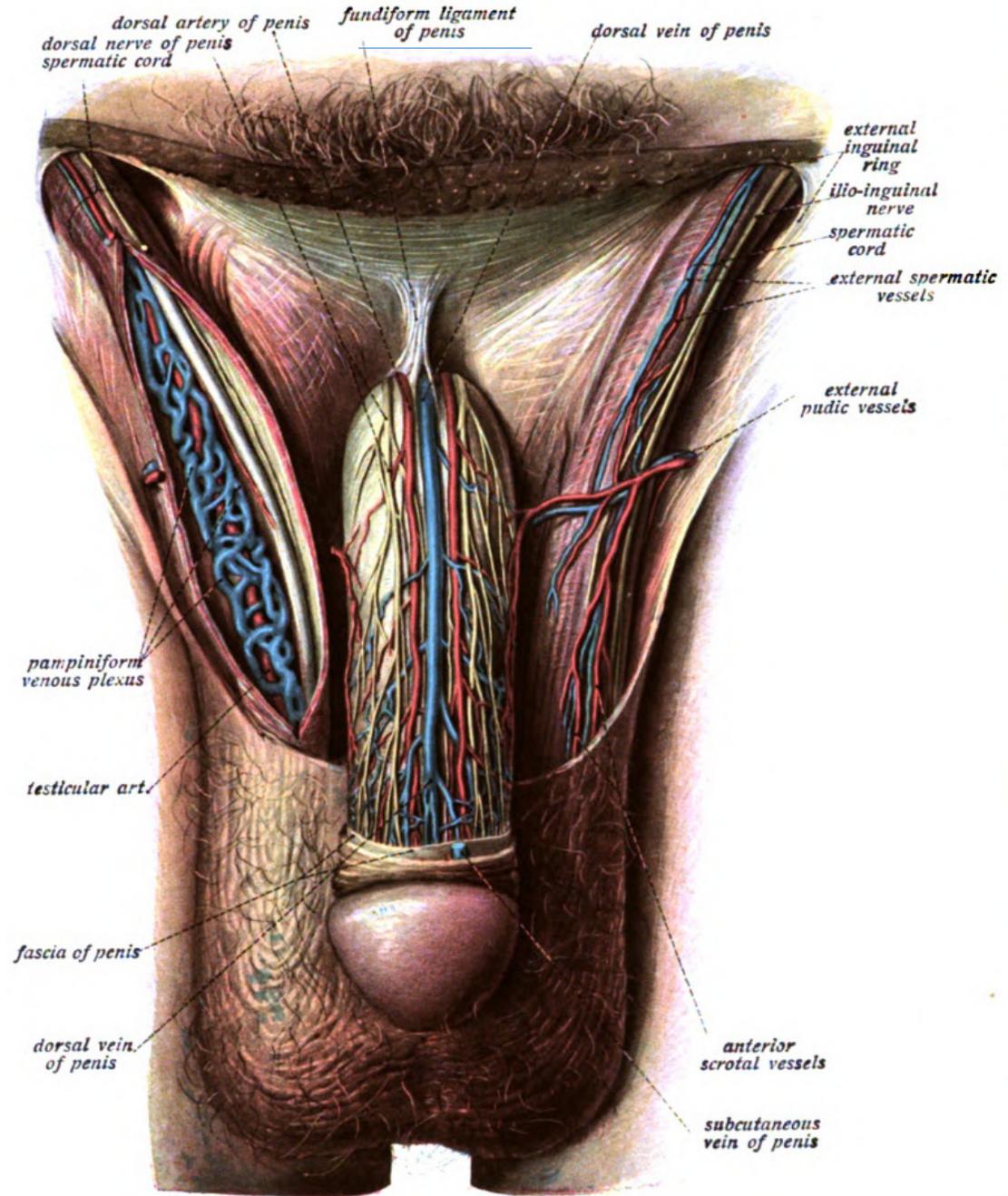
- Fundiform ligament - extends from inferior Linea alba and divides to wrap around the penis
 - The **fundiform ligament** or **fundiform ligament of the penis** is a specialization or thickening of the superficial ([Scarpa's](#)) [fascia](#) extending from the [linea alba](#) of the lower [abdominal wall](#)
 - It runs from the level of the [pubic bone](#), laterally around the sides of the [penis](#) like a [sling](#), and then unites at the base of the penis before going to the [septum](#) of the [scrotum](#)
 - It is just superficial to the [suspensory ligament](#)
 - Although rarely mentioned, this ligament is also found in females

Suspensory
Ligament

Source: By
Anatomist90 -
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SA 3.0, [https://
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curid=17600280](https://commons.wikimedia.org/w/index.php?curid=17600280)



Fundiform Ligaments



Anterior View

- Anterior divisions
- Posterior divisions

The Lumbar Plexus

Iliohypogastric nerve

Ilioinguinal nerve

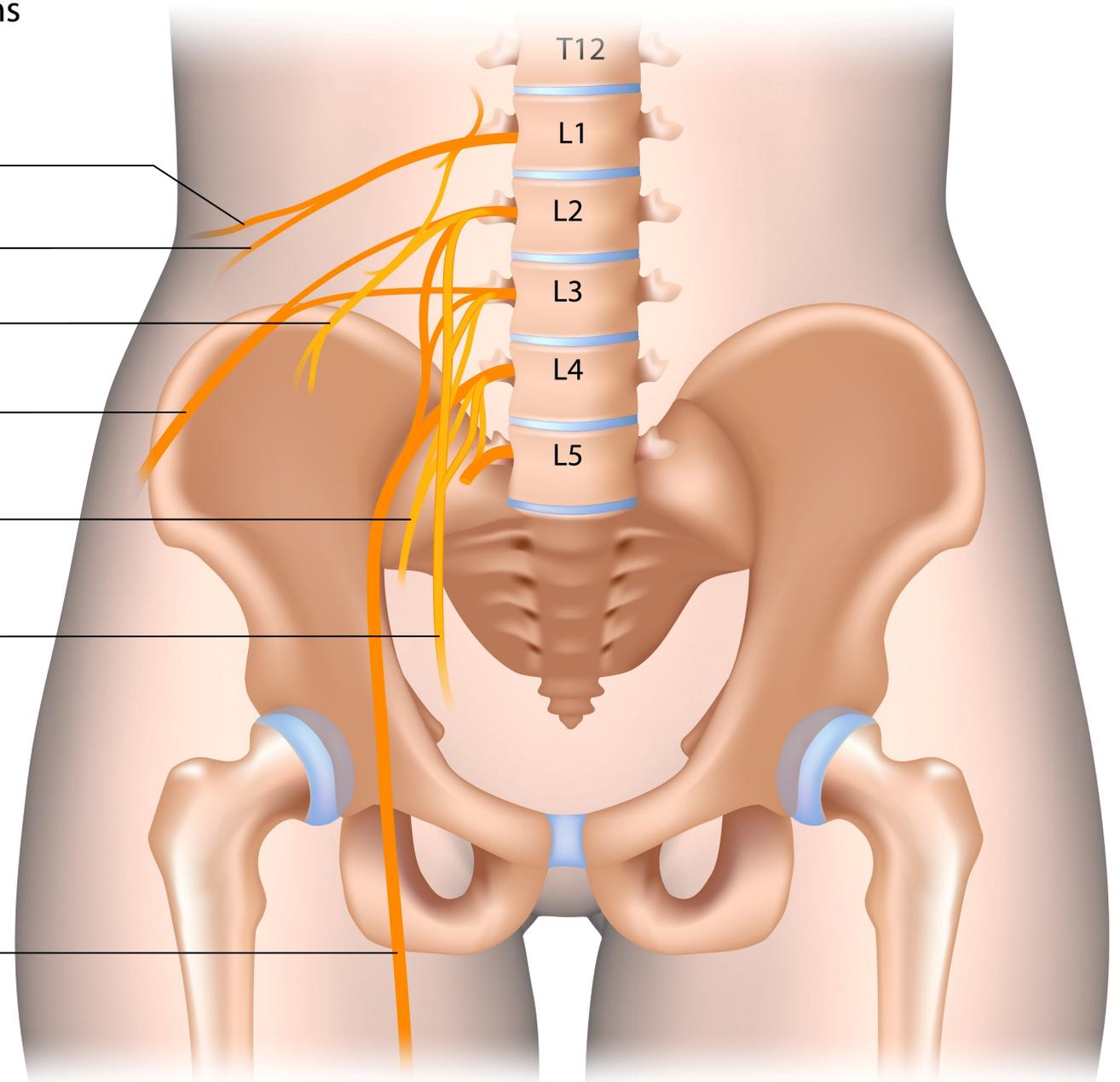
Genitofemoral nerve

Lateral femoral cutaneous nerve

Saphenous nerve

Obturator nerve

Femoral nerve

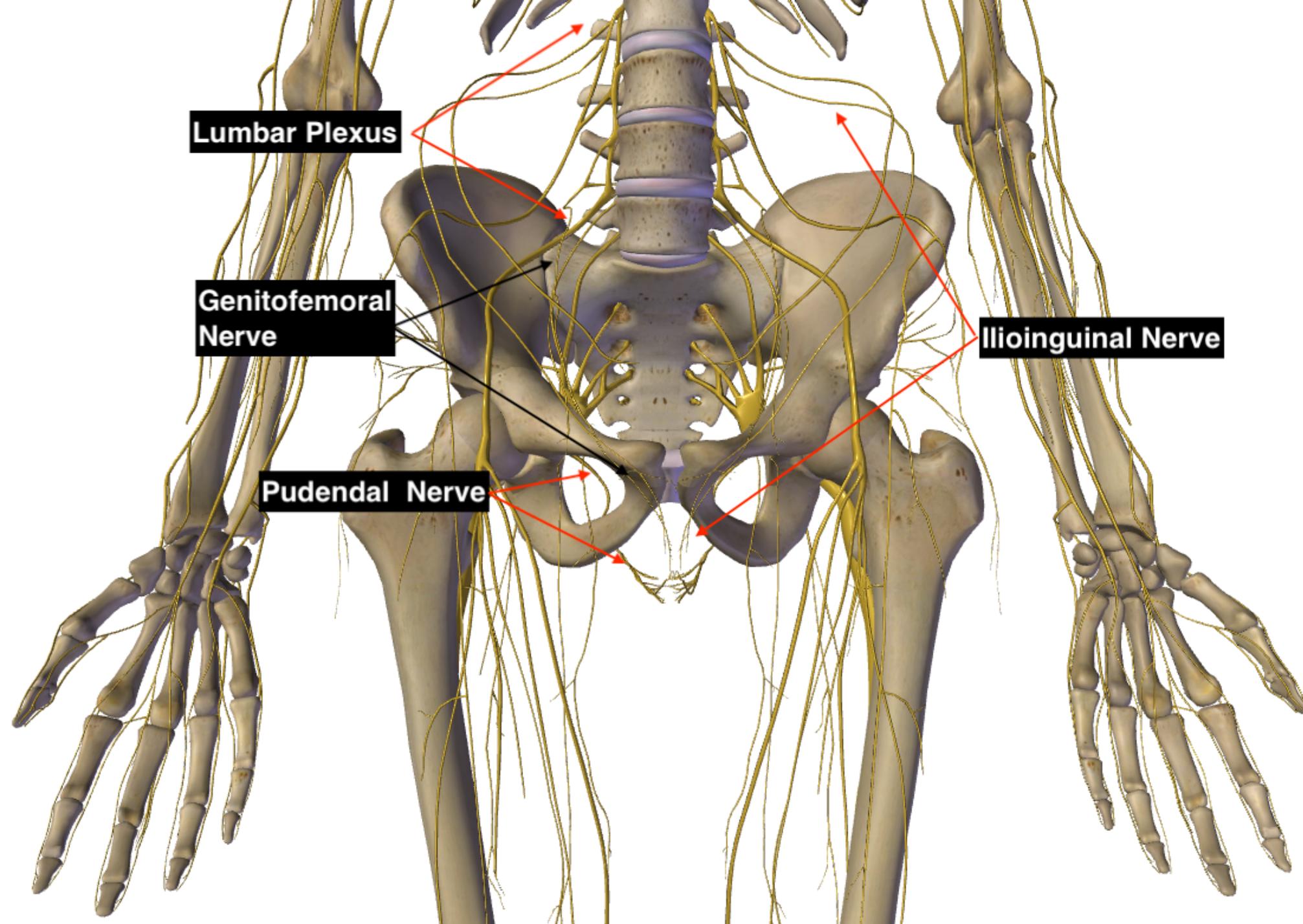


Nerves and Plexi

Lumbar plexus

Lumbococcygeal plexus

Sympathetic/parasympathetic chain



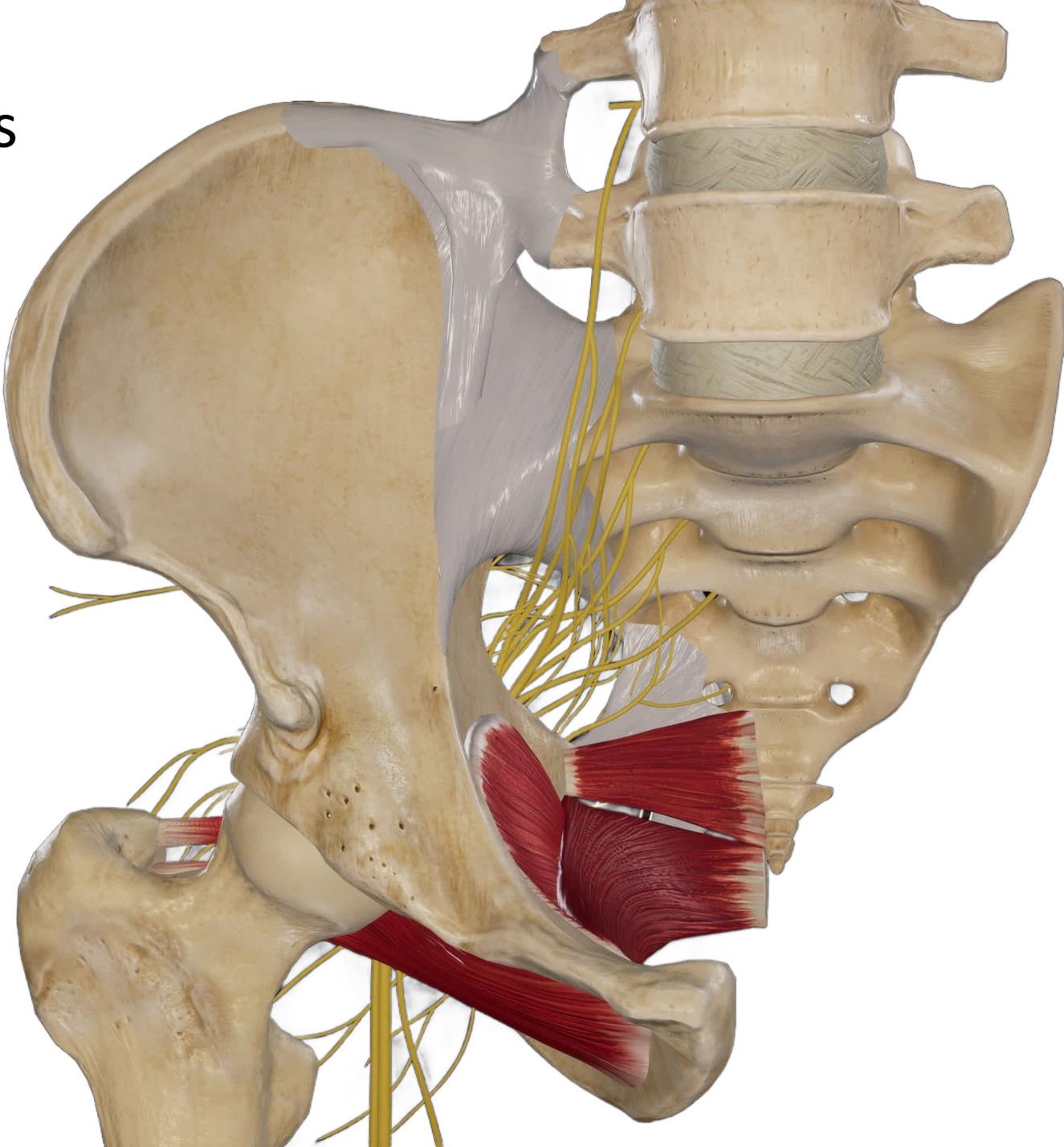
Lumbar Plexus

Genitofemoral Nerve

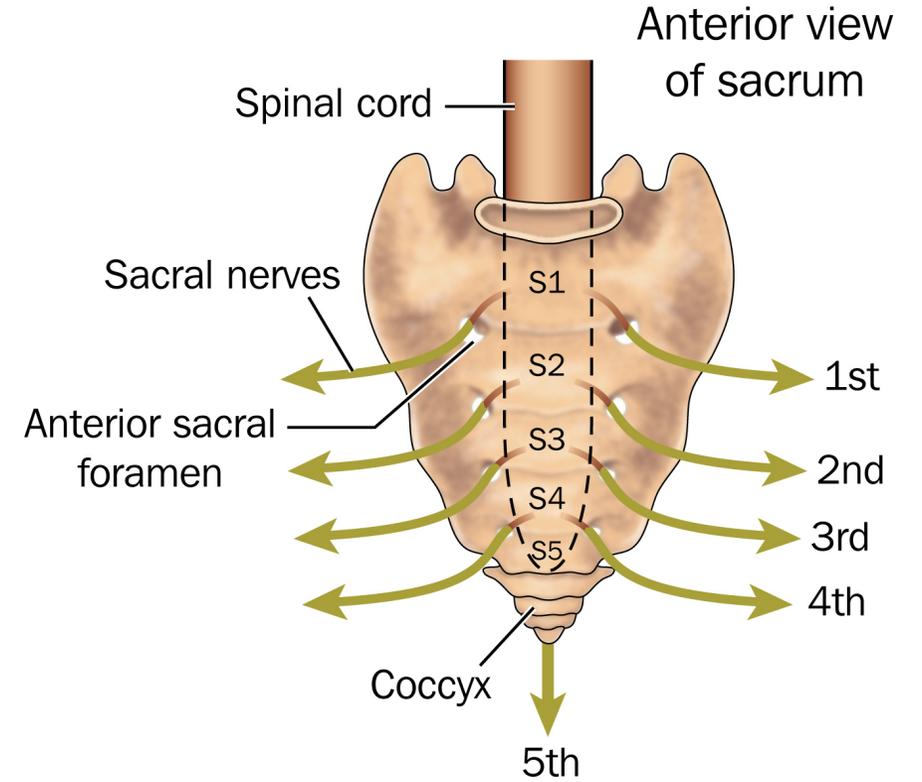
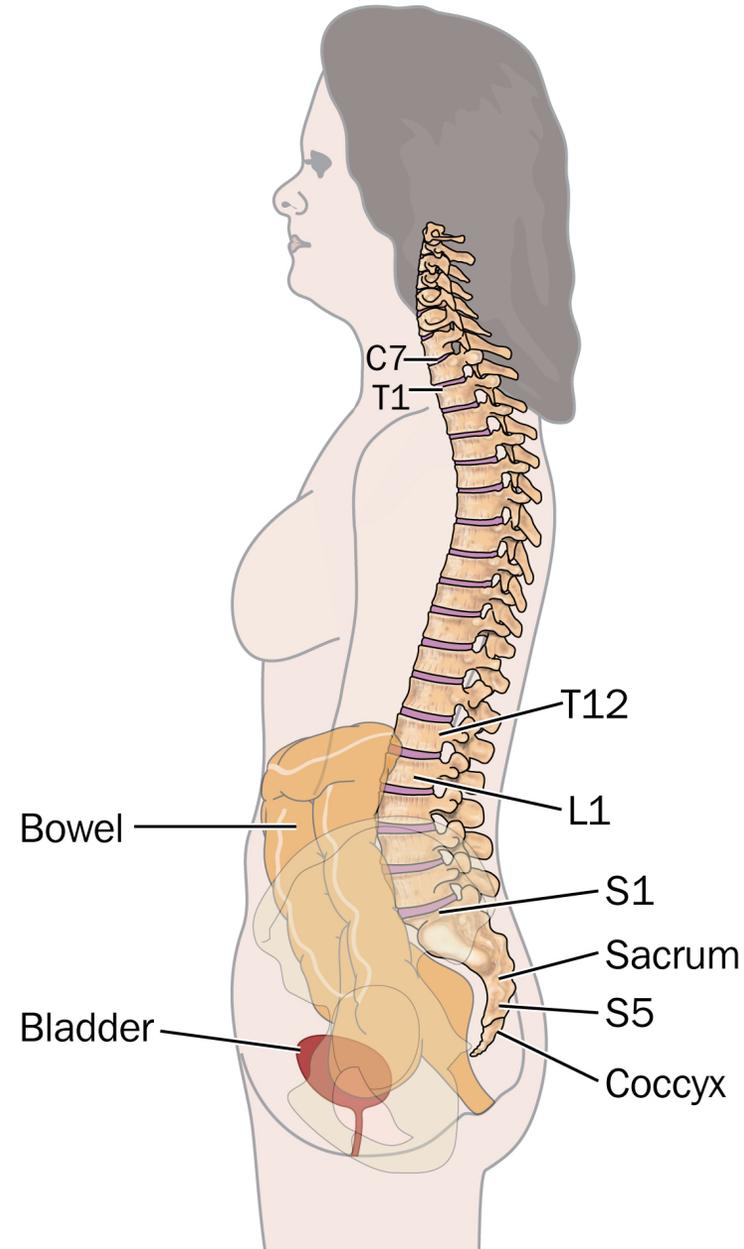
Pudendal Nerve

Ilioinguinal Nerve

Sacral Plexus

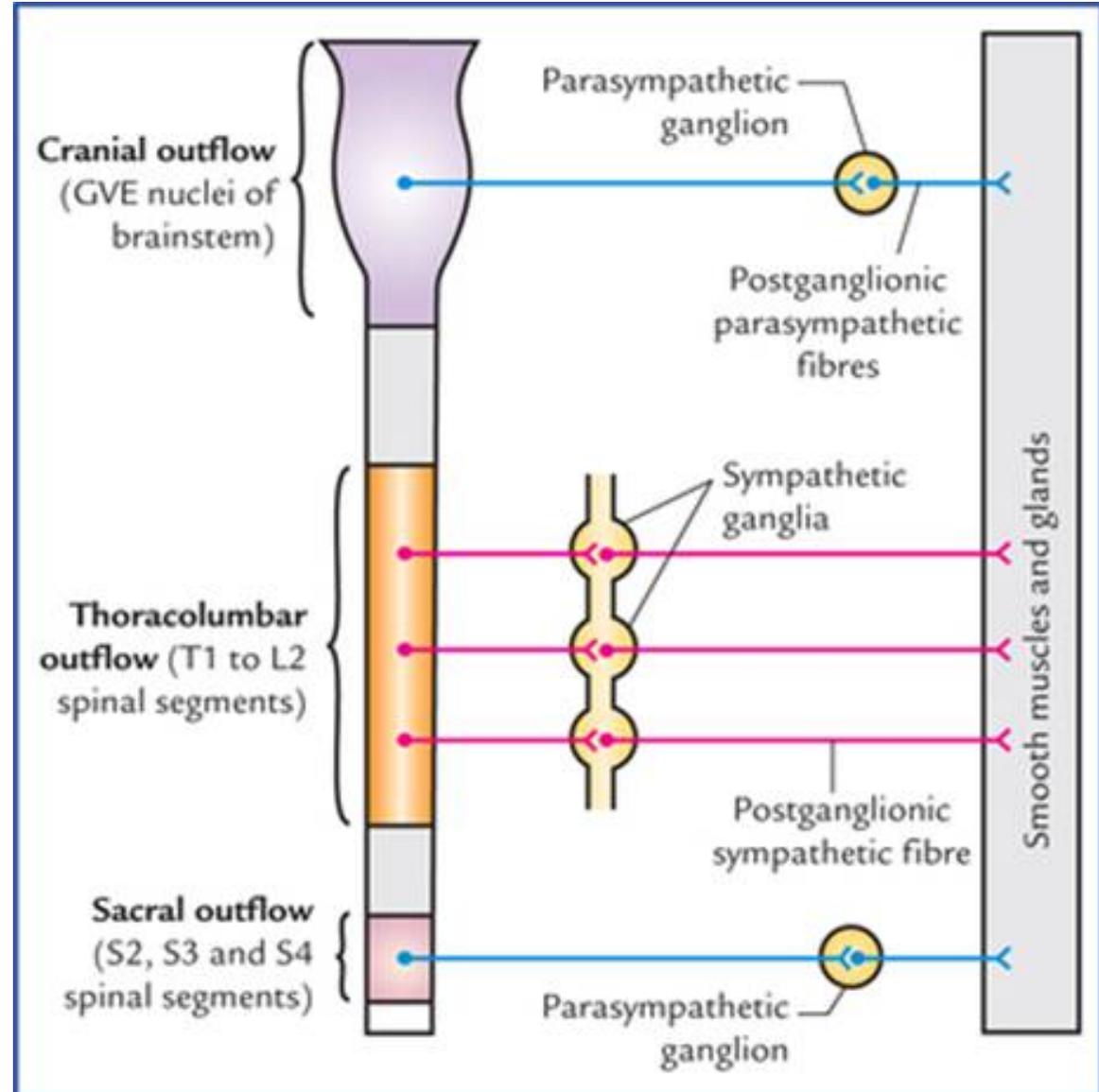


Sacral Foramen & Nerves



S2,3,4

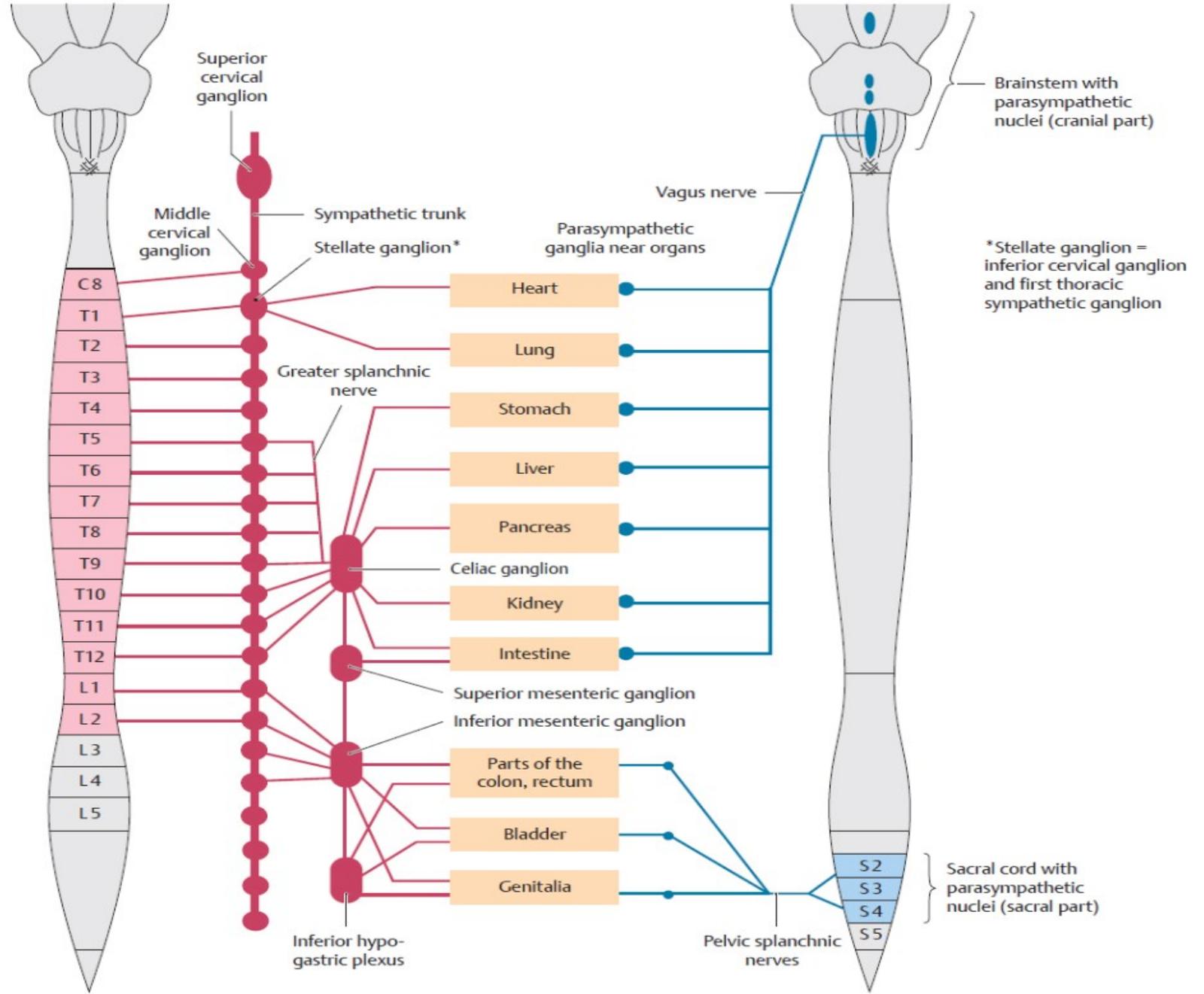
- S2,3,4 keep SH!T off the floor



Sympathetic Parasympathetic

Sympathetic nervous system

Parasympathetic nervous system



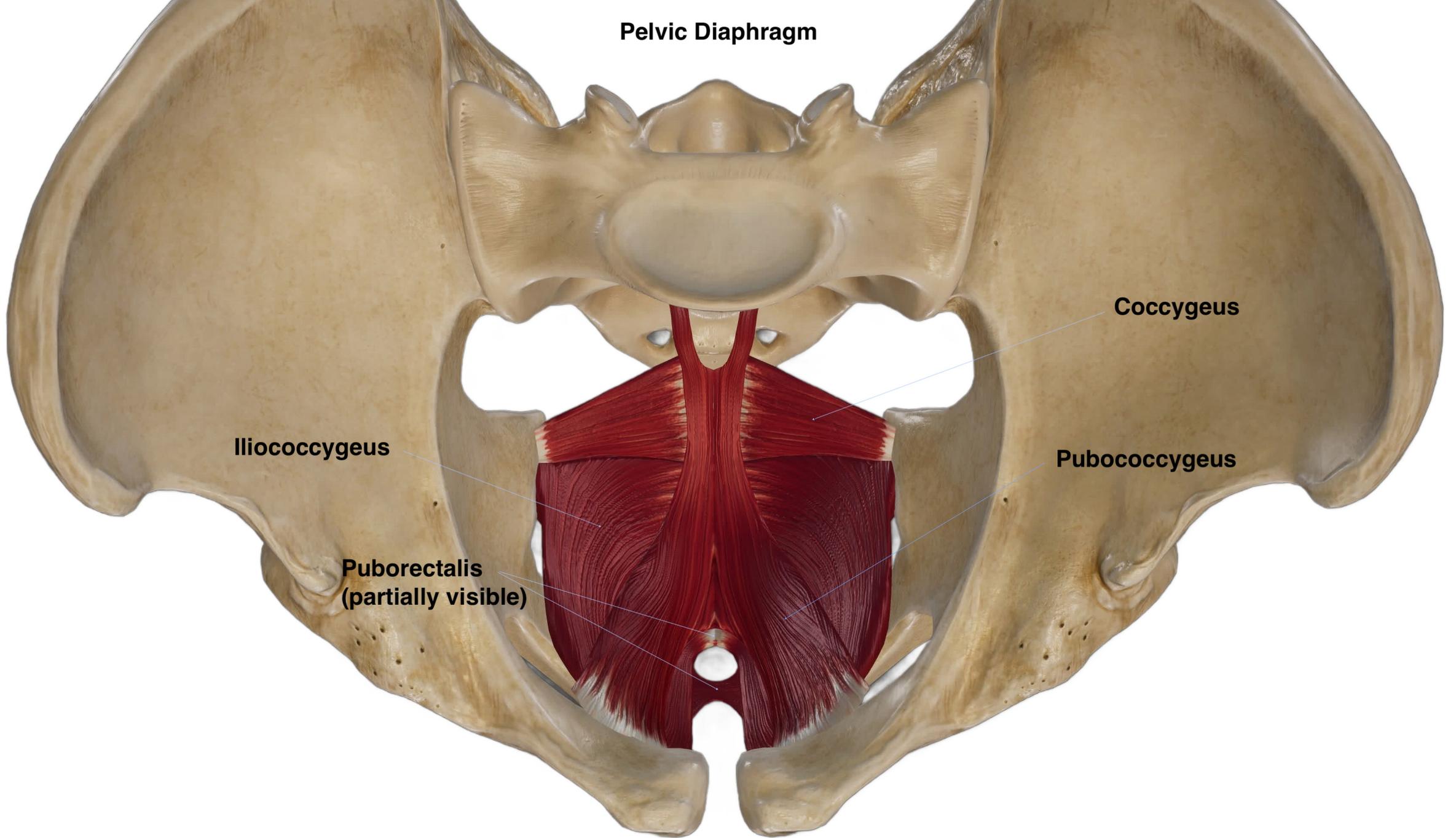
The image features a microscopic view of muscle tissue, showing striated fibers with visible nuclei and myofibrils. The tissue is stained in shades of red and pink. A central black horizontal band contains the text "Muscles of the pelvic floor" in white, sans-serif font.

Muscles of the pelvic floor

The Pelvic Diaphragm – 4 Muscles

- Levator Ani (3) and Coccygeus (our tail-wagging muscle)
- This “hammock/sling” acts as a shelf to support pelvic organs.
- This is the broad hammock like structure
- Levator Ani: 3 muscles
 - Pubococcygeus
 - Iliococcygeus
 - Puborectalis

Pelvic Diaphragm

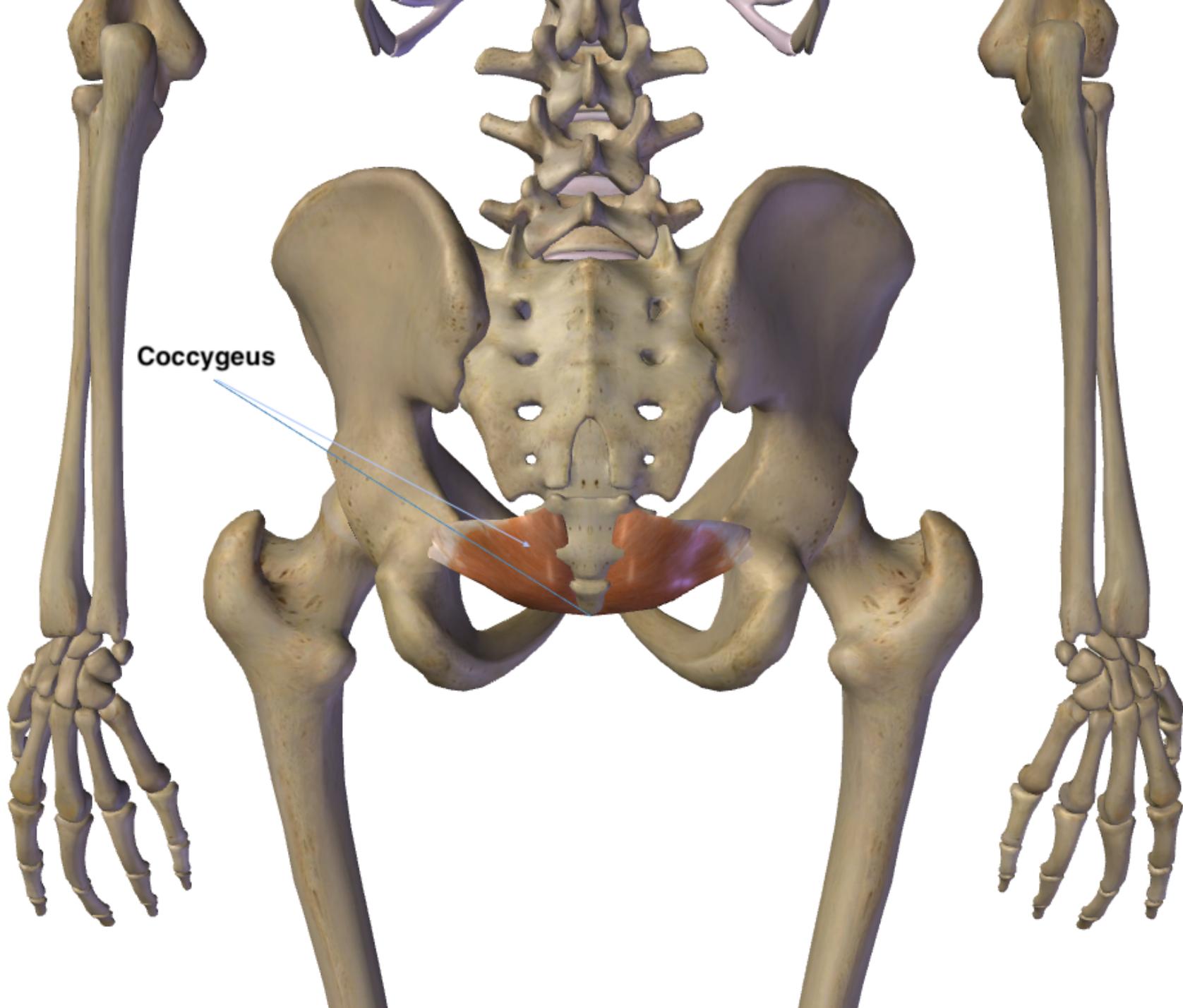


Coccygeus

Iliococcygeus

Pubococcygeus

**Puborectalis
(partially visible)**



Coccygeus

Coccygeus

- Coccygeus also known as ischiococcygeus, is a triangular-shaped sheet of muscle located posterior to the levator ani muscles in the pelvic floor. The coccygeus, together with the levator ani, forms the pelvic diaphragm
 - Origin: Ischial spine
 - Insertion: Lateral coccyx and sacrum, with the sacrotuberus ligament
 - Actions: Supports pelvic viscera, flexes the coccyx
 - Weakly controls defecation and urination with the puborectalis
- Source: physio-pedia.com

Pelvic Diaphragm

- Short video to watch before the seminar: Click [HERE](#)

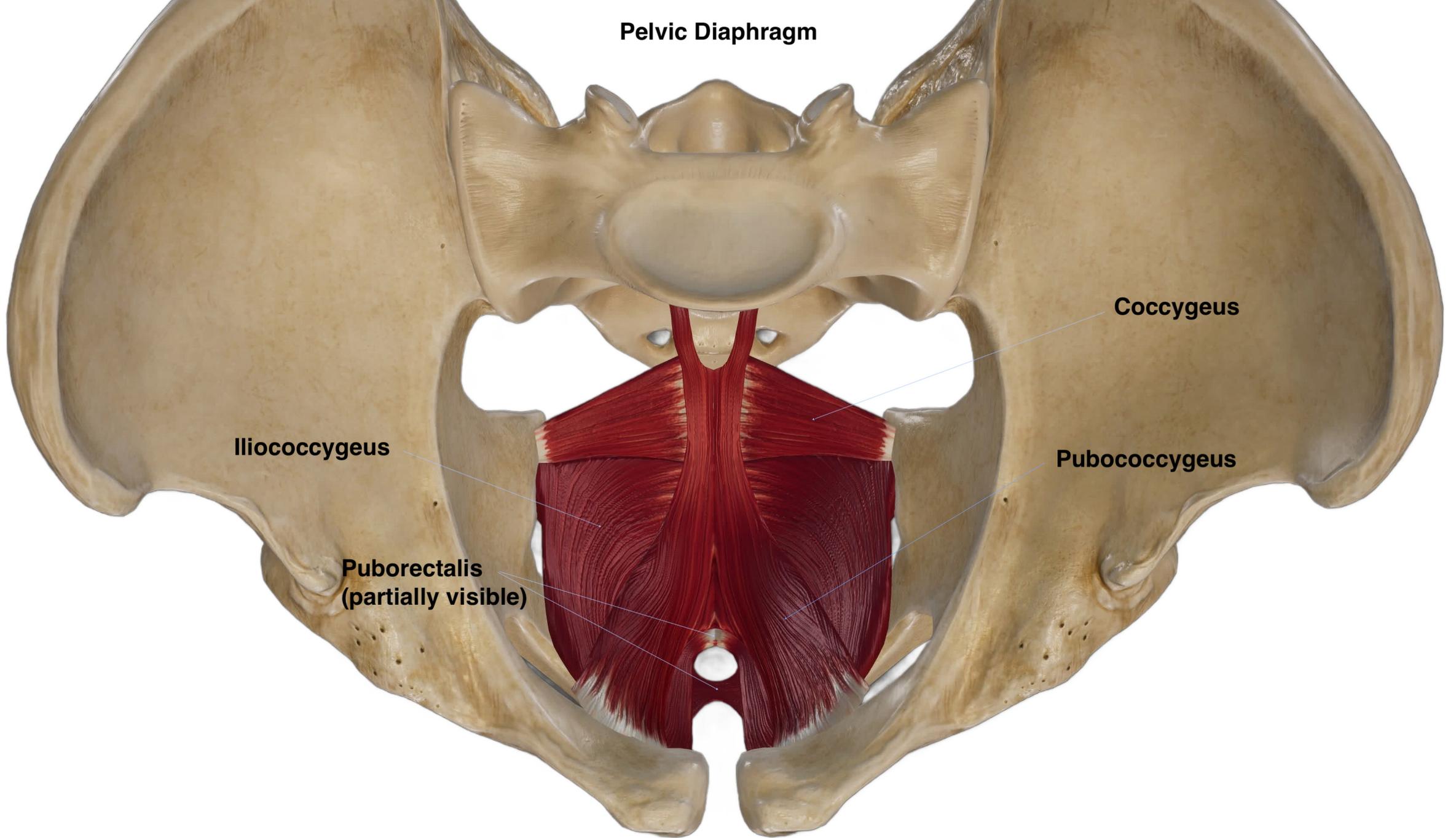
A decorative graphic on the left side of the slide consists of several thick, colorful ribbons in shades of yellow, pink, blue, green, red, and black, which are intertwined and looped together.

Levator Ani

•The three muscles that make up the levator ani group are:

- Iliococcygeus
- Pubococcygeus
- Puborectalis

Pelvic Diaphragm



Coccygeus

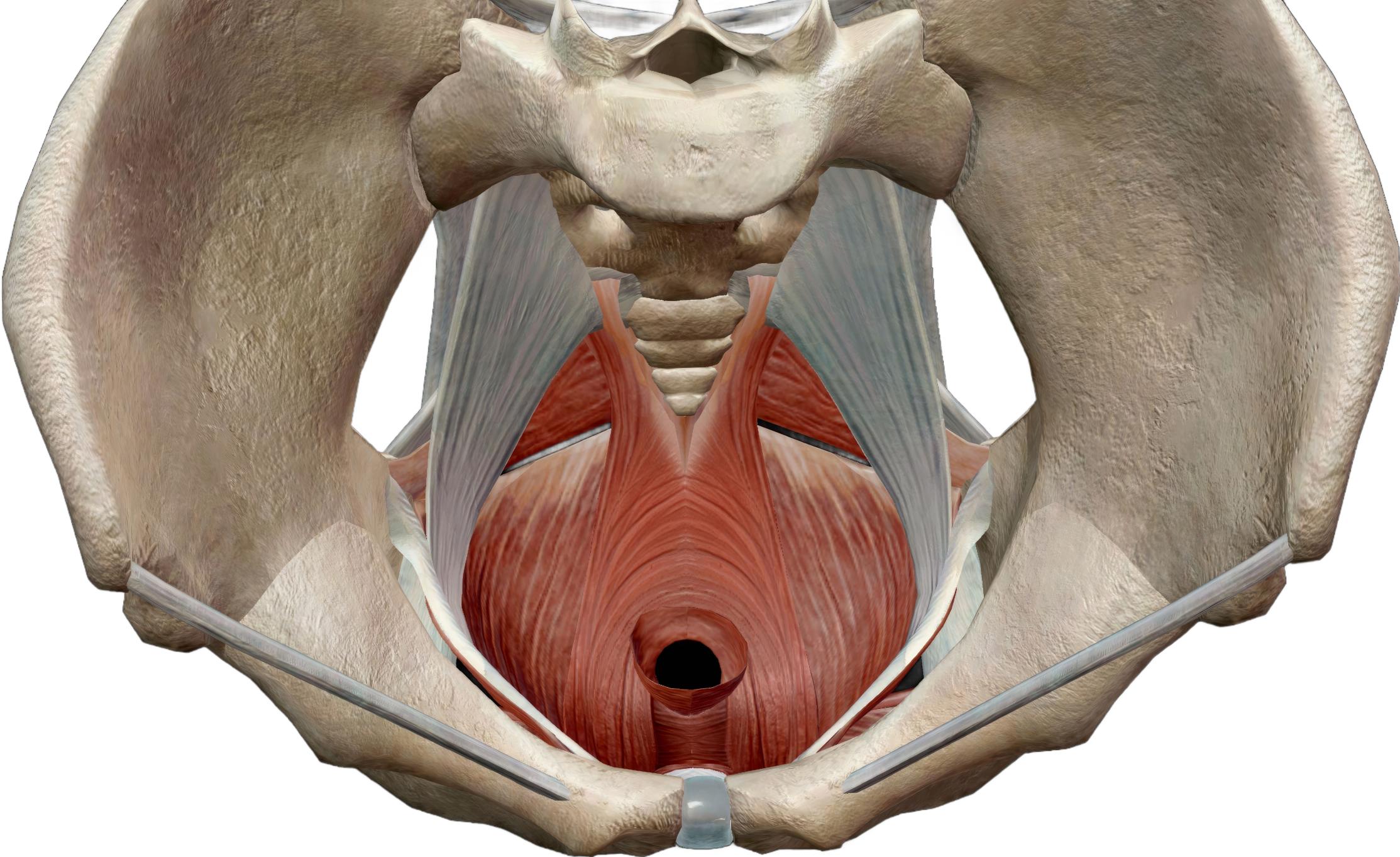
Iliococcygeus

Pubococcygeus

**Puborectalis
(partially visible)**

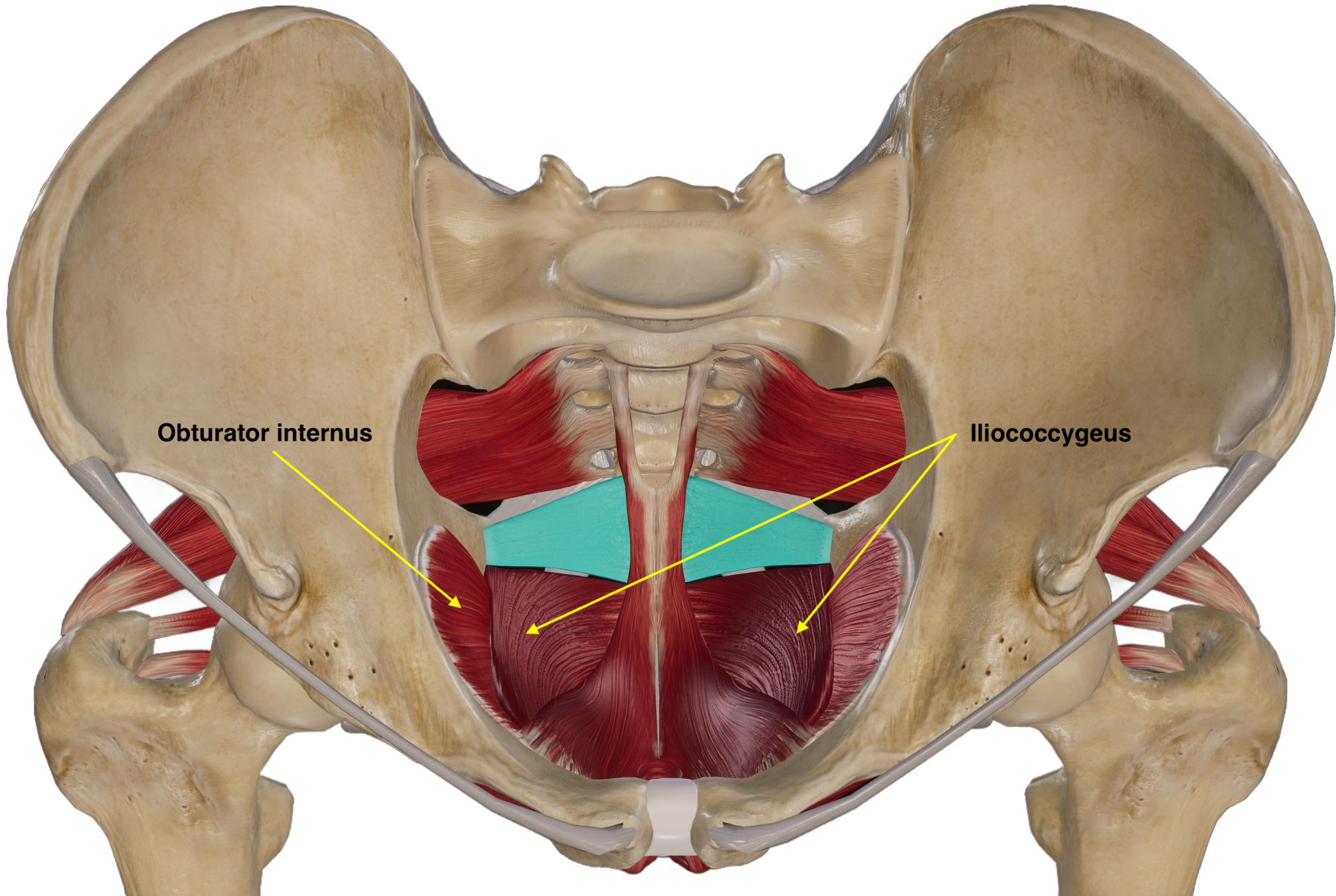
Levator Ani

- Levator ani muscle is the largest component of the pelvic floor. It is a broad muscular sheet that attaches to the bodies of the pubic bones anteriorly, ischial spines posteriorly and to a thickened fascia of the [obturator internus](#) muscle. The levator ani muscle provides support to the pelvic visceral structures and play an important role in urinary voiding, defecation and sexual function.



Iliococcygeus muscle

- Arises from fascia overlying obturator internus
- Inserts onto lateral aspect of coccyx, overlapping with fibers of [pubococcygeus muscle](#) in staggered arrangement
- Muscle is active even at rest, and contracts as needed to maintain proper vaginal axis
- Functions:



Obturator internus

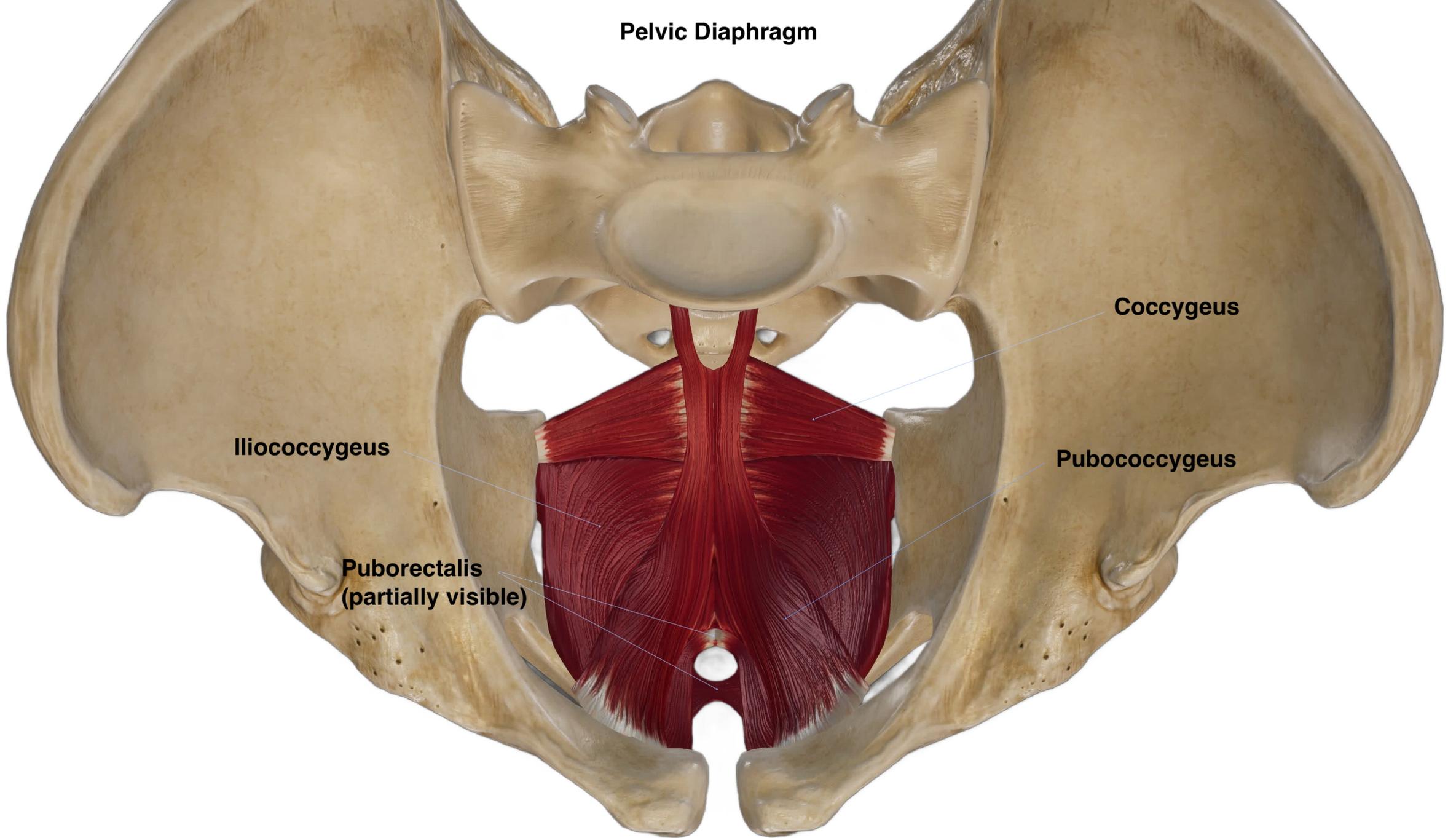
Iliococcygeus

Pubococcygeus

- Origin: Arises from back of [pubic bone](#) and anterior part of obturator [fascia](#)
- Insertion: inserts onto lateral aspect of [coccyx](#)
- Function:



Pelvic Diaphragm



Coccygeus

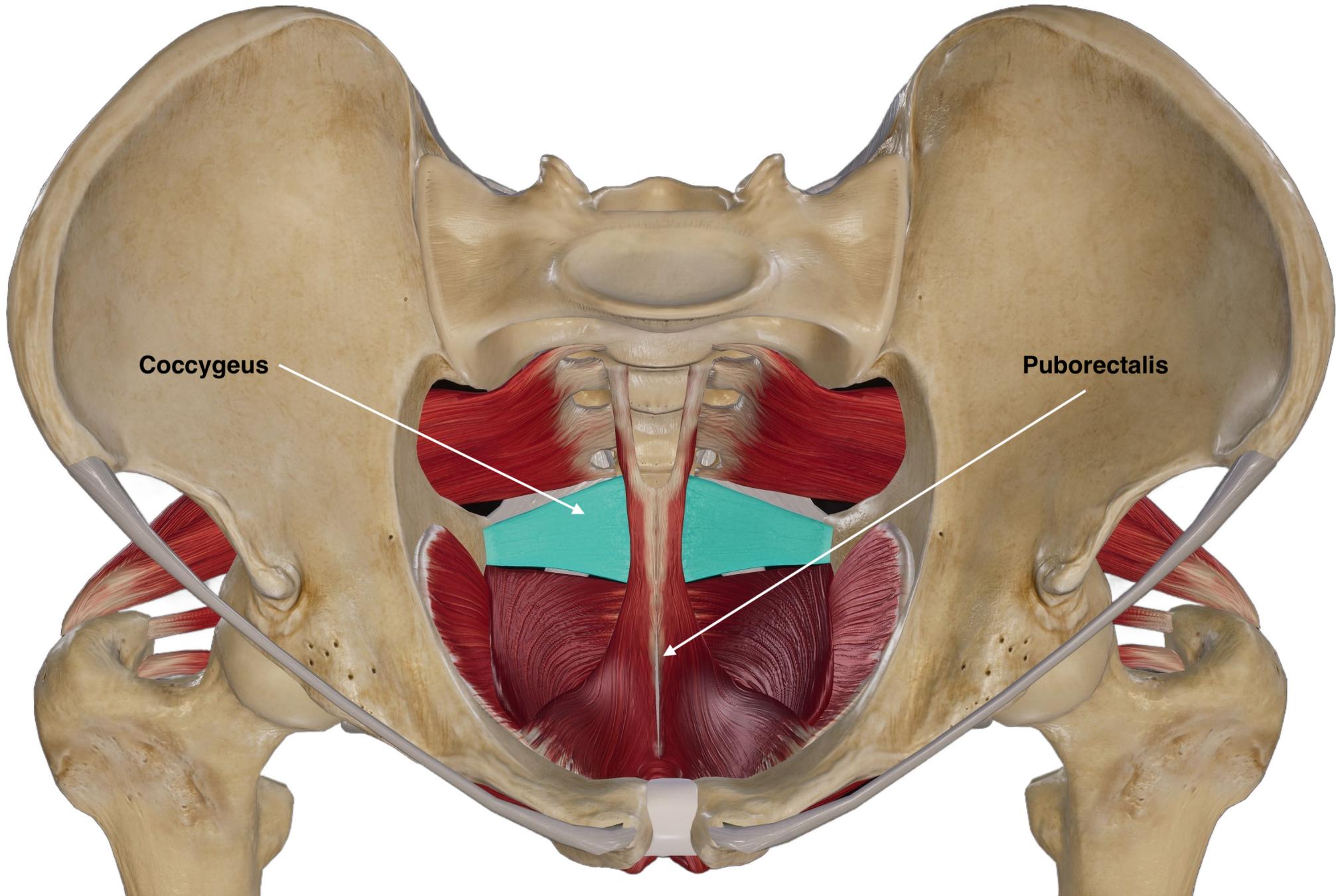
Iliococcygeus

Pubococcygeus

**Puborectalis
(partially visible)**

Puborectalis

- Origin: Arises from superior and inferior pubic rami
- Insertion: Unites with contralateral puborectalis muscle posterior to [rectum](#), forming a sling
- Function: Muscle provides direct support for rectum AND Indirect support to vagina, [bladder](#), and [urethra](#), by drawing these structures ventrally toward pubic bone



Coccygeus

Puborectalis

Ischiocavernosus

- Ischiocavernosus is a bilateral, perineal muscle located in the superficial perineal space of the urogenital triangle. It is a part of the superficial group of perineal muscles, together with bulbospongiosus and superficial transverse perineal muscles
- ACTION: Pushes blood from clitoris/penis

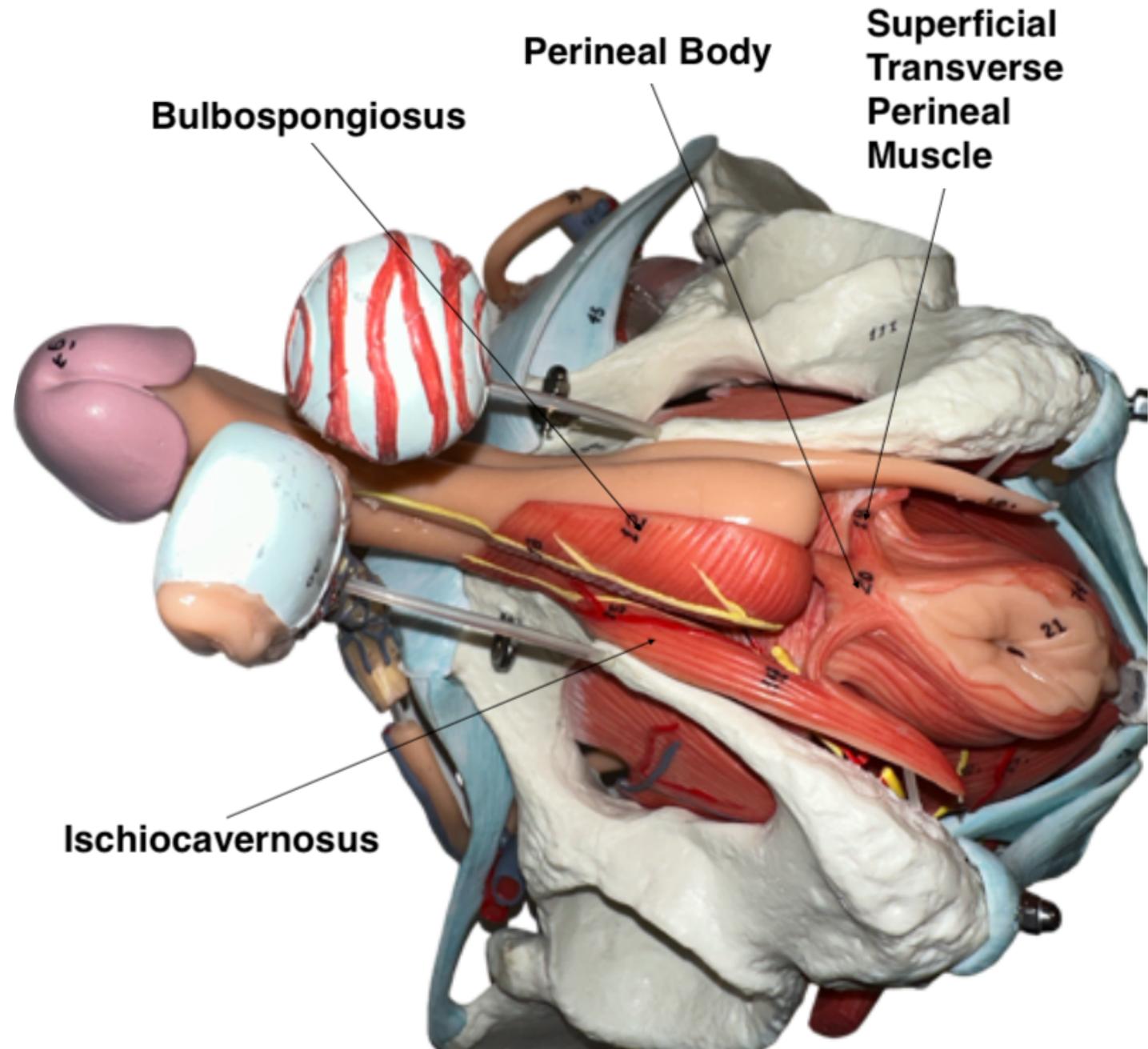
Bulbospongiosus

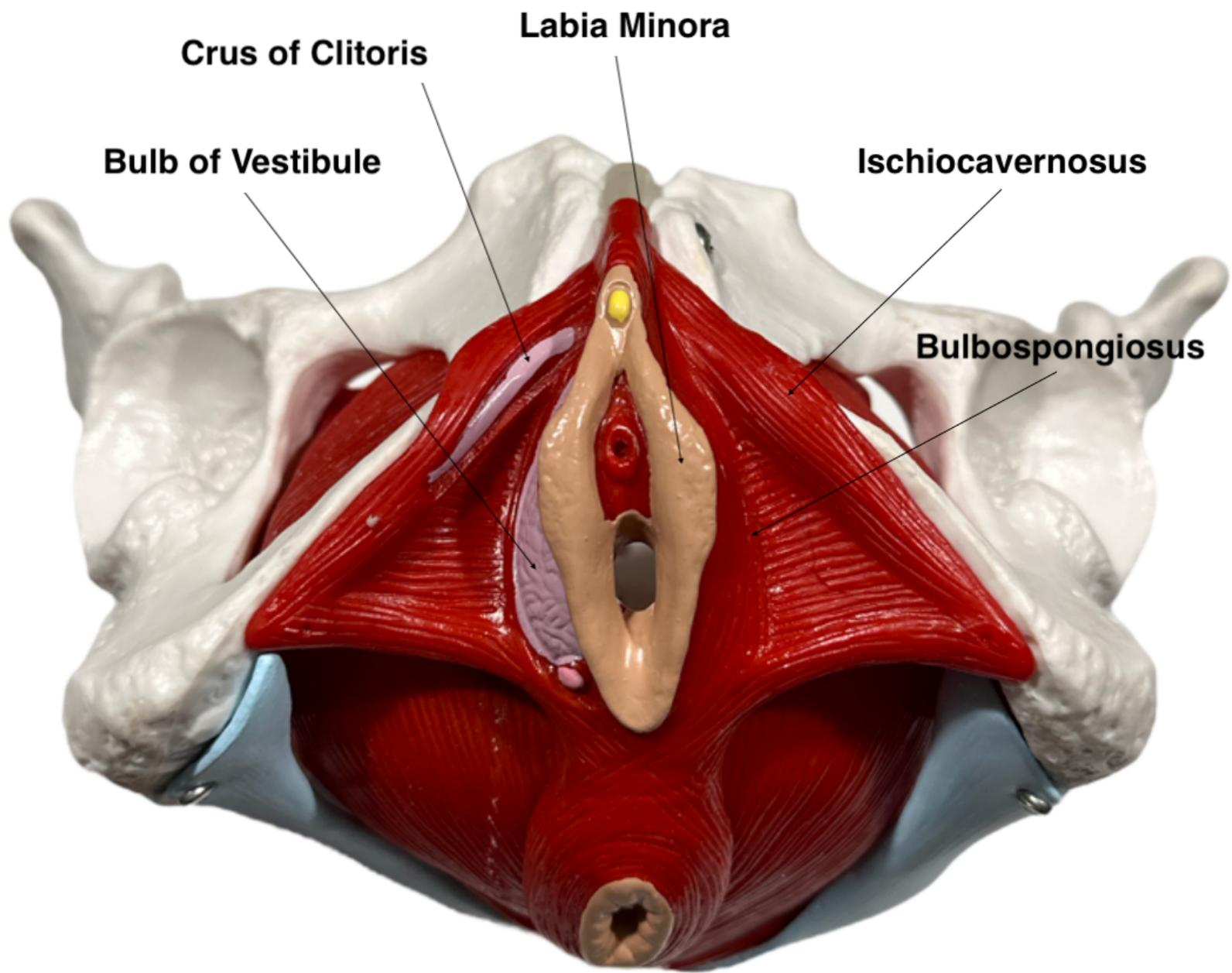
- Bulbospongiosus is a **paired muscle of the pelvic floor**.
- It is found in the superficial perineal space (pouch) with the ischiocavernosus and superficial transverse perineal muscles
- In both sexes, the function of this muscle is based on its compressive actions upon the erectile tissues which it surrounds

Bulbospongiosus

- **ACTION:** The bulbospongiosus muscle **acts to expel remaining urine from the urethra after the bladder has completed its emptying.**
- In males it also aids in the final stages of erection by compressing the veins within the bulb of the penis to maintain tumescence.
- **Sexual function in females** In females it contributes **to clitoral erection and the contractions of orgasm and closes the vagina.**

Bulbospongiosus





Crus of Clitoris

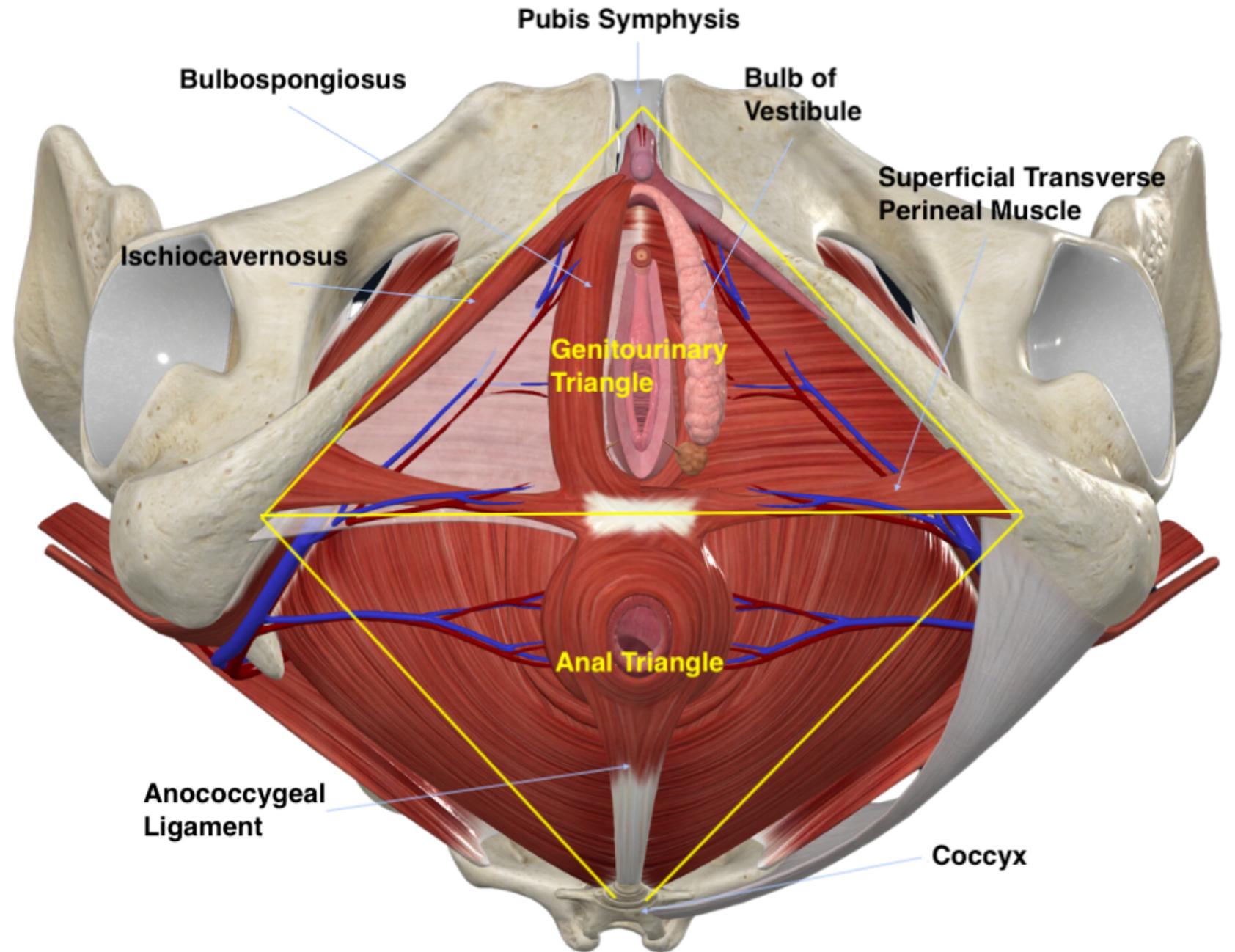
Labia Minora

Bulb of Vestibule

Ischiocavernosus

Bulbospongiosus

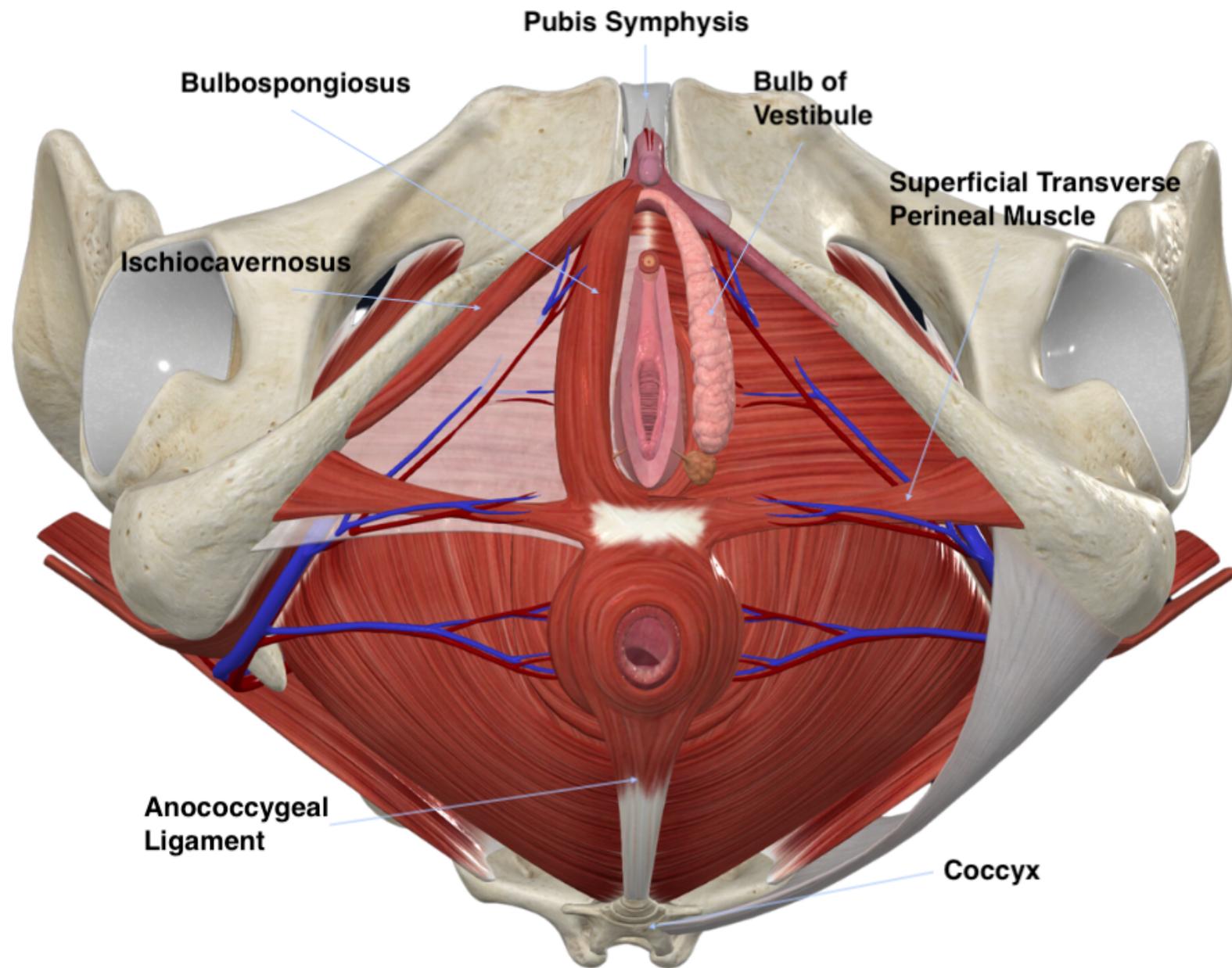
Pelvic
Triangles



The Perineum & Transverse Perineum

- Perineal Body
- Superficial transverse perineum muscle
- Deep transverse perineal muscle: (transversus perineae profundus)
 - lies in the perineum and is a part of the pelvic floor. It arises from the inferior rami of the ischium and runs to the median plane, where it interlaces in a tendinous raphe with the other deep transverse perineal muscle of the opposite side.

Ischiocavernosus
Bulbospongiosus

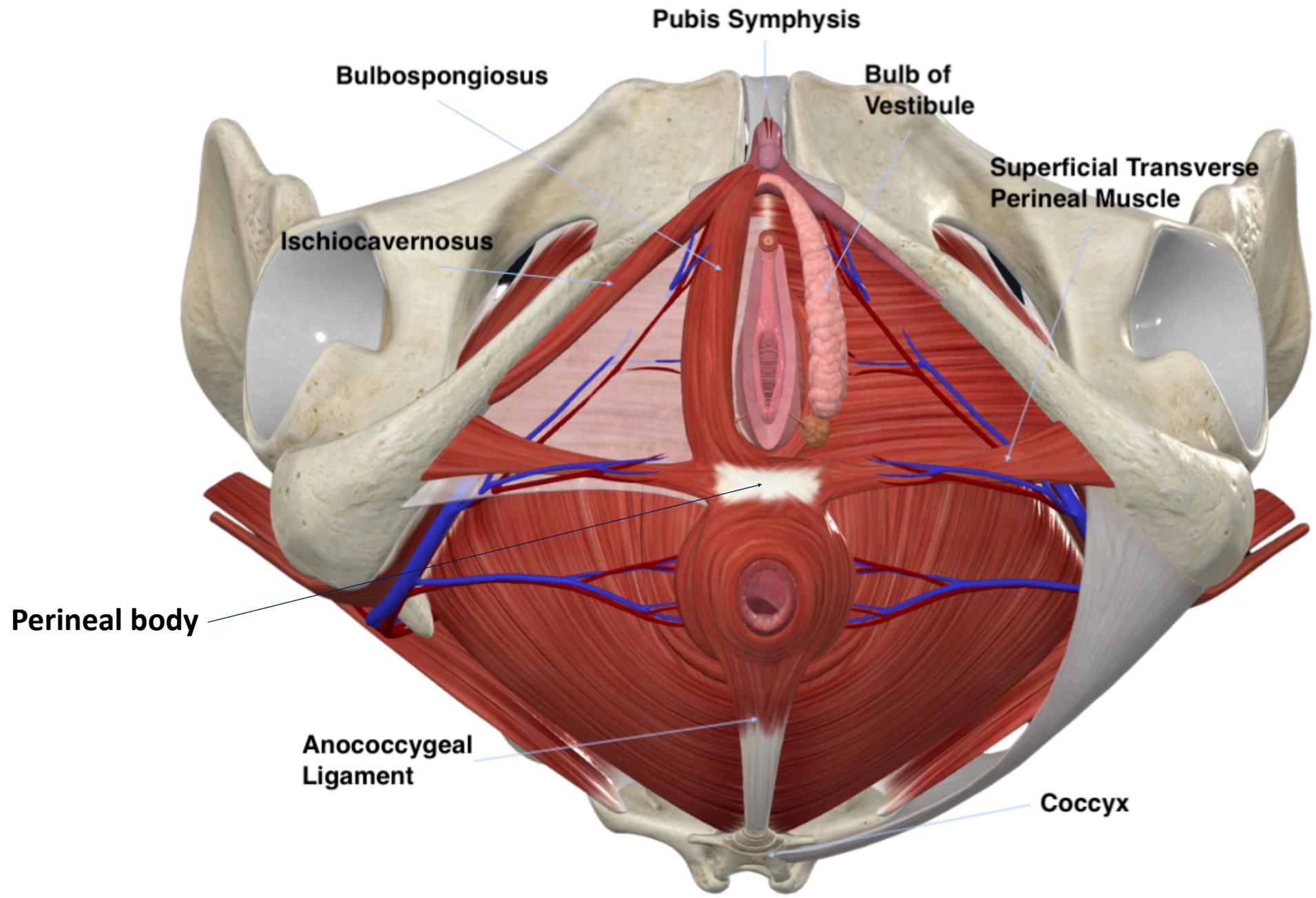


Other
structures

Anal sphincter: Deep,
superficial, subcutaneous

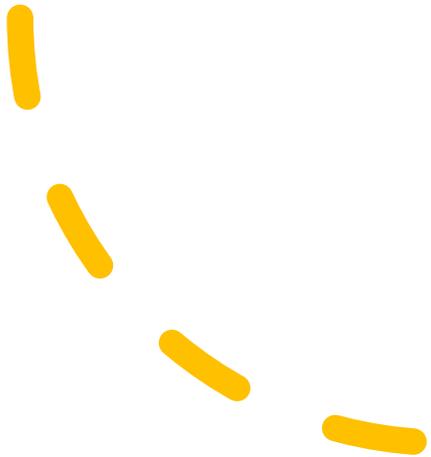
Perineal body

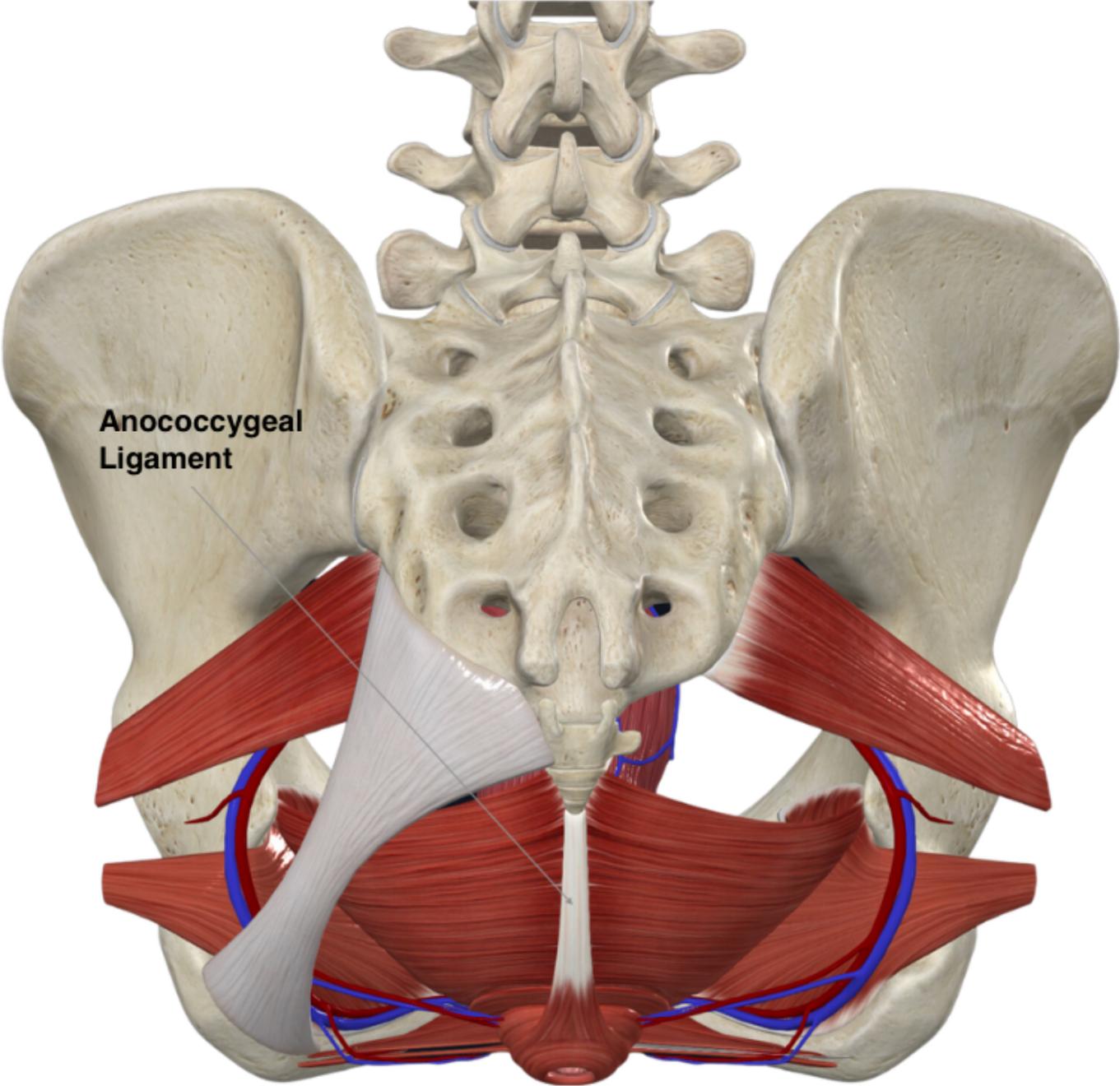
Anococcygeal ligament



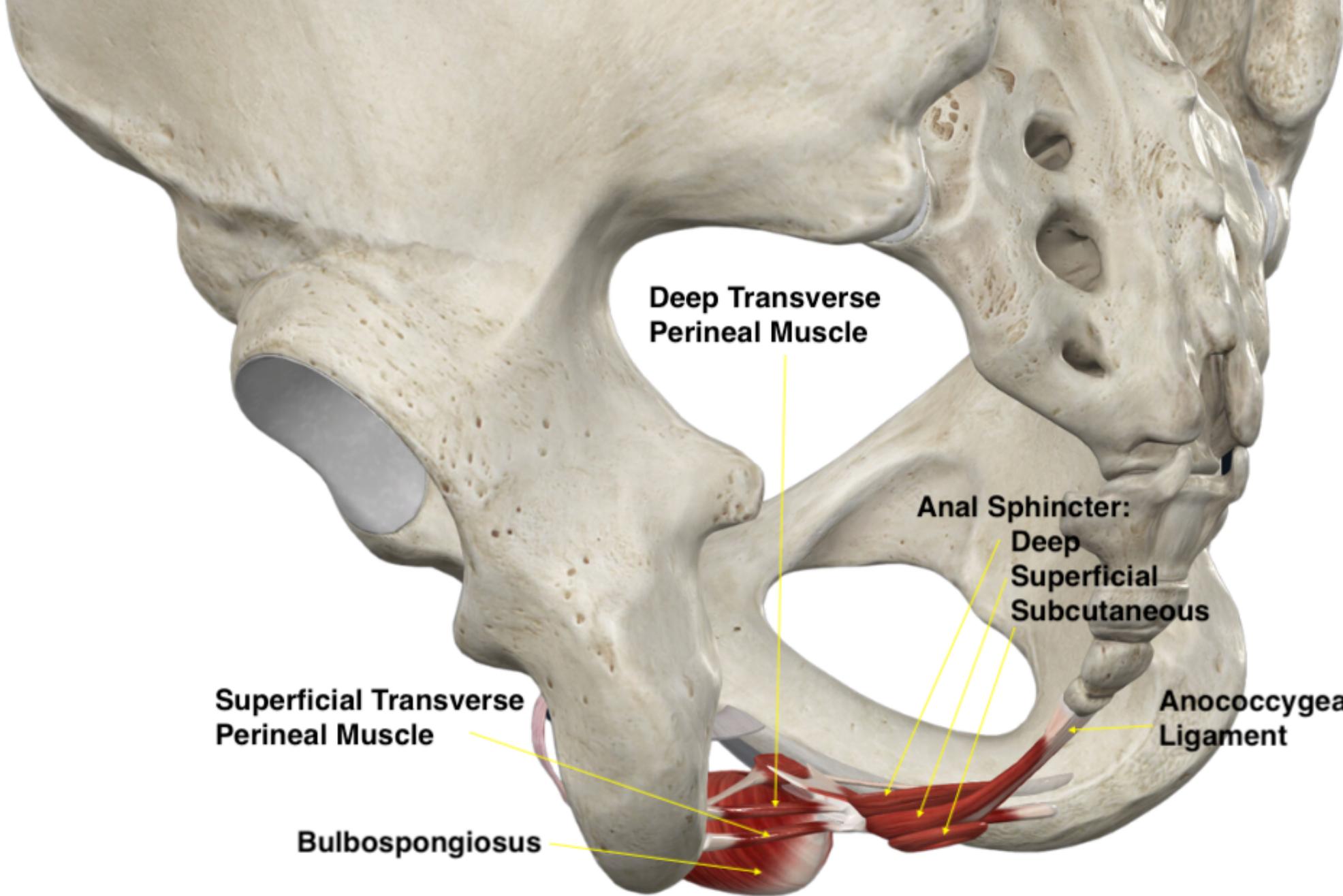
Anococcygeal Ligament

- The anococcygeal ligament (a.k.a. anococcygeal body a.k.a. anococcygeal raphe) is a midline musculotendinous structure between the coccyx and the anus.





**Anococcygeal
Ligament**



**Deep Transverse
Perineal Muscle**

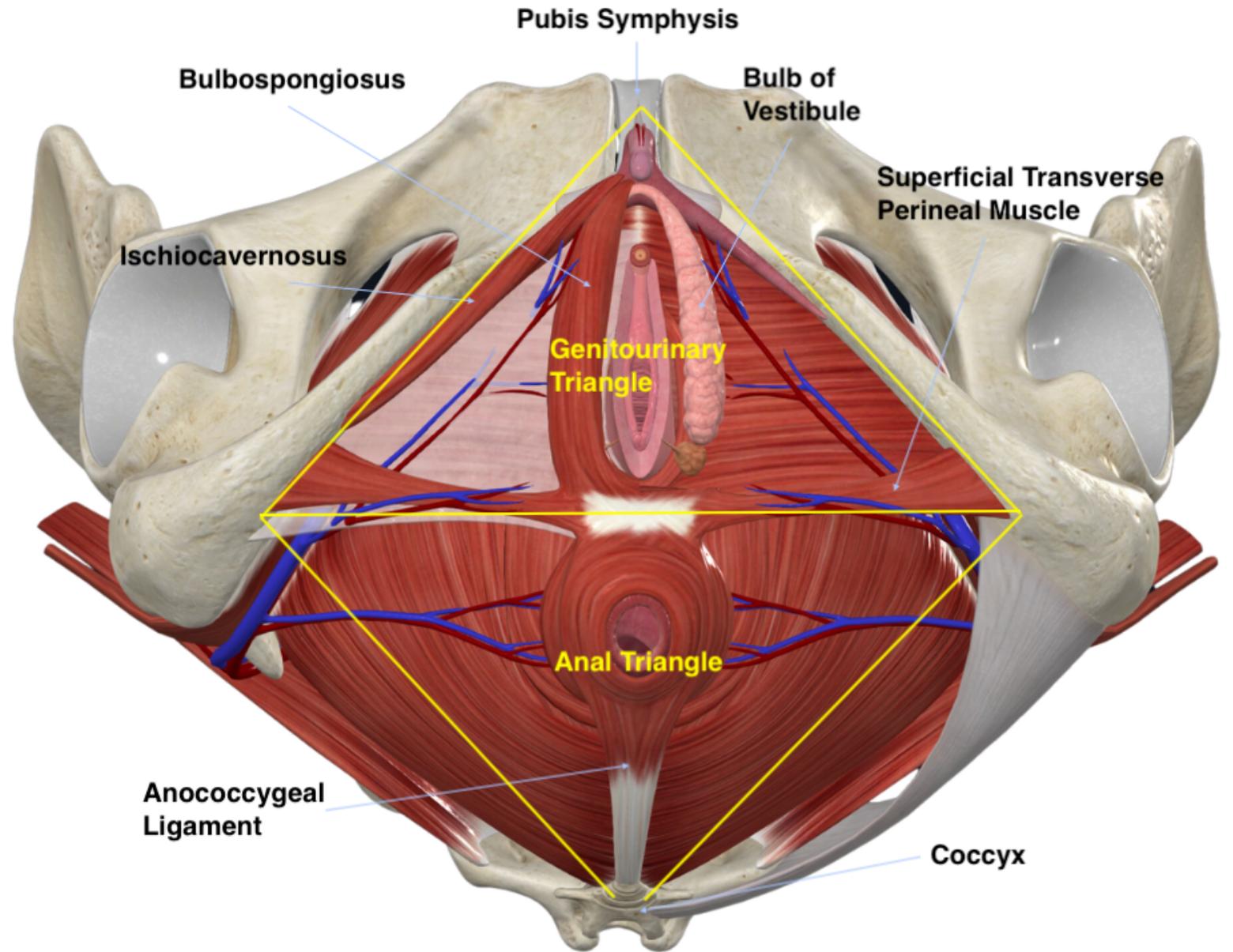
**Anal Sphincter:
Deep
Superficial
Subcutaneous**

**Anococcygeal
Ligament**

**Superficial Transverse
Perineal Muscle**

Bulbospongiosus

The Pelvic Triangles



The Pelvic Floor Compartments

- The pelvic floor is divided into three compartments:
 - Anterior compartment contains the urinary bladder and the urethra
 - Middle compartment contains the uterus, cervix, and vagina
 - Posterior compartment contains the rectum.
- The support for these structures arises from the attachment of the muscles, fascia, and ligaments to the bony pelvis.

Muscles
outside the
pelvic floor

We use these muscles to
treat pelvic floor pain,
usually via trigger points

They also support correct
pelvic floor structure,
function, and health

Anterior muscles we treat for Pelvic Floor Pain

ADductor Brevis* (O nerve, lumbar plexus L2, L3, L4)

ADductor Longus* (O nerve, lumbar plexus L2, L3, L4)

ADductor Magnus*(O nerve, lumbar plexus L2, L3, L4, L5)

Pectineus* (femoral nerve, lumbar plexus L2, L3, L4)

Posterior muscles we treat in Pelvic Floor Pain

Piriformis* (S1,S2)

Gemelli, superior + inferior* (O nerve,
sacral plexus L5, S1, S2)

Quadratus Femoris* (sciatic nerve,
L4,L5,S1)

Obturator Internus* & Obturator
Externus

Muscles Involved in Pelvic Injuries & Pain

Psoas* (L1, L2, L3)

Iliacus* (L1, L2, L3, L4)

Rectus Abdominis* (T8-T12)

Obturator Internus* & Obturator Externus

Rectus Abdominis* (T8-T12)

Pyramidalis* (T12)

External Oblique* (subcostal nerve, T8-T12)

Muscles Involved in Pelvic Injuries & Pain

Glutes Medius, Maximus

Rectus femoris

Quadratus Lumborum

TFL

Hamstrings

Adductors (covered below)

Important fascial connections

- Why are so many muscles important to the pelvic floor? Connections either to the pelvis itself or through the fascia to the pelvic floor
- Example: “The rectus abdominis and its fascial system merge at the level of pubic symphysis with the adductor muscles, both activated by the contraction of the pelvic floor. The pelvic floor is in anatomical continuity with the large gluteus, also involved in the pelvic contractions”
- <https://www.ncbi.nlm.nih.gov/books/NBK482200/#:~:text=The%20rectus%20abdominis%20and%20its,involvement%20in%20the%20pelvic%20contractions.>

Large muscles outside the pelvic floor

- All or some of the glutes, upper leg muscles, abdominal muscles, and postural muscles have connections to the pelvic floor
- There are many reasons why treating the structure and function of these muscles helps the pelvic floor
- Some of these are covered this weekend, others are covered in the advanced class

Clinical Pearls

- Some things to consider once you begin treating the pelvic floor:
 - Everyone of you has different clinical approaches and there is no one right or wrong approach, as long as your patient is seeing results.
 - Being an acupuncturist is not a one size fits all: I take time to explain to patients that there are MANY different forms/styles of acupuncture, and that the type of acupuncture we will be learning and employing this weekend is a very hands-on approach to soft tissue/ligament/nerve/joint/deep needling that can be used in MOST cases.
 - Being a trained acupuncturist is a subtle art form that allows MUCH MORE FINESSE than what they will find outside in with other modalities.

Practical tidbits – Needle size

In this section we will go through the nuts and bolts of what one needs in clinic for this deep and satisfying work.

Needles:

- This is NOT a one size fits all. Example: You must NEVER use thicker gauged needles in sensitive tissues like vaginal fourchette/vestibule/body of penis
- Needles recommended:
 - .18-.25X25mm for PERINEAL body needling (transverse perineum, perineum, external anal sphincter etc.)

Needle size

- .20-.25X25-40mm+ for OBTURATOR needling ALONG ISCHIAL RAMI as well as fascial needling, and LABIA, REN 1 and DU1
- .20-.35X40-75mm for LARGE muscle groups and deep needling (obturator internus, externus, obturator tendons, pectineus, adductors, psoas, iliacus)
- .16-.20X25mm for forchette/vestibule/ ISCHIOCAVERNOSUS/ BULBOSPONGIOSUS

Other supplies

- In addition to your usual supplies you will need:
- Some type of hygiene wipes (I use Cottonelle, but if you are treating Vulvodynia and the patient has irritated soft tissue/membrane make sure that it is gentle and fragrance free)
- Towels or disposable under pads for patients that may be menstruating or incontinent.
- Proper fitting exam gloves
- Gauze or cotton squares (patients often times will assist you by holding open labia majoris or holding glutes etc.)

More supplies

- Needle tray
- Some drape or sheet or another (I use white king sized cotton PILLOW CASES from Amazon so as they may all be bleached and disinfected).
- Pointer Plus (or other hand-held electrical device if you are doing trigger point and motor point work (which is what I do)
- Disinfecting wipes for SKIN (I use these to clean my gloves as I maneuver around delicate tissues).
- May or may not want a surgical pen
- Exam room paper



And even more supplies

- Also a portable space heater as MOST patients are at least half disrobed
- Table warming pad.
- Portable small high watt light (think like a Spelunkers Light, I use a very bright reading light)
- Misc.

INFORMED CONSENT

Sexual assault/harassment



81% of women



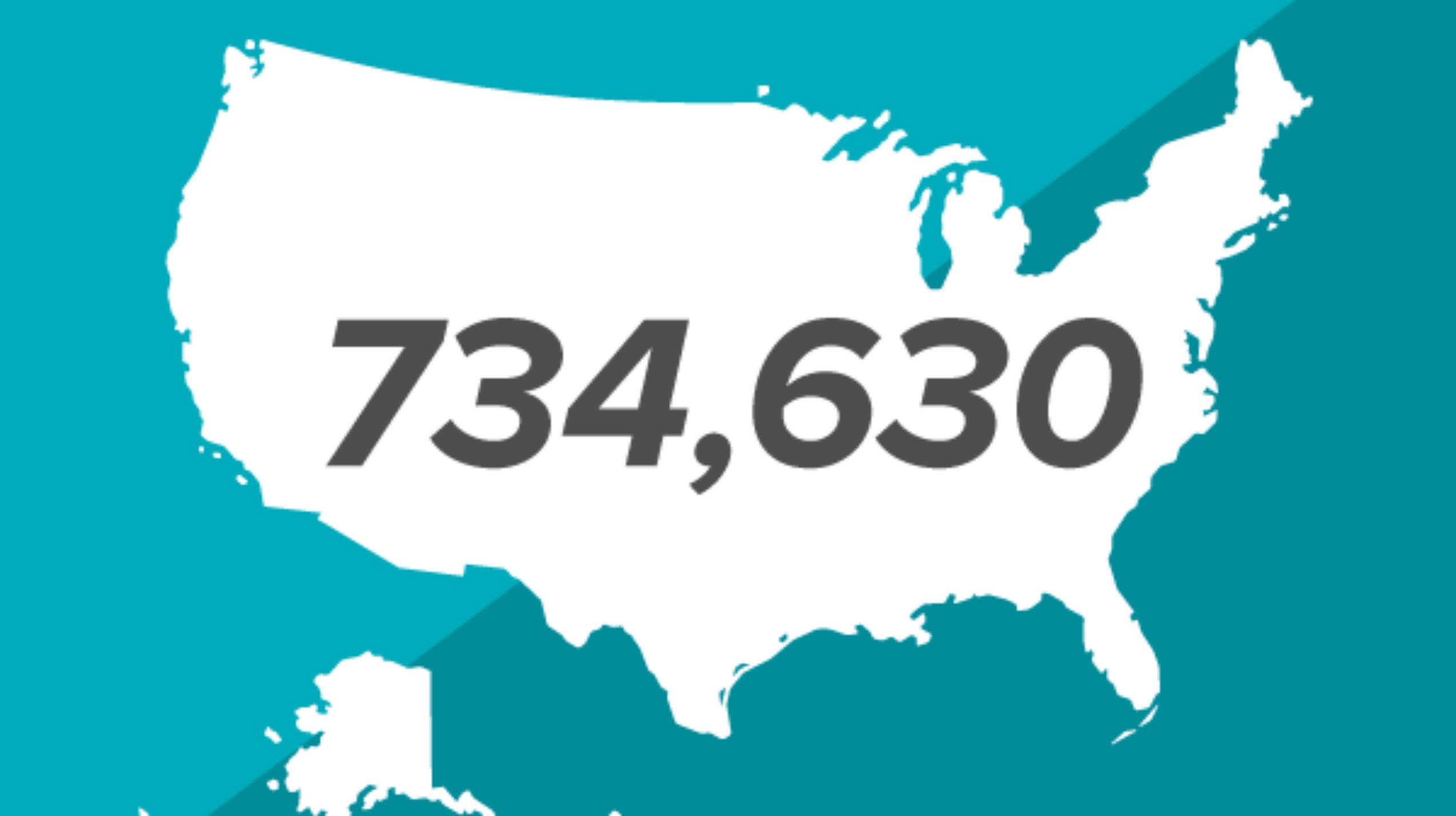
43% of men



1 in 5 women

24.8%





734,630

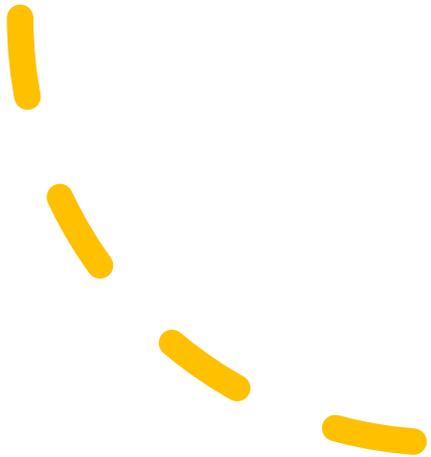
Informed Consent

I want to take a little bit of time here because this is an important topic

- PROVIDED: My clinic consent form
- When your patient enters the room and you meet them for the first time, always go in with neutral language, calm demeanor, and with the mindset of TRUST
- Over the years of working with PF patients they speak to you little by little and over the course of treatments. I NEVER force any conversation or ask uncomfortable questions
- Once you establish TRUST, your patients progress will speed up

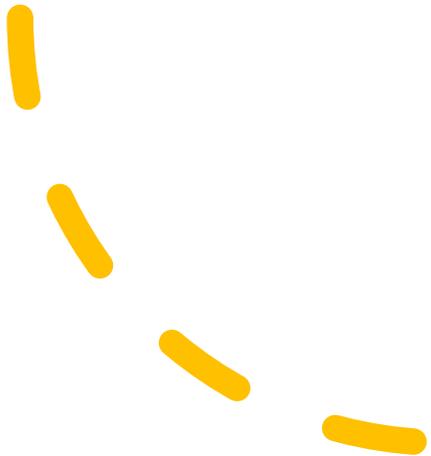
CONSENT

- There are many levels of consent here:
 - PRE-treatment consent: this consists of thoroughly going over your consent form and the PELVIC floor consent.



Pre-Treatment Consent

- WHEN you are finished with your intake, this PRE-TREATMENT consent you begin to IMPLEMENT by providing a VISUAL road map of your thoughts around their treatment and engaging them in the conversation.



Pre-Treatment Consent

- An example would be:
- CC: Perianal pain: Provide actual medical charts/visual aides of THAT PART of their body
 - Using neutral language and explaining your reasoning for their pain
 - Why you will be PALPATING (do not use the word touch/touching here). Explain that the word palpate means to EXAM BY TOUCH FOR MEDICAL PURPOSES.
 - When you have finished give them an opportunity to say: “That sounds good”, or “I’m nervous, will it hurt etc.” YOUR PATIENT IS ALWAYS IN CONTROL
 - ALSO tell them that if they are uncomfortable in ANYWAY, you will stop treatment IMMEDIATELY.

Communication

Once you have WRITTEN consent, and initial PRE-TREATMENT verbal consent:

- DEMONSTRATE how you would like to POSITION them on your exam table and provide a drape for them.
- I'll show you here
- Ask them if they have any questions, tell them: "I am going to step out of the room so you may get ready (please remove pants, undergarments and lie face up to begin, with the drape covered like this" and demonstrate here)
- "I will knock loudly before I come back in." This is important: NO SURPRISES
-

Communication and Palpation

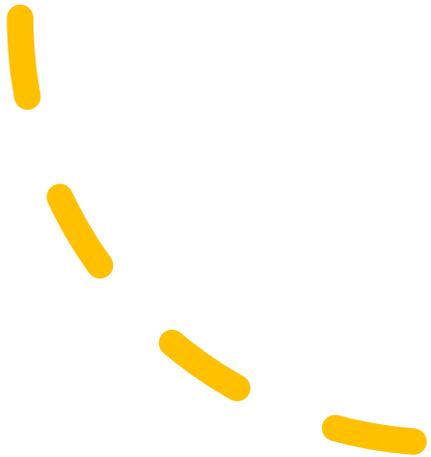
- You would be surprised how many people have a hard time with this simple instruction because they are nervous.
- You may chart these positions accordingly: lithotomy, lateral supine, prone, supine
- DURING TREATMENT CONSENT:
 - Is it ok that we can begin? I am going to put my LEFT hand on your LEFT hip, is that ok? If the answer is YES, then proceed, if NO then ask “is it ok if I put my LEFT HAND on your lower LEFT BACK?” this is just an example. If the patient is very nervous, you can start off by saying “ I am here for you, and we are going to get you feeling better, how about we start off with a very gentle treatment “X” so we can ease into this deeply therapeutic work.

MOST
important

- Tell them that you are following their lead

To be continued....

- We will discuss Clinical ethics and safety tomorrow more at length.
- Next up: DRAPING DEMO



GETTING FAMILIAR WITH NEEDLING

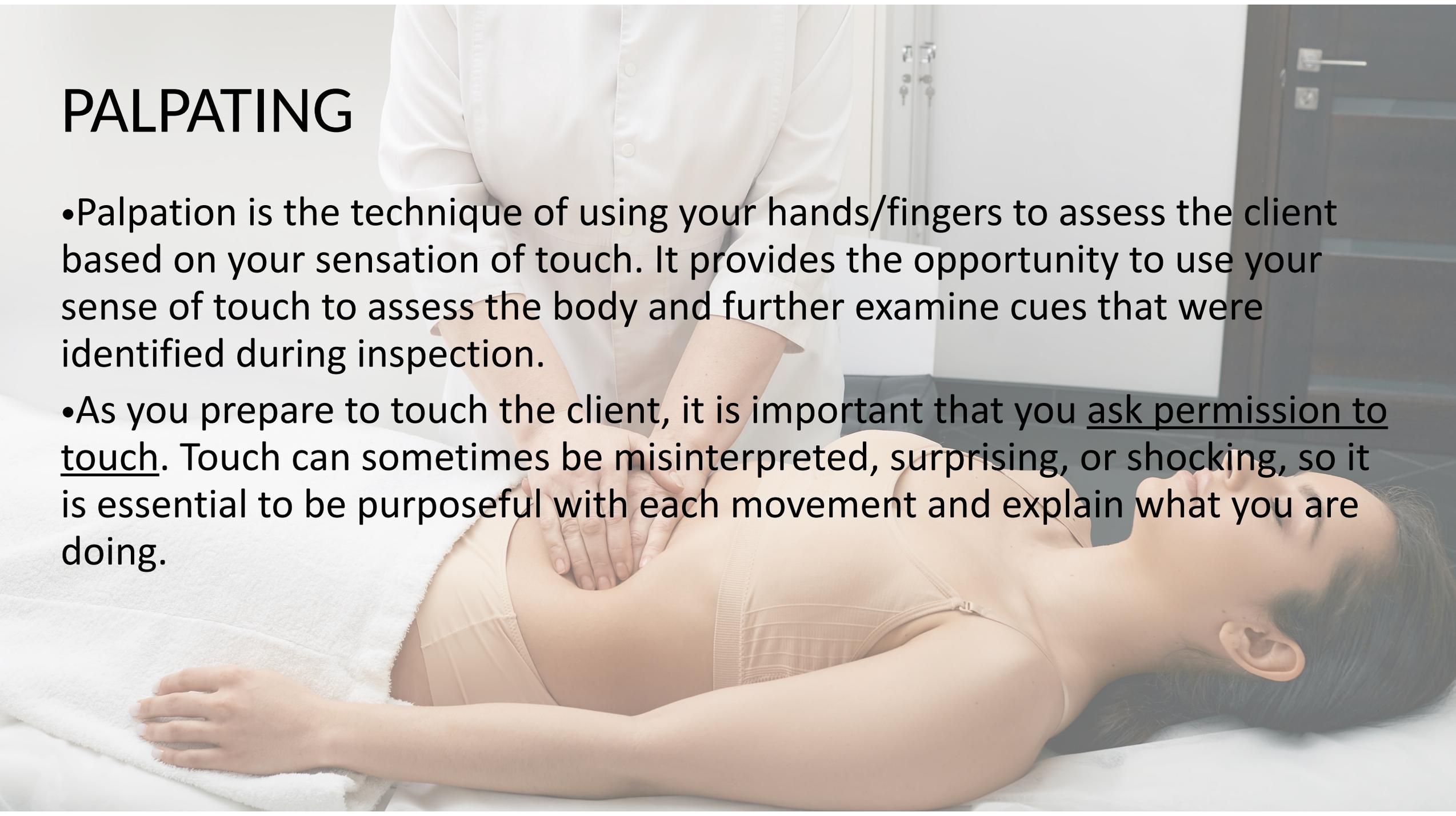
This is what we have all been waiting for!

Jumping in and practicing to fine tune PELVIC FLOOR needling.

1. Sacral ligaments
2. Big muscles outside PF
3. Tendons
4. Pelvic floor



PALPATING

A photograph showing a therapist in a white lab coat performing a palpation on a client lying on a massage table. The therapist's hands are placed on the client's abdomen. The client is wearing a light-colored, form-fitting top. The background is a clean, clinical setting with a white wall and a dark door.

- Palpation is the technique of using your hands/fingers to assess the client based on your sensation of touch. It provides the opportunity to use your sense of touch to assess the body and further examine cues that were identified during inspection.
- As you prepare to touch the client, it is important that you ask permission to touch. Touch can sometimes be misinterpreted, surprising, or shocking, so it is essential to be purposeful with each movement and explain what you are doing.

Palpation

- Consider the warmth of your hands. Cold hands can be uncomfortable for the client. Do not blow on your hands to warm them up as this will transfer germs from your mouth to your hands. Instead, rub your hands together to create heat.
- Avoid **staccato touch** unless indicated. The jerk-like movement can be difficult to anticipate for the client. When touching the client, use firm pressure unless otherwise indicated. Light pressure can be ticklish. In this case, sometimes incorporating the client's hands, where possible, into your palpation technique to reduce tickling.

Palpation

- Palpation provides useful information to assess and evaluate findings related to temperature, texture, moisture, thickness, swelling, elasticity, contour, lumps/masses/deformities, consistency/density, organ location and size, vibration and presence of pain
- NEVER EVER NEEDLE THROUGH CLOTHING

Needling Ligaments

Pubis
symphysis

Sacro­tuberous

Sacrospinous

Iliolumbar

Sacrococcygeal

Inguinal

Anococcygeal
ligament

Median
Umbilical
Ligament

Muscles of the Pelvis

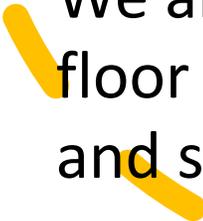
There are 36 🤨 muscles that attach to the sacrum or hip bone (innominate)

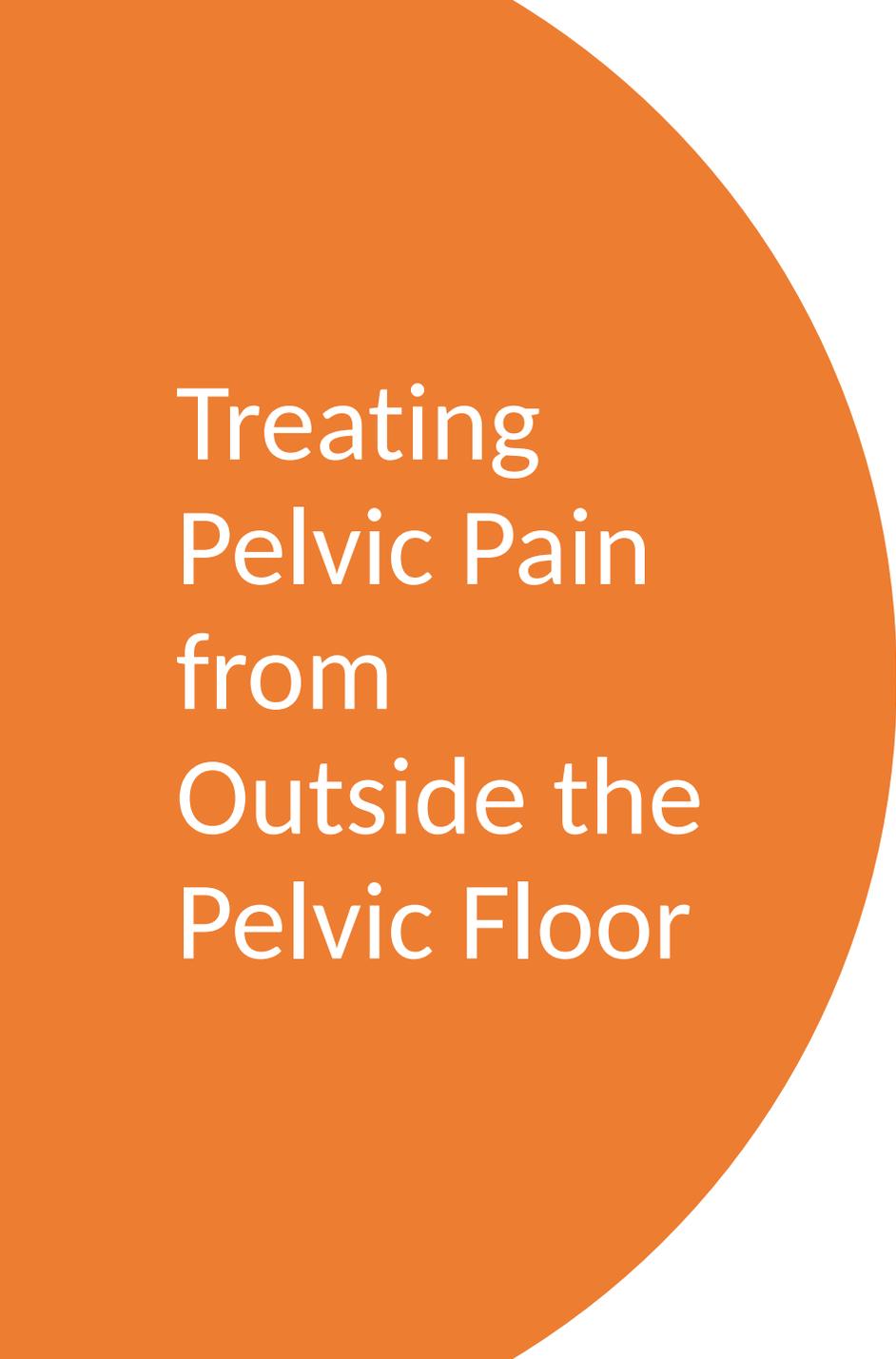
Many attach to the pelvis and are outside the pelvic floor

Many muscles are very important for the function of the pelvis and pelvic floor

Some also have deep fascial connections to the PF as well

We are going to start practicing with the larger muscles outside of the pelvic floor that refer pain to the pelvic floor region, before moving to the deeper and smaller ones closer to and within the pelvic floor



A large orange circle on the left side of the slide, partially cut off by the edge.

Treating
Pelvic Pain
from
Outside the
Pelvic Floor

Adductors

Obturator

Pectineus

Iliopsoas

Glutes

Techniques

The techniques that I use and have found most effective are

1. Trigger point dry needling
 2. Motor point needling
 3. Electroacupuncture – motor points, jia jie points
 4. Fascial needling (subcutaneous, osteo, scar etc.)
- We will briefly discuss the mechanisms and why they are advantageous in clinic.

Motor Point Acupuncture

- At its simplest: The neuromuscular junction where the motor nerve innervates the muscle
- There is ongoing debate about whether or not these locations are fixed within our community. I would happen to believe that they are indeed fixed and reproducible – they are a part of your normal anatomy!
- Direct stimulation into the motor point will create muscle homeostasis. If there is hypotonicity, it will stimulate to bring to neutral reset, if there is hypertonicity it will also bring the muscle spindle fibers to reset.
- After a motor point has been used, clinically you could palpate for further reluctant trigger points and resolve those (usually nearby)

TCM POINTS

- HTJJ

- GB 215,26,27,28,29,30,31

- UB

24,25,26,27,28,29,30,31,32,33,
34,35 and 36

- DU 1,2,3,4

- LIV10,11,12,13

- REN 1-15

- ST 19-31

- SP 12,13,14,15,16

- KID

11,12,13,14,15,16,17,18,19,20,
21

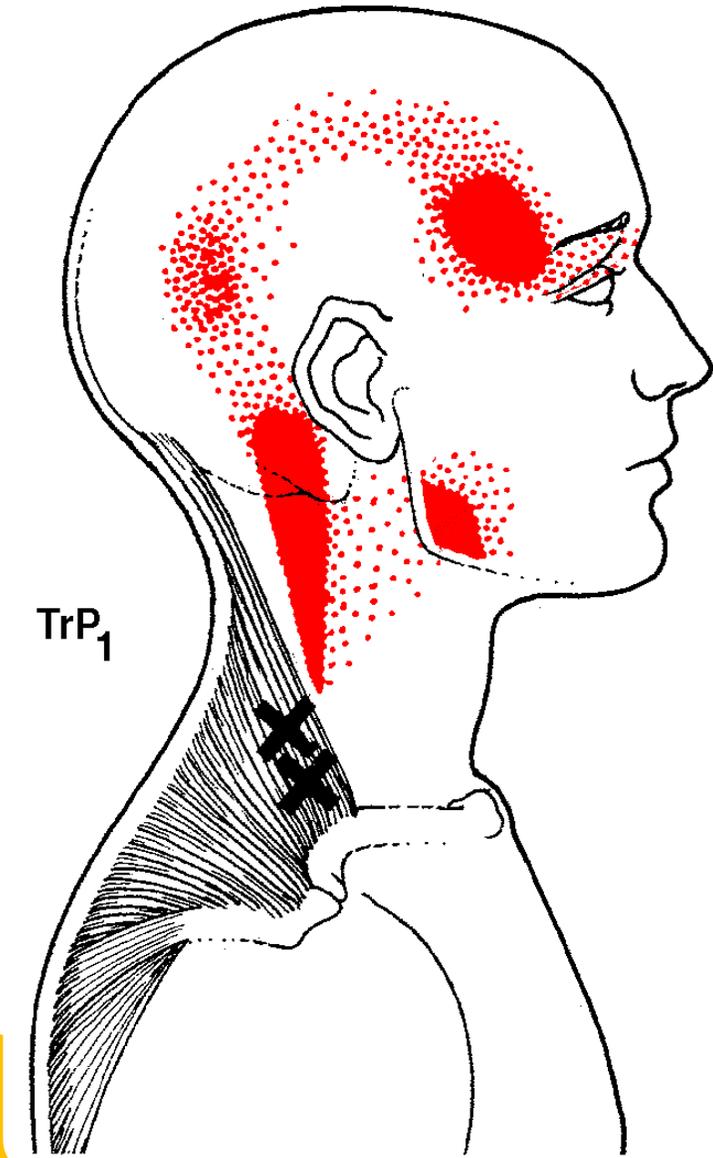
Myofascial Trigger Point Acupuncture (Dry Needling)

- The most common and current definition of TrPs is:
- “A hyperirritable spot in a taut band of skeletal muscle this is painful on compression, stretch, overload, or contraction of the tissue, which usually responds with a referred pain that is perceived also distant from the spot.”
Simons et al. 1999



Trigger Points Cause Referred Pain

- Example of a referral pattern (this one is for the upper trapezius)



TrPs Continued

- There are 2 types of Trigger Points:
- **Active:** Spontaneously reproducible and “their usual/familiar pain”.
- **Latent:** DO NOT reproduce spontaneous symptoms OTHER than the referred pain.
- BOTH Active and Latent cause allodynia, and although LATENT are NOT spontaneously painful, they STILL proved “NOCICEPTIVE input into the DORSAL HORN” - Ge at al. 2008

TrPs - Why is this important to know?

FOR SO MANY REASONS:

- ALL TrPs provoke motor dysfunctions such as weakness, inhibition, increased motor irritability, spasms, muscle imbalance and altered motor recruitment - Lucas et al. 2010
- Pain elicited by TrPs constitute a separate and independent cause of acute and CHRONIC pain that can compound symptoms of OTHER conditions...comorbidity is very high in these populations.
- TrPs affect VISCERA and we often see this in: IBS, Prostatitis, Endometriosis, Interstitial Cystitis

Example

The presence of Myofascial Trigger Points in the abdomen was 90% predictive of ENDOMETRIOSIS.

We CANNOT ignore them. To ignore trigger points will be a hurdle in our treatment, but they need to be deactivated to have better clinical outcomes.

SAFETY: TrPt and Motorpoint Needling

BASICS:

- IF your patient has a chronic and systemic issue such as Immune/CA/FIBRO/MS/LUPUS etc. they will require LESS stimulation and you must proceed with caution and use your best judgement.
- PREGNANCY
- Examples of treatment: Employ one to two motor points and/or trigger points with gentler techniques, shallower insertion, thinner gauge needle, with or without e-stim.

Safety

Visibly scanning the skin to see for integumentary changes:

- Peau d'orange
- Alopecia
- Active lesions
- Adhesions
- Thermal
- Color

Safety continued

- Patients with electrical stimulators/hardware/pumps (near the region)
- Victims of sexual abuse



Trigger Points

- Etiology of Trigger Points as described by Simons:
 - Increased Acetylcholine releases at motor plate
 - Increased tension of muscle fibers passing through trigger points
 - The presence of sensitizing substances in the muscle tissue that can produce pain

Trigger Point Needling / Dry Needling

Mechanisms of Dry Needling

- “Needling is both a PHYSICAL disturbance to soft tissue and a minute biological traumatic inoculation into soft tissue. The physical movement and manipulation of the needle in deep tissues increases the tension of the muscle fibers and connective tissue and creates the effect of mechanical signal transduction, which leads to SELF HEALING”. Ma 2011

Food for thought:

- If the needle is inserted PERPENDICULARLY to the muscle fibers, and to 1cm, it may break AT LEAST 1,000 muscle fibers.
- When this occurs, the brain identifies and signals for biological systems to replace the damaged tissue with the SAME type of tissue within a few days!
- We also see HOMEOSTASIS through a number of reflexive processes at different levels in the CNS.

Myofascial Pain and Trigger Points

- 6 in 10 people experience chronic pain over the age of 30.

- There are 4 different types of MYOFASCIAL PAIN :

1. Trigger Points: can occur in ligaments, tendon, skin, joint capsule, periosteum

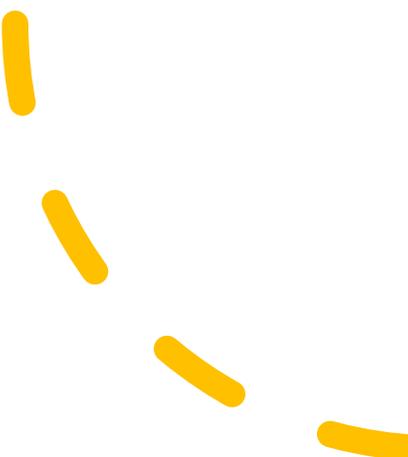
2. Muscle Spasm: involuntary contraction caused by acute or chronic trauma, excessive tension or visceral disorder. This leads to decreased blood flow to the tissue and can contribute to edema)



Myofascial Pain and Trigger Points

3. Muscle tension (postural, emotional or situational causes think he holds his stress in his shoulders)

4. Muscle Deficiency (weakness and stiffness so proper muscle function cannot be maintained)



Pathologies

And the differing pathologies:

- Tissue Inflammation
- Tissue Contracture
- Microcirculatory deficiencies that include blood and lymphatic, ischemia and edema
- Trophic deficiencies, tissue degeneration
- Tissue adhesions
- Scarring of tissue
- Biomechanical issues

Mechanisms in Acupuncture/Dry Needling

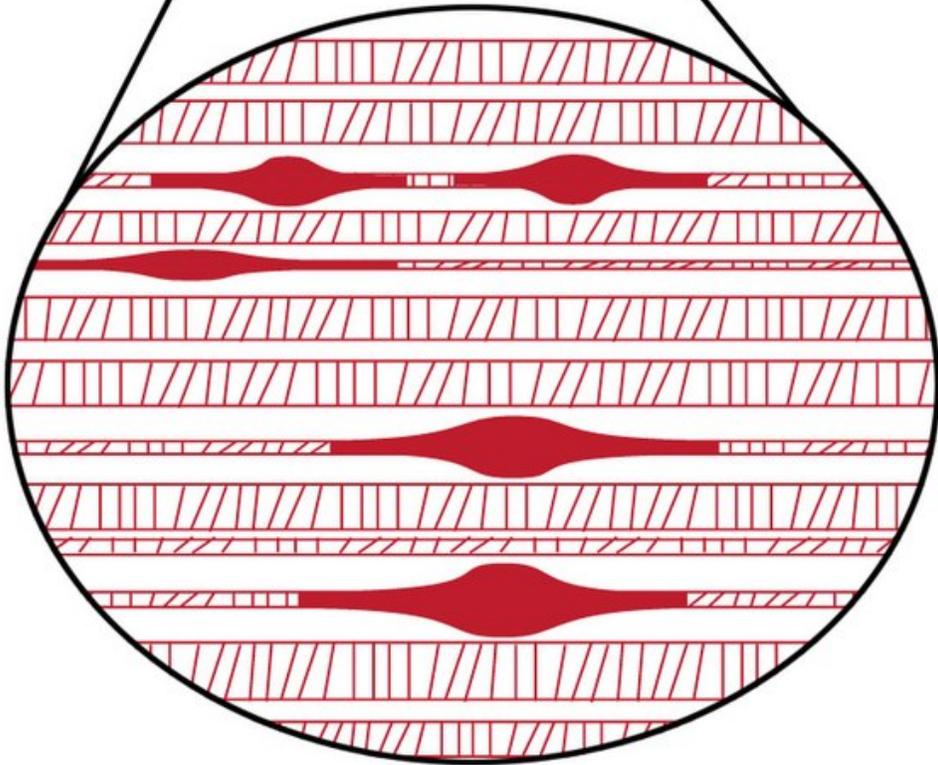
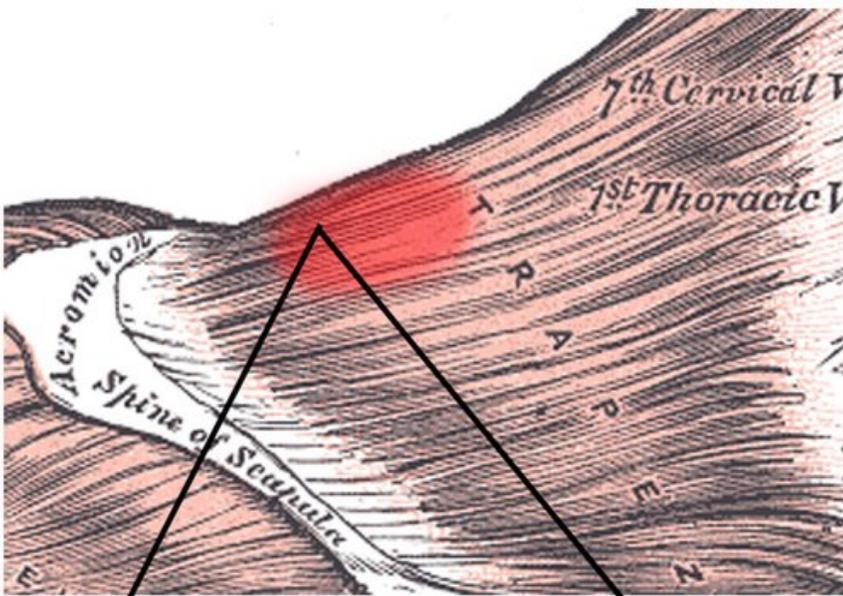
- Repairing starts with an inflammatory process to destroy and eliminate the lesioned and dead tissue, then the body's healing responses activate and synthesize new tissue to replace the old and damaged.
- There are three stages of self-healing after the initial DN injury:
 - Inflammation and immunological responses: platelet factors, activated immune cells like WBC, and MACROPHAGES to digest the injured tissue
 - Cellular regeneration and differentiation: Primordial cells regenerate then differentiate the cells and regenerate based on those differences

Stages of Self Healing Continued...

- Reconstruction: Endothelial cells move to the injured parts to form the tissues and capillaries
- The nervous systems PNS/CNS, immune, endocrine and cardiovascular systems are involved
- Needling signals are brought to the CNS by sensory nerve fibers first to the spinal cord, and then to the different spinal levels, then to the brainstem etc.

Anatomy of a Trigger Point

- Tight muscle fibers
- Palpable “knots”



What is a Trigger Point

- Dr. Janet Travell's 5 criteria for confirming trigger points:
 - 1. Palpable **taut band** (if muscle is accessible)
 - 2. Exquisite spot tenderness of a nodule in a taut band
 - 3. Patient's recognition of current pain complaint by pressure on the tender nodule (identifies an active trigger point)
 - 4. Painful limit to full stretch ROM
 - 5. Pain or altered sensation in the distribution expected from a TrP in that muscle, on compression of the tender nodule

What is a taut band

- Definition: “The taut band is **the first sign of the muscular response to biomechanical stress**. This can lead to the formation of latent trigger points, which can eventually evolve into active trigger points.”
- Taut band/TrP have same causes; TrP is a progression of conditions
- Physio-pedia.com

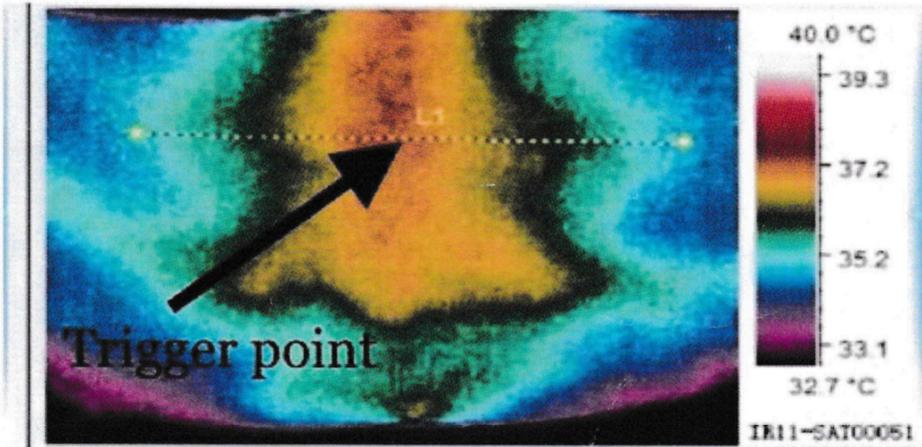
Why is this important?

- Taut bands and trigger points are physiological changes in the muscles
- You as a clinician use your sensory HAND BRAIN, or palpating hand to find the taut bands and trigger points
- In application, this, as well as listening to your patient, is going to be most informative
- Skilled Palpation is a KEY ELEMENT for identifying trigger points

Thermal Image of a Trigger Point

Modified Pic Source:

Cojocaru MC, Cojocaru IM, Voiculescu VM, Cojan-Carlea NA, Dumitru VL, Berteanu Met al. Trigger points—ultrasound and thermal findings. J Med Life (2015); 8(3): 315-8.

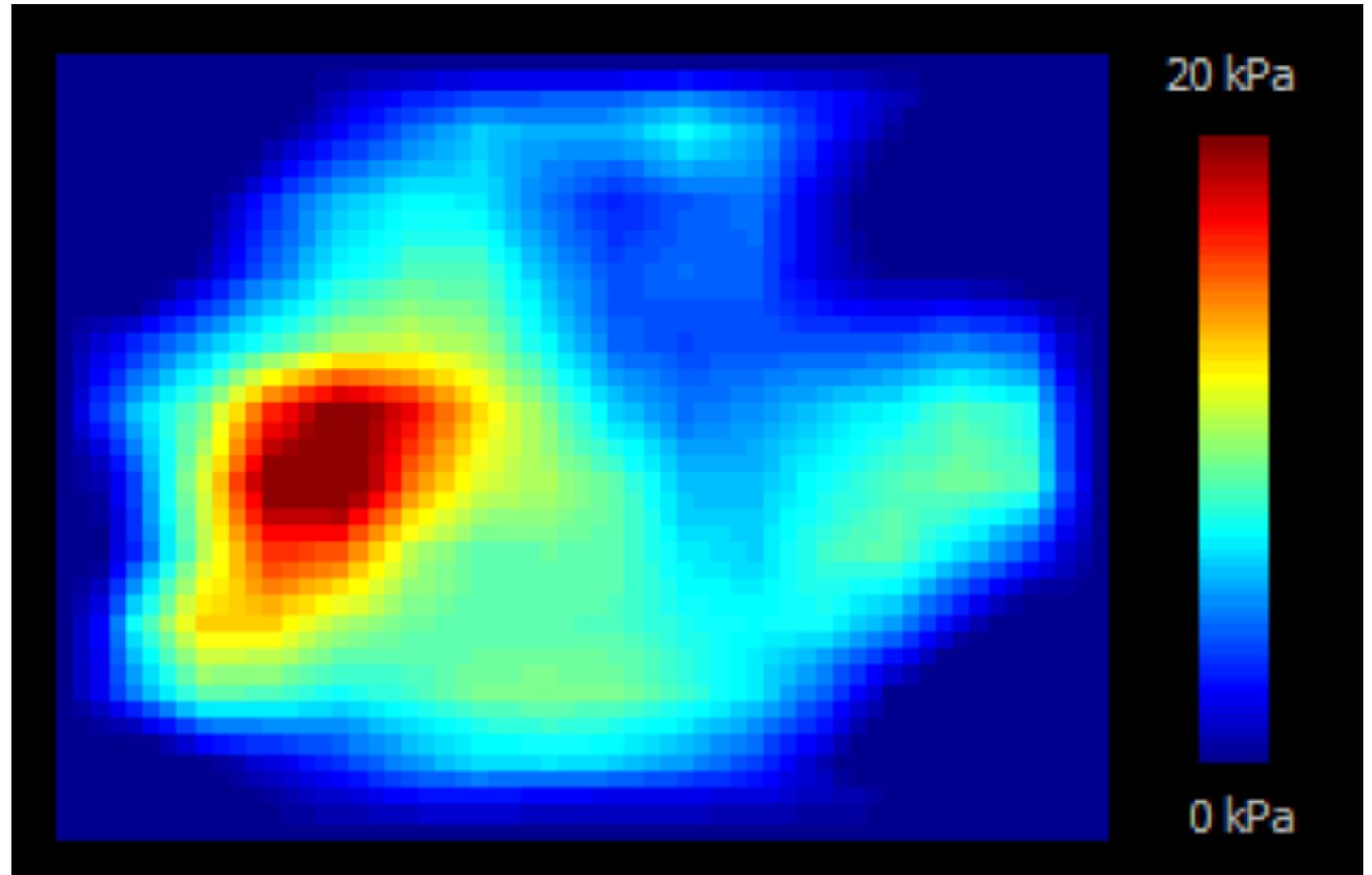


Trigger points

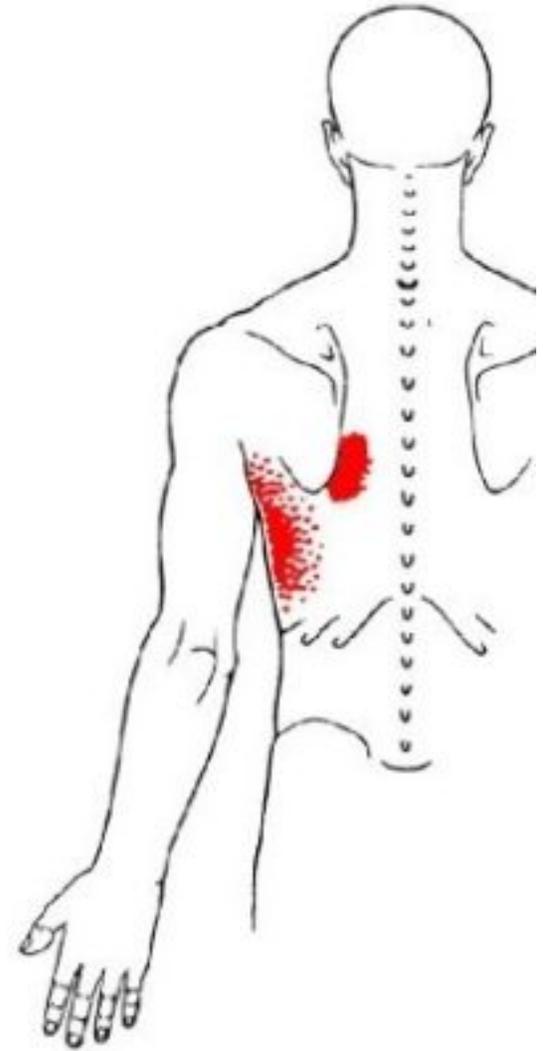
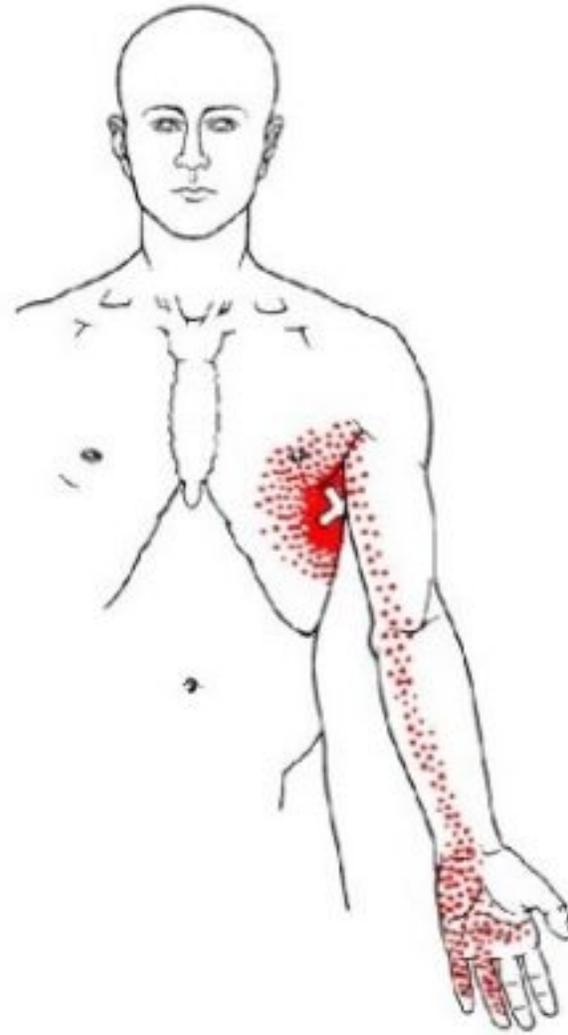
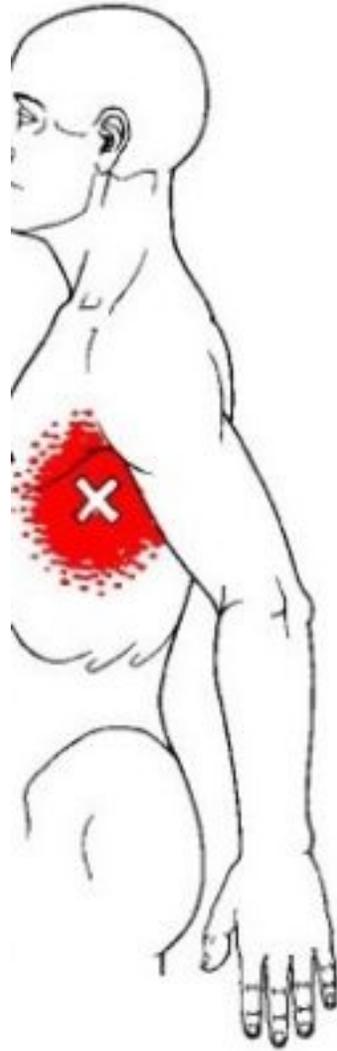
Fig. 4 3D representation of the thermal readings corresponding to R1 region for patient no. 2, initial and five days after the injection procedure.

Thermal Image of a Trigger Point

Mix of excess & deficiency
Local stagnation and
inflammation
Also a reduction of circulation
Orange/Red = hot
Blue = cold



Referred pain Pattern from a Trigger Point



Causes of Trigger Points

DIRECTLY:

- 1. ACUTE OVERLOAD
- 2. CHRONIC OVERLOAD (THINK RSI, OVERWORK FATIGUE)
- 3. DIRECT TRAUMA
- 4. COOL TO AREA

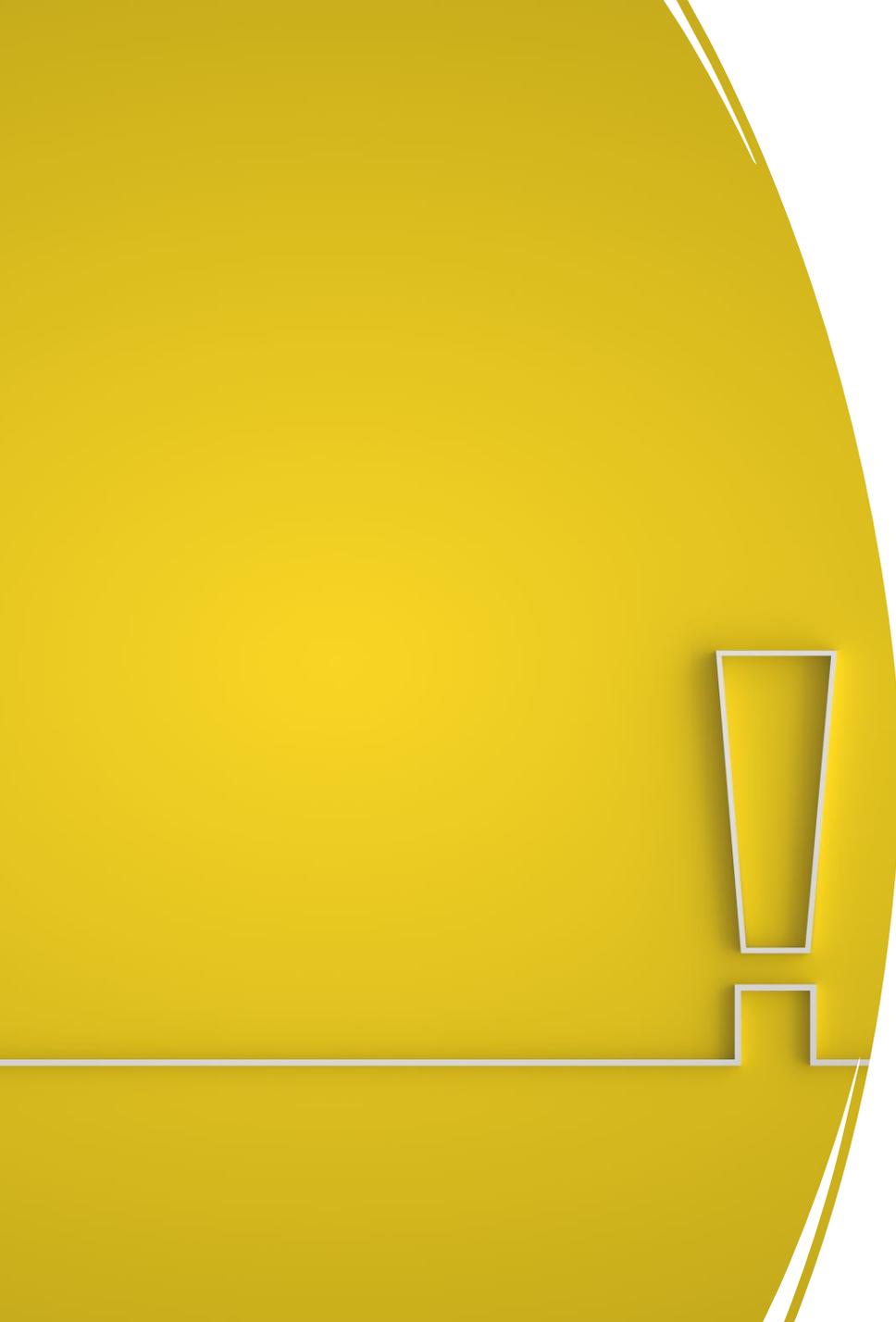
Causes of Trigger Points

- INDIRECTLY

- 1. VISCERAL DISEASE
- 2. ARTHRITIC JOINTS (MUSCLE OVERLOAD TRYING TO SUPPORT INSTABILITY)
- 3. EMOTIONS (PHYSICAL HOLDING PATTERNS)
- 4. VIRAL ILLNESS
- 5. MUSCLES IN SHORTENED POSITION FOR TOO LONG (THINK HIP FLEXORS SHORTENED SITTING AT YOUR DESK)

Important Clinical Aspects of Trigger Points

- Safety
- Contraindications
- Cautions
- Patient Education and consent
- Draping
- Clinical Nuts and Bolts
- Palpation
- Needling
- Post Treatment Care



SAFETY FIRST

- If you feel at all uncomfortable with the location of the trigger point DO NOT attempt to deactivate it
- This is an opportunity for you to learn and practice technique on larger safer zoned muscles, (for example, NOT longus coli)
- We have many tools in our toolbox, so always do your best!

SAFETY continued

MAJOR Risks associated with TrP DN:

1. Infection: Possible immunocompromised patient, not establishing clean needle technique (needling through clothes - DO NOT EVER DO THIS), not properly cleaning skin if needed, proper handwashing, etc.
2. Hematoma: Cervical spine hematoma, artery puncture, venous puncture, neuropraxia
3. Pneumothorax/ORGAN PUNCTURE

CONTRAINDICATIONS

- LYMPHEDEMA/CELLULITIS
- NEUTROPENIA/THROMBOCYTOPENIA
- UNWILLING PATIENT
- MEDICAL EMERGENCY/ACUTE MEDICAL CONDITION
- UNABLE TO GIVE CONSENT

CAUTIONS

HX OF ANTICOAGULANTS/NSAIDS

IMMUNOCOMPROMISED PATIENTS (HIV, CA, ENDOCARDITIS,HEP etc.)

IMMUNOCOMPROMISED FROM IMMUNOSUPPRESSION THERAPY (CA)

ACUTE IMMUNE DX (acute stage RA, infection)

DEBILITATED patients (long standing chronic illnesses, cognitive illness etc.)

VASCULAR DISEASE

DIABETES (compromised tissue healing, sensory deficits, poor peripheral circulation)

Cautions Continued

PREGNANCY (assisted reproduction)

CHILDREN

ANOREXIC/BULIMIC

EMPHYSEMA

FRAIL PATIENTS

EPILEPSY

ANXIETY DISORDERS ETC

IMPLANTED DEVICES

PROSTHETIC IMPLANTS

PATIENT EDUCATION AND CONSENT

- Take the time to educate your patient on the rationale for the procedure and WHAT TO EXPECT.
- Explain what to expect and aim of treatment
- CLEARLY EXPLAIN to your patient: Expect to have post-treatment soreness for 12 hours up to several days. Take the opportunity to discuss ways to mitigate this (moist heat, electrolyte supplementation, increased fluid intake, thermal therapies, restorative stretching, PT etc.)
- BRUISING it's NO BIG DEAL, it WILL happen. Have arnica gel on hand.
- WARN THEM OF THE TWITCH! You'll find that patients are most nervous because they have no idea what to expect and it can be SCARY.

Patient Education and Consent

EXPLAIN THAT IF THEY FEEL SHARP PAIN, BURNING, STINGING, ELECTRICAL PAIN, to inform you immediately, so as you may redirect the needle to make it “more comfortable for them”.

DO NOT ALARM THEM! Caught early, reduces risk of harm

Myself, I show my patients visual guides of the muscles that we will be targeting and explaining how it impacts their clinical outcomes.

Palpation

Skilled palpation is KEY

Muscle attachments

Bony landmarks

Muscle fiber direction

Muscle layers

Neurovascular structures

Organs

Joints

Palpation and VISUAL observation

When palpating we are receiving so many forms of information:

Thermal changes (cool to the touch, warm to the touch)

Edematic changes

If the skin is rough to the touch or smooth

Pulse/no pulse

Hair or no hair

Discoloration

Visible anatomical landmarks/Invisible anatomical landmarks

PALPATION 101

- We use PINCER GRIP or FLAT Palpation to ID and ISOLATE trigger points
- If you need to remove your hand from the patient ONCE you have located the trigger point, quickly load up your needle in your needling hand, locate TrPt once more in palpation hand and begin to needle. AGAIN if you have DOUBT STAY OUT.

Palpation 101

- Make sure your patient is comfortable and relaxed. AVOID staccato palpation
- If you do not know where the needle tip is, or think you have lost it, IMMEDIATELY withdrawal needle or DO NOT NEEDLE
- KEEP BOTH HANDS ON THE PATIENT AT ALL TIMES whilst needling. Once you lift your palpating hand off, you may lose the trigger point and other very good information (micro twitches or shivers in muscles, fascial softening, temperature changes in the skin/muscle due to increased circulation)

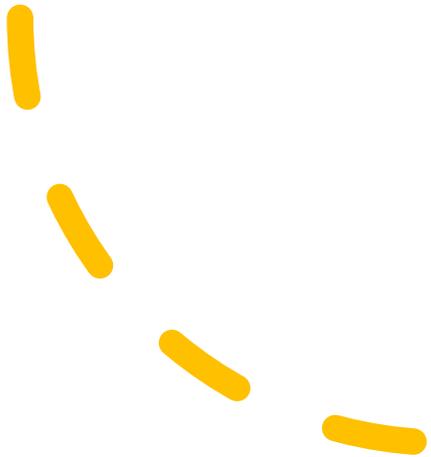
Palpation is key to trigger point treatment

- Trigger points are diagnostic
- Palpation will reproduce symptoms
- The key is why did the trigger point happen?
 - Can be acute trauma
 - Oftentimes long-term underlying issue: Postural, work-related, muscle imbalances, over-use, soft tissue neglected, ignoring other signs or symptoms including pain
 - Any combination of the above; acute insult + chronic underlying pre-existing



Palpation is key to trigger point treatment

- Soft tissue work is often key for follow up to help the tissue
- Heat
- Rehab exercises may be needed too



NEEDLING 101

1. Choose the appropriate needle (gauge and length) for the appropriate muscle/trigger points (consider your patient's body type: i.e. GLUTES in FOOTBALL QUARTER BACK vs. Ballerina) QB: glute max .35X50mm Glute MED .35X60-75mm BALLERINA glute max .25-.35X40 glute med .25-.35X50-60
2. GLOVE UP/NO GLOVE UP (I always wear gloves whilst DN pelvic floor and glutes/inguinal groove, adductors and pubic/labial/scrotal area, but DON'T when I'm doing low back, TFL, Sartorius, VL, REC FEM, Biceps FEM Hammies etc.)

Needling 101

3. CLEAN THE SITE. NEVER EVER NEEDLE THROUGH CLOTHES EVER

4. Always let your patient know they can stop anytime, if they need a break, no worries, you'll pause the treatment, and let them know WHEN you will needle them. NO SURPRISES

5. Once trigger point is located, and you've told your patient now use your needle to do a quick insertion (remember keep both hands on the patient as there are “no surprises” and encourage them with affirmations like “ WELL DONE! NO PROBLEM!”

Needling 101

6. BE PREPARED FOR YOUR PATIENT TO JUMP, FLINCH, CURSE, EVEN SMACK OR HIT YOUR HAND! This is what I do.....

7. Know where the needle tip is AT ALL TIMES

8. NEVER TAKE YOUR EYES OFF OF THE NEEDLE. Your patient may move, flex, cough, etc., remove immediately to avoid tissue injury and bending the needle. AVOID ALL distractions

Needling 101

9. Sometimes the tissue has had fibrogenic changes due to long standing trigger points, and you do NOT get the LTR, this is OK. Encourage your patient by telling them that you are still PHYSICALLY changing the tissue by increasing circulation and O2 to the tissue itself affecting changes.

- THE BODY IS DYNAMIC, SOFT TISSUE WILL REPAIR ITSELF UNLESS YOU ARE DEAD.

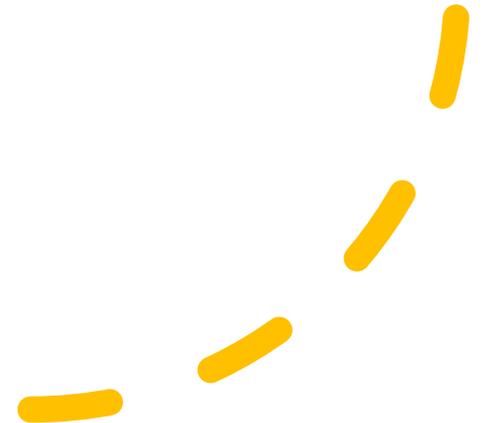
10. NEEDLE TO PATIENT TOLERANCE. This is a HUGE factor. Let's talk about that for a minute.

Needling 101

11. MAKE NICE NICE after the treatment. ALWAYS end on a positive note, even if that looks like a quick 2-minute massage of the area with Tiger Balm or a heat lamp thrown on after, this helps diffuse the intensity of the procedure.
12. Always scan for bruising and hematomas. I usually know right away if I've caused one.
13. Send patients home with homework: This involves them and encourages active participation for their treatment plan and compliance to help getting better.

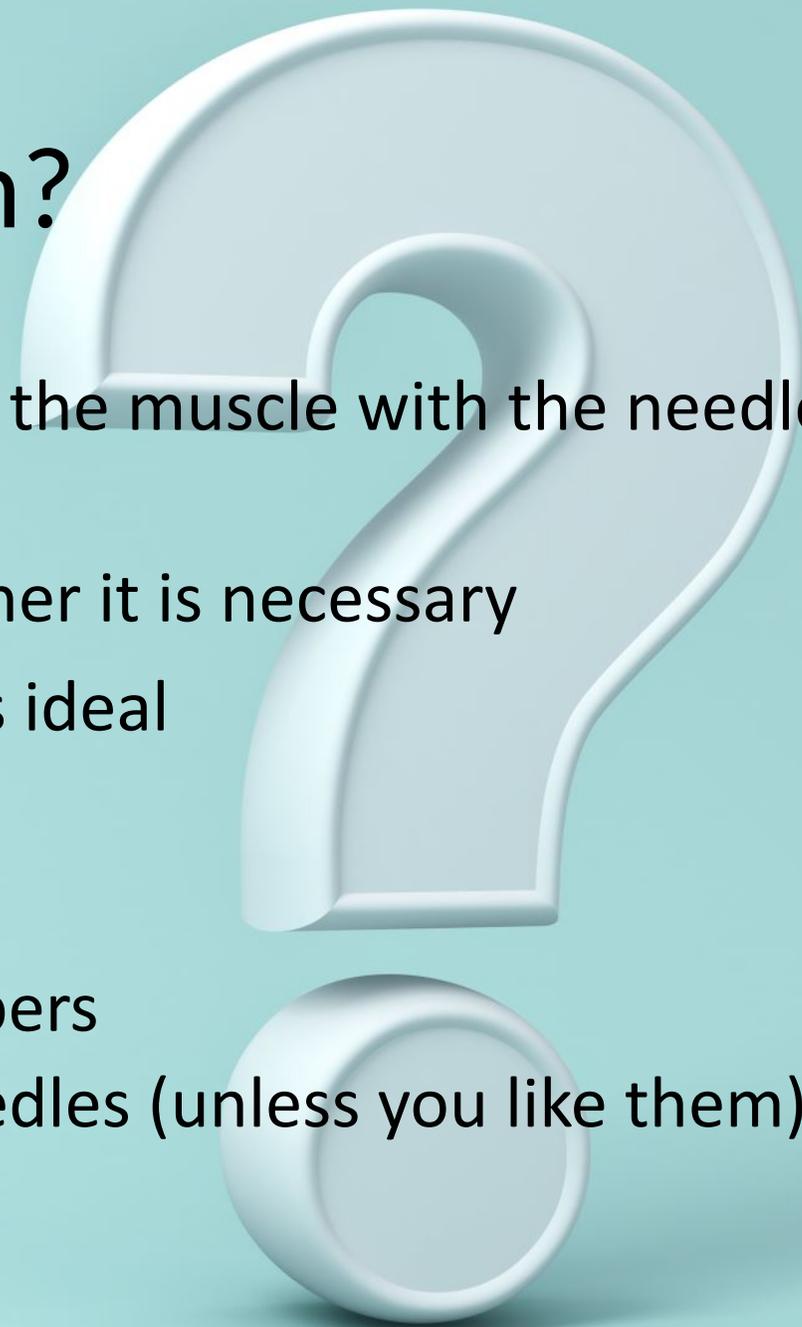
Summary – Needles and Positioning

- Gauge/thickness of needle
 - Thicker gauges are actually better and less noxious
 - Smaller gauges for hands, feet, pelvis, elderly
- Patient positioning
 - Best access to the area
 - Muscle is in the correct position, not overly stretched
 - Able to get to more than one muscle or trigger point
 - Do not treat in sitting position especially when working on traps/neck
 - Bolsters/pillows



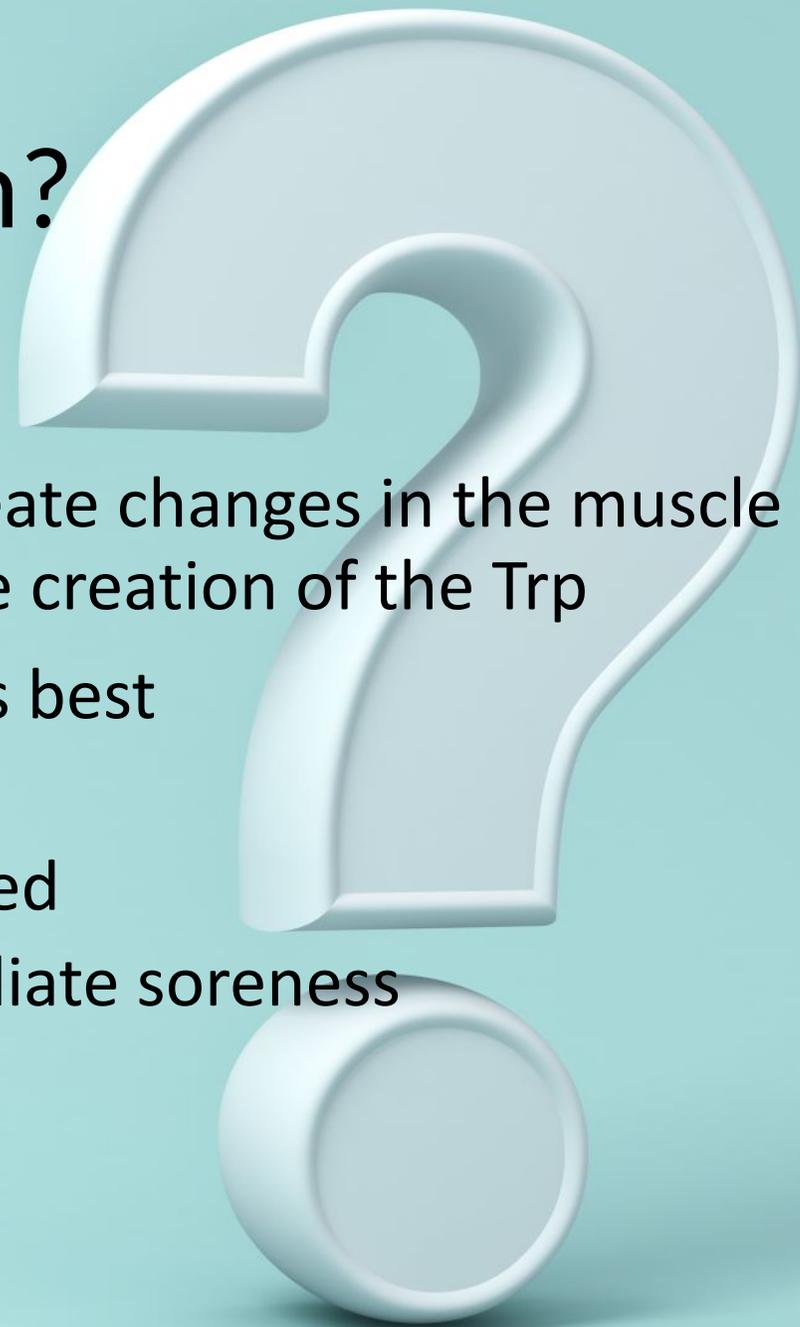
To twitch or not to twitch?

- Twitching is manual depolarization of the muscle with the needle and physical stimulation
- Different schools of thought on whether it is necessary
- The middle ground: Some twitching is ideal
- Do NOT need to:
 - Piston until twitching stops
 - Twirl the needle to grab muscle fibers
 - Use “Dry Needling” or “Sport” needles (unless you like them)



To twitch or not to twitch?

- The twitch response has shown to create changes in the muscle that stop the processes responsible for the creation of the Trp
- Overall, experience drives what works best
 - Some twitching is good
 - Certain degree of soreness expected
 - Note: delayed onset versus immediate soreness



TRUTH of What Happens

YOU just physically changed your patients MSK system. No placebo.

GET THEM moving. That's the NEUROMUSCULAR RE-EDUCATION part. The brain needs a reset....

Brain: "Wow, Johnny's hip flexors and hammies were so tight from cycling 100 miles a day, now he can do the Can-Can AND touch his toes!"

Johnny: "WOW! I can finally join Dancing with the Stars and do my Can-Can!"

Location, Palpation, & Needling Practice

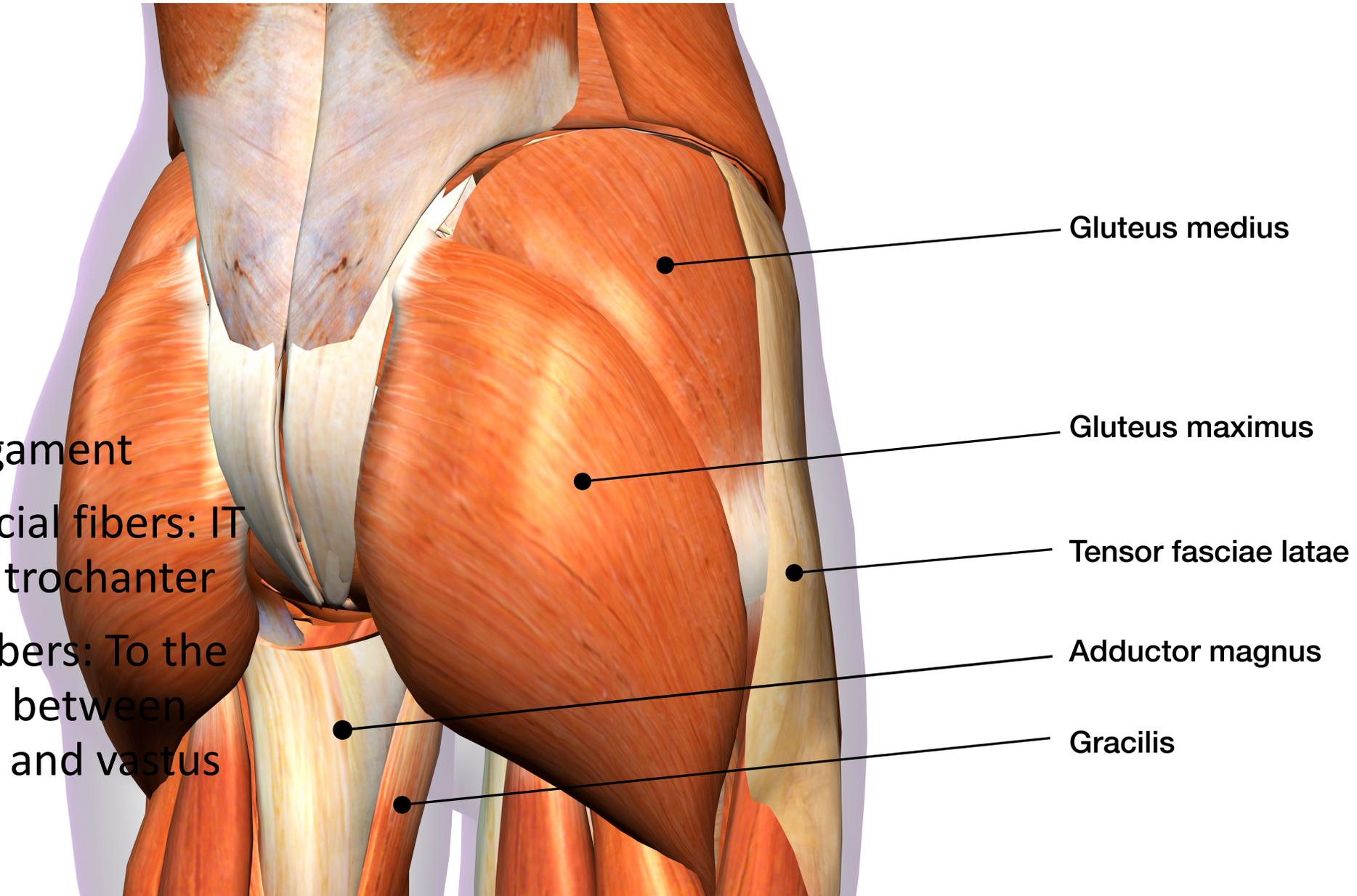


Needling demo

- Insertion
- Anchoring
- Pistoning/going to depth
- Redirecting
 - Back out of muscle but not out completely (into subcutaneous)
 - Redirect needle, go to required depth
 - If you don't back it out enough, it won't redirect even if the handle looks like it is
 - Careful with dose/amount of stimulation

Gluteus Maximus

- Origin: Sacrum & Sacrotuberous Ligament
- Insertion: Superficial fibers: IT band and greater trochanter
- Insertion: Deep fibers: To the gluteal tuberosity between adductor magnus and vastus lateralis

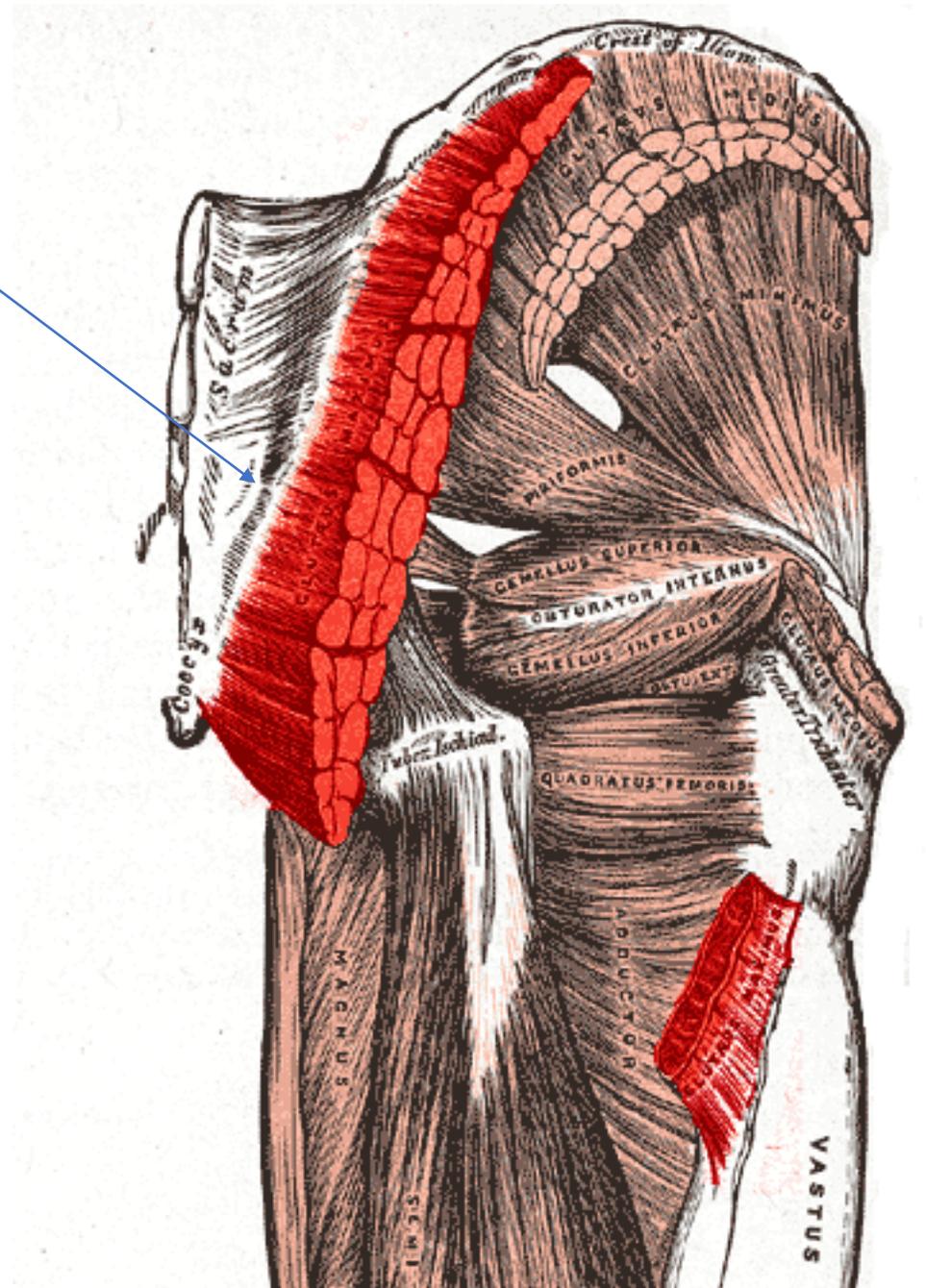


Gluteus Maximus

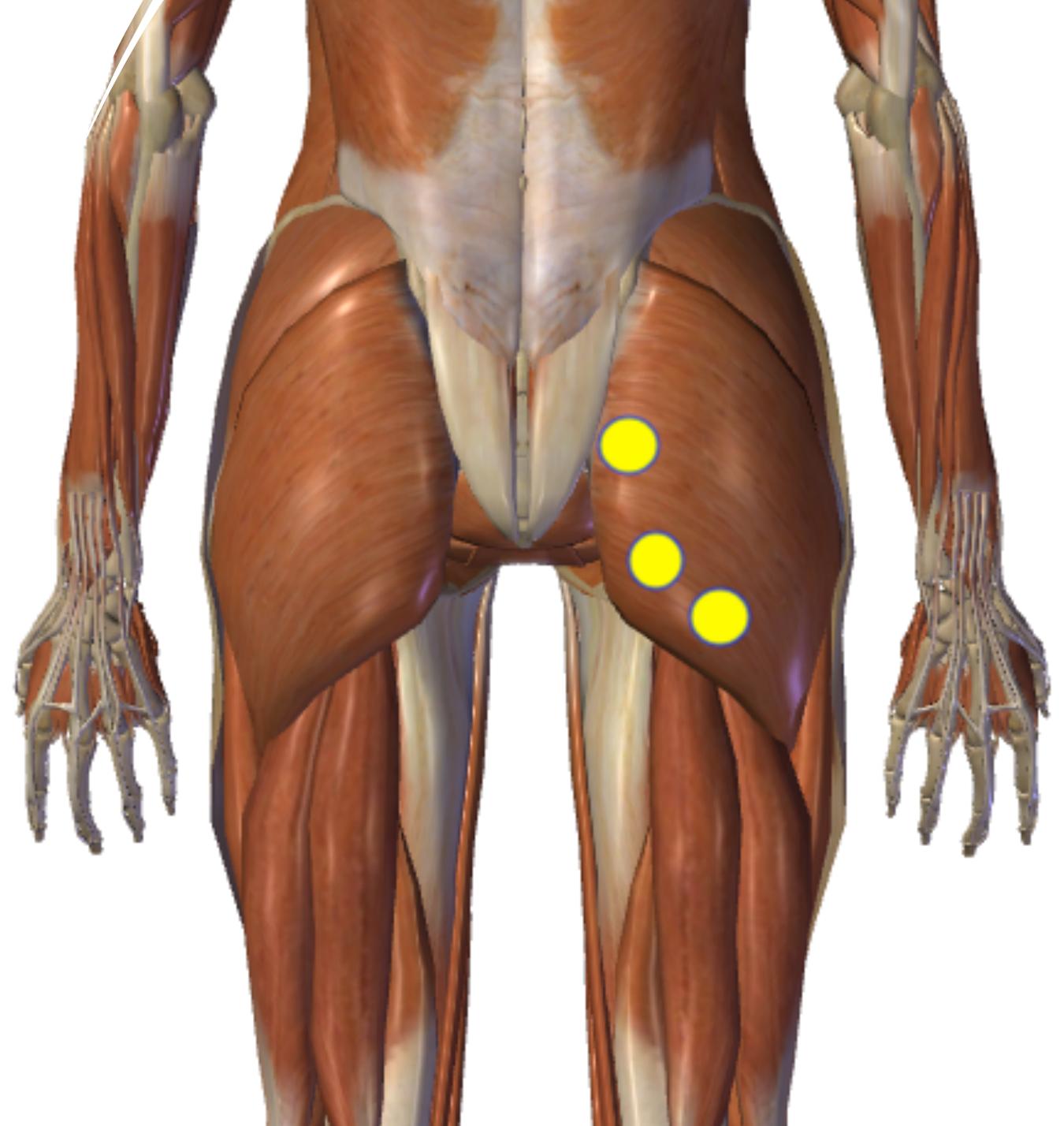
Actions:

- Extends the hip with Semitendinosus and semimembranosus
- Externally rotates the hip with iliopsoas, obturator, & piriformis

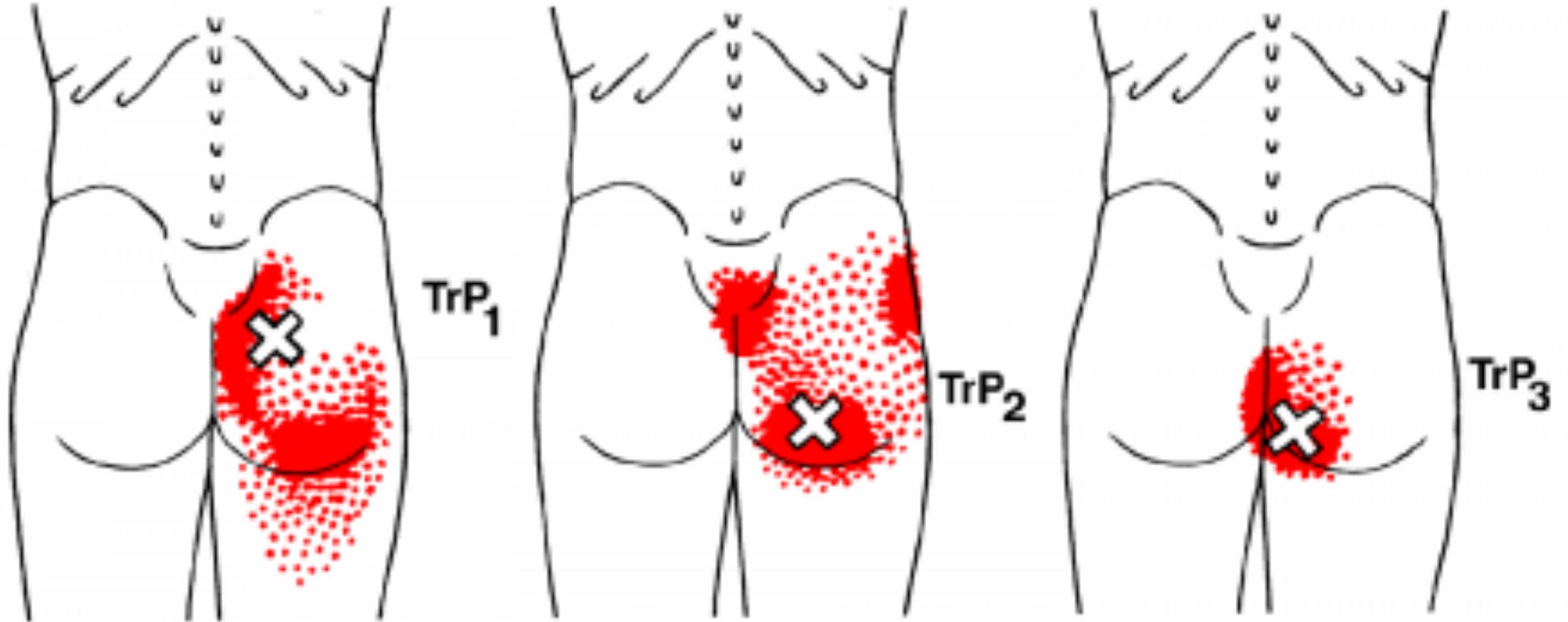
Fascial attachments to sacrum & coccyx

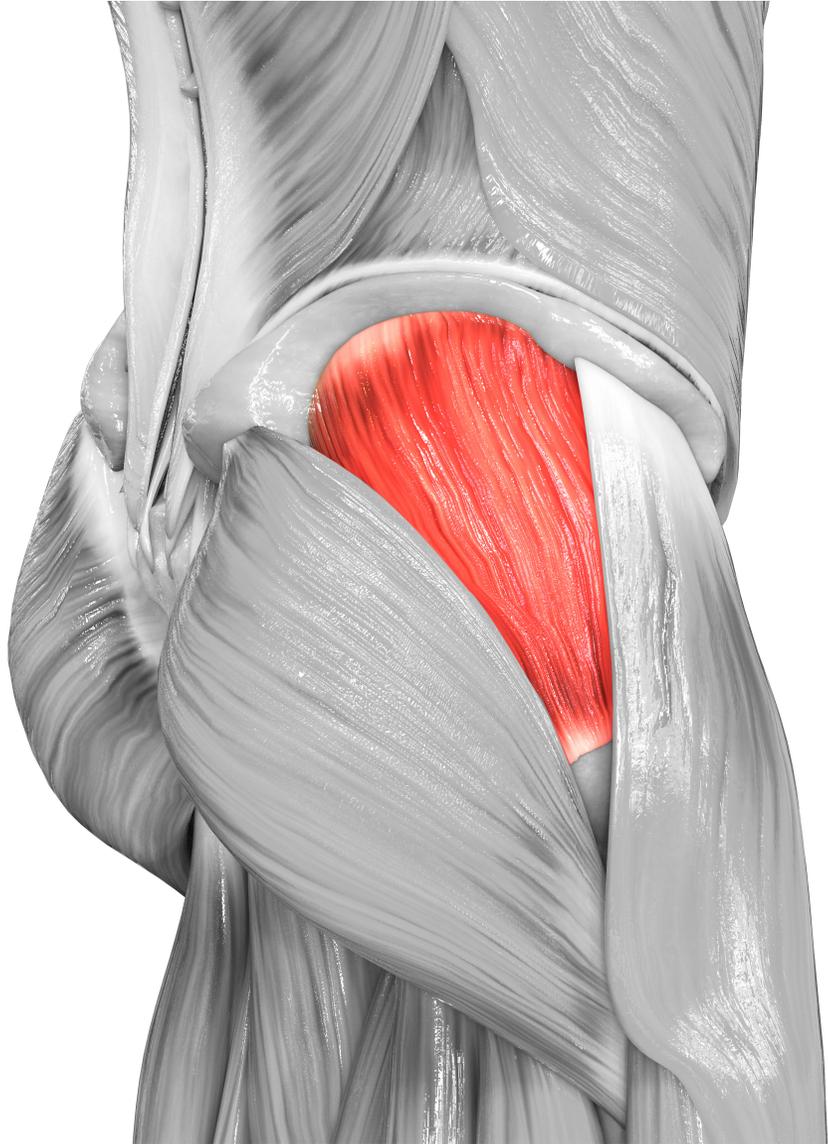


Gluteus
Maximus
TrPs Areas



Gluteus Maximus Trigger Point Referrals





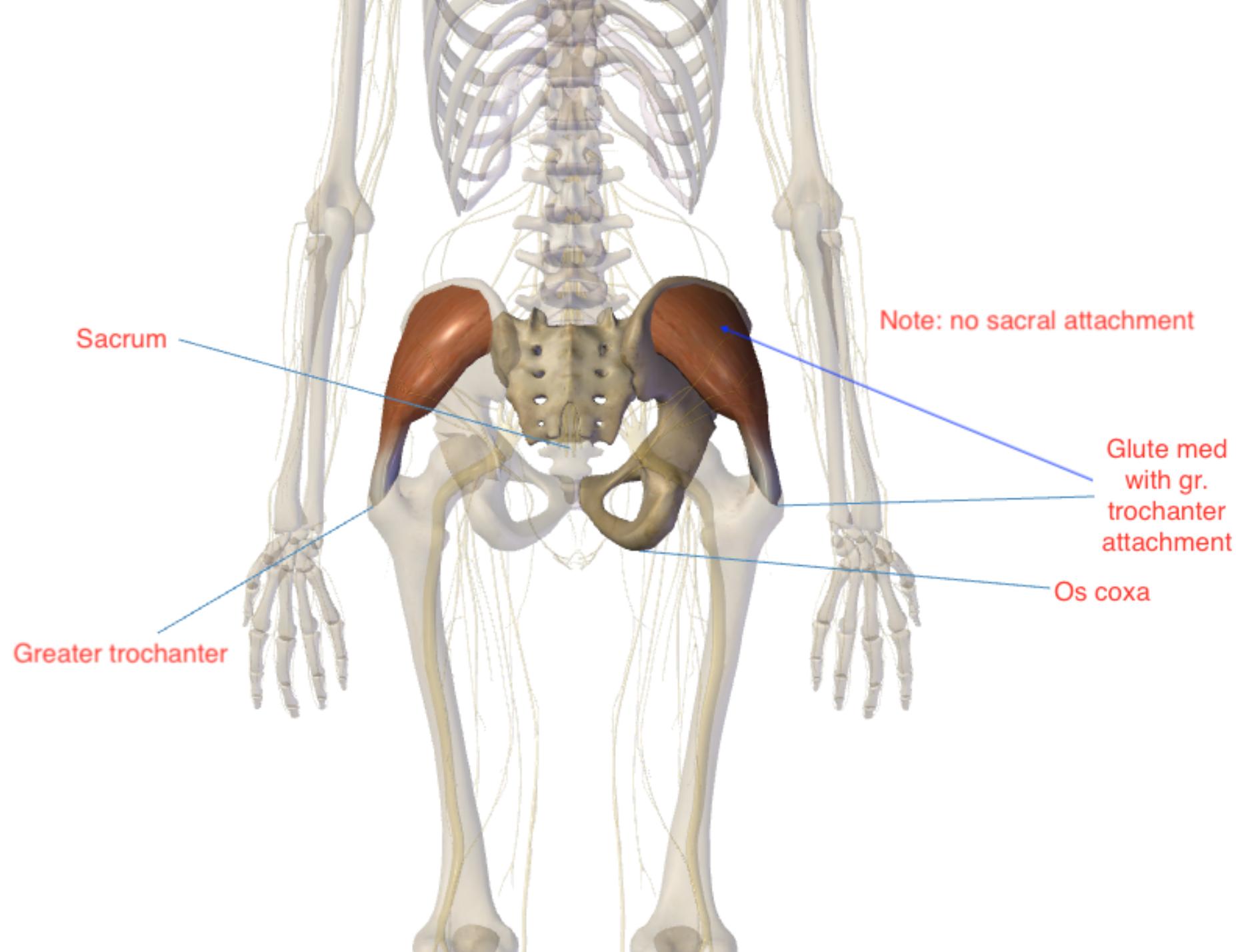
Gluteus Medius Muscle

Gluteus Medius



- Origin: Ilium, posterior and anterior gluteal lines (more on these lines later)
- Insertion: Upside down piece of pie that tapers into a narrow tendon and attached on the anterior side of the greater trochanter

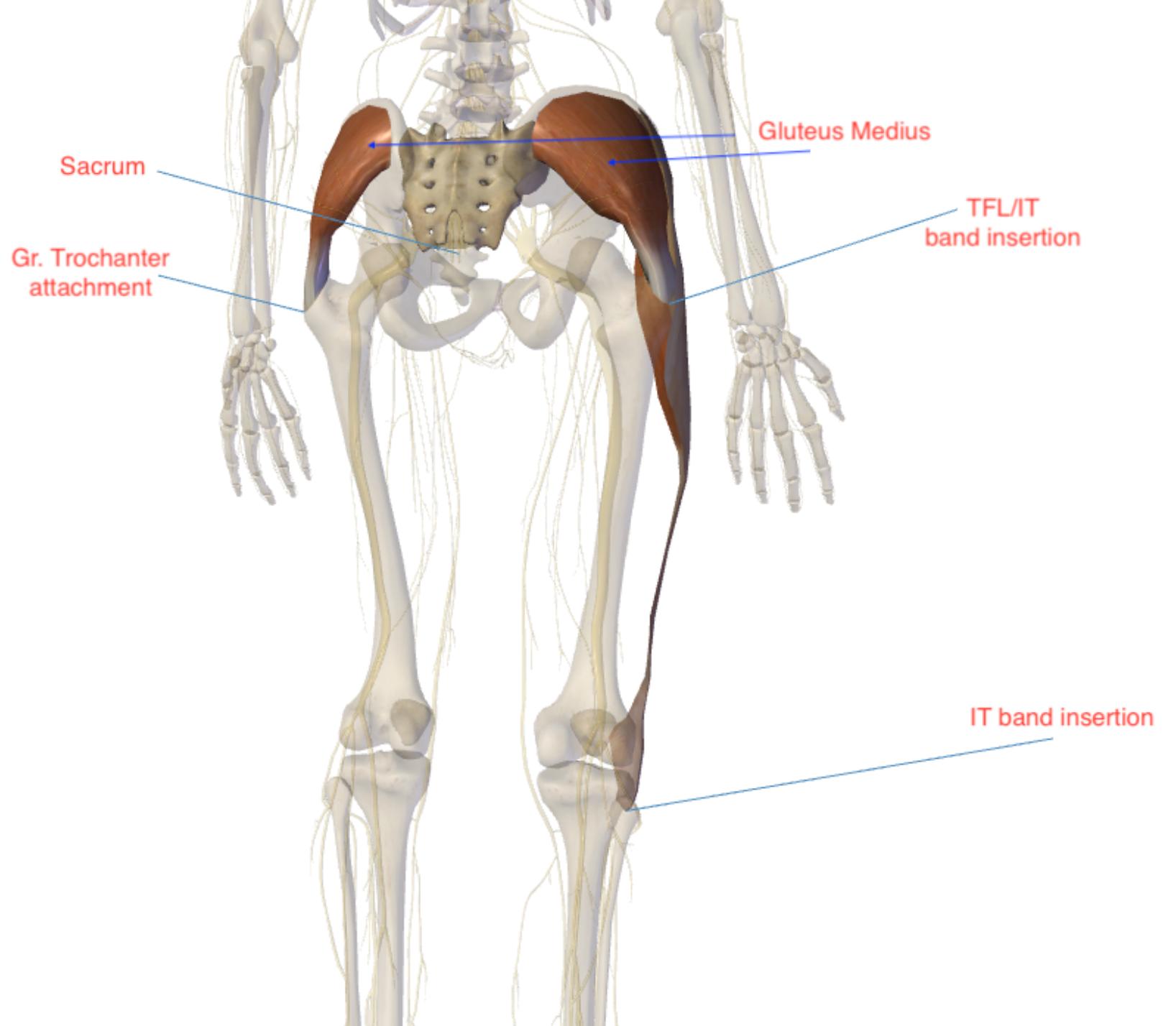
Gluteus Medius



Actions:

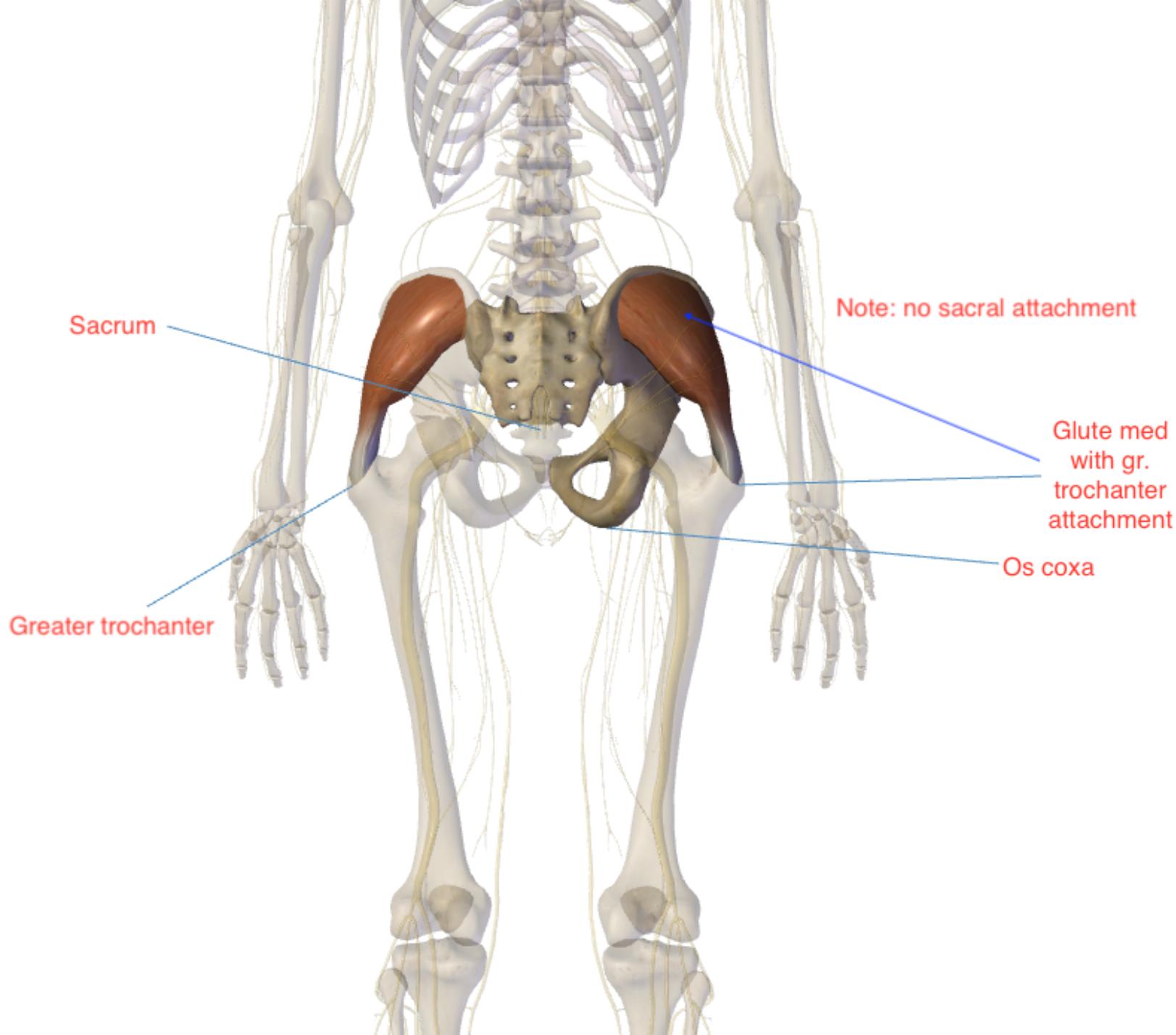
- Anterior portion abducts, medially rotates, and assists in flexion of the hip
- Posterior portion abducts and assists in extension and lateral rotation of the hip

Gluteus Medius Origin & Insertions



Gluteus Medius

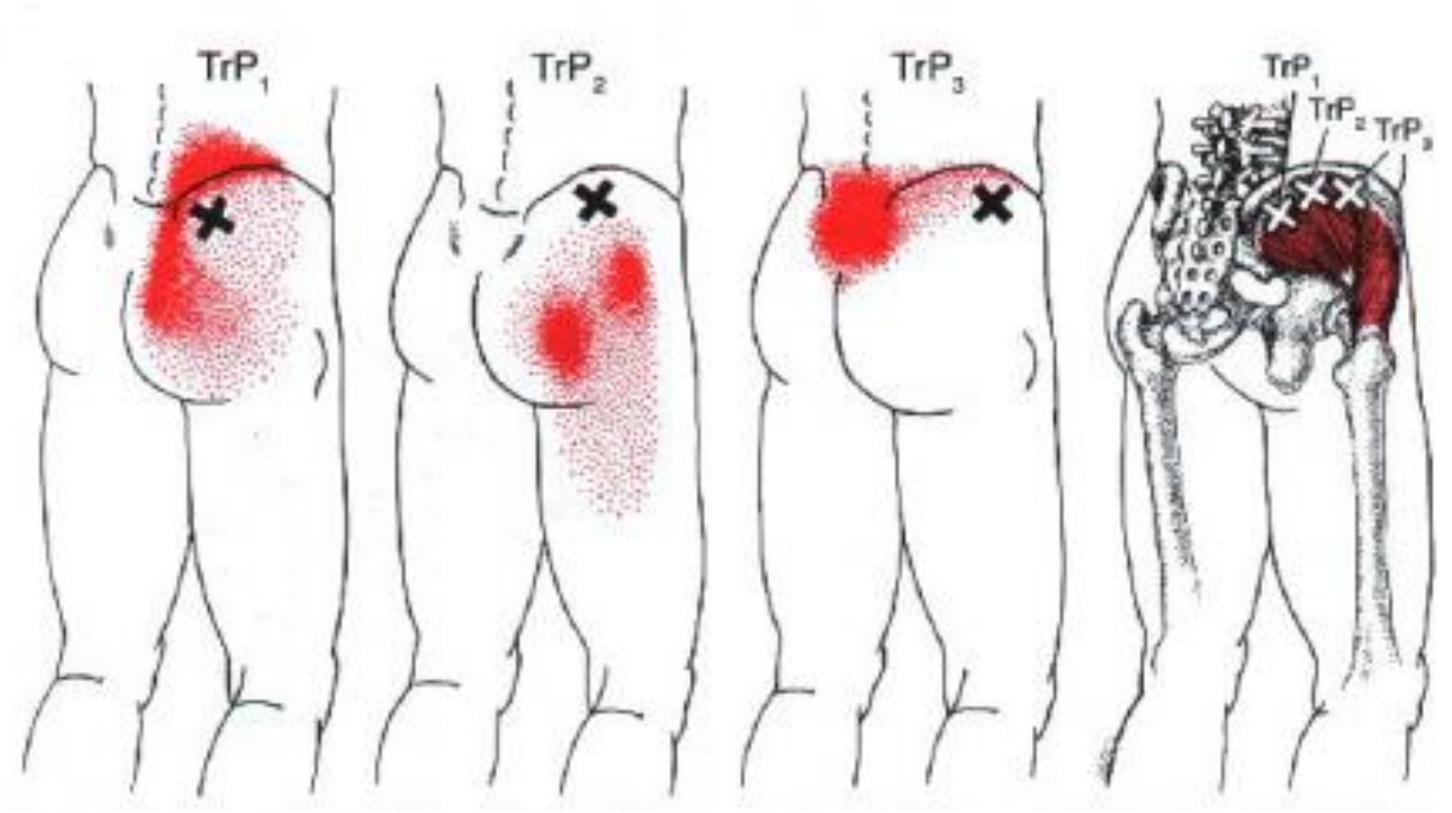
- Pain with walking or side-lying
- Gluteus involved in stabilizing the pelvis when taking a step
- Differential diagnosis: SI joint issues, cluneal nerve, other causes of back pain'
- Common cause of low back pain especially above iliac crest



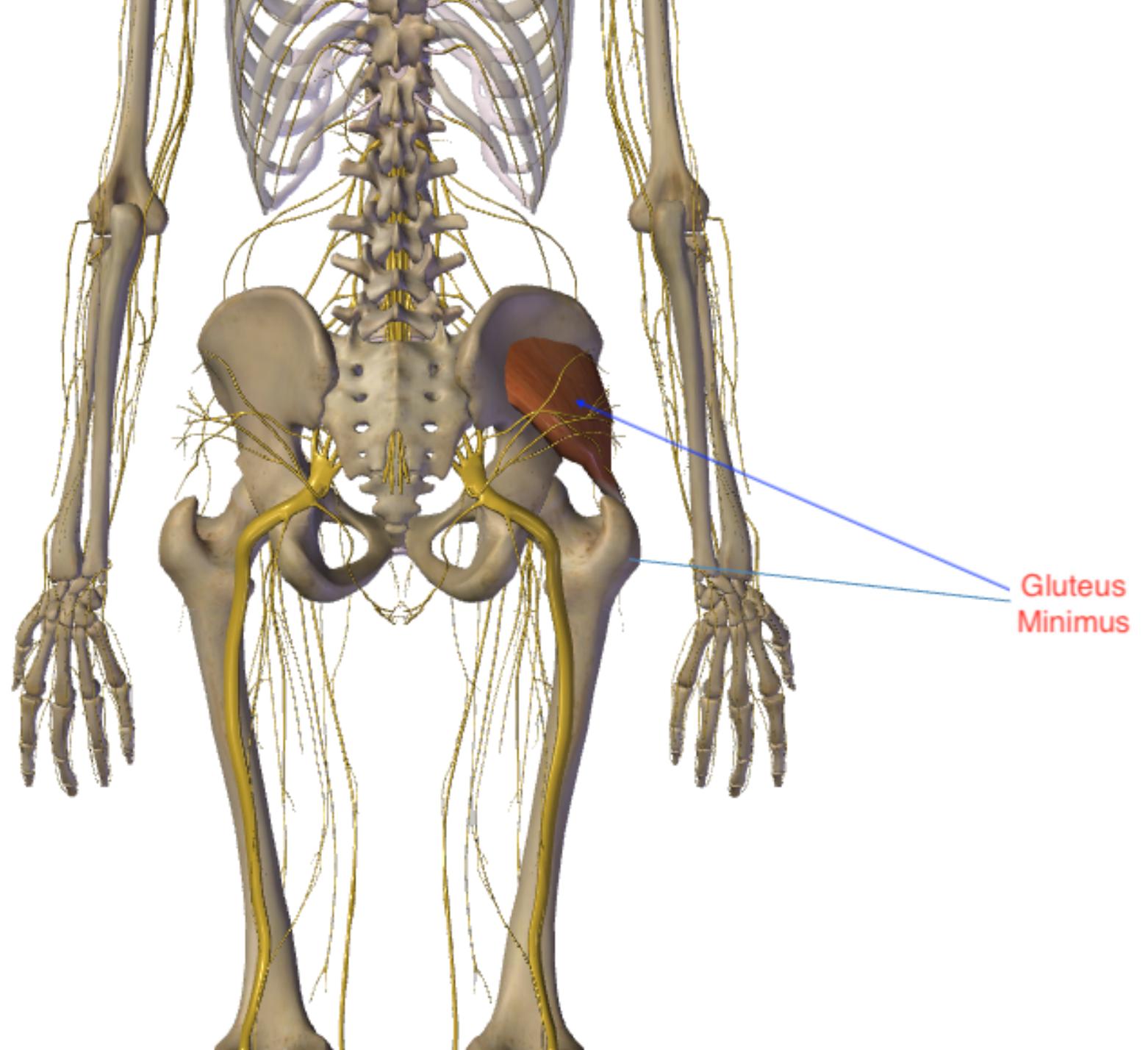
Finding Gluteus Medius

- Find origin first
 - Posterior gluteal line
 - PSIS-along iliac crest
 - Anterior gluteal line
 - Sciatic notch to iliac tubercle (posterior-superior to ASIS)
- Then make a pie slice with the point at the greater trochanter, where it inserts

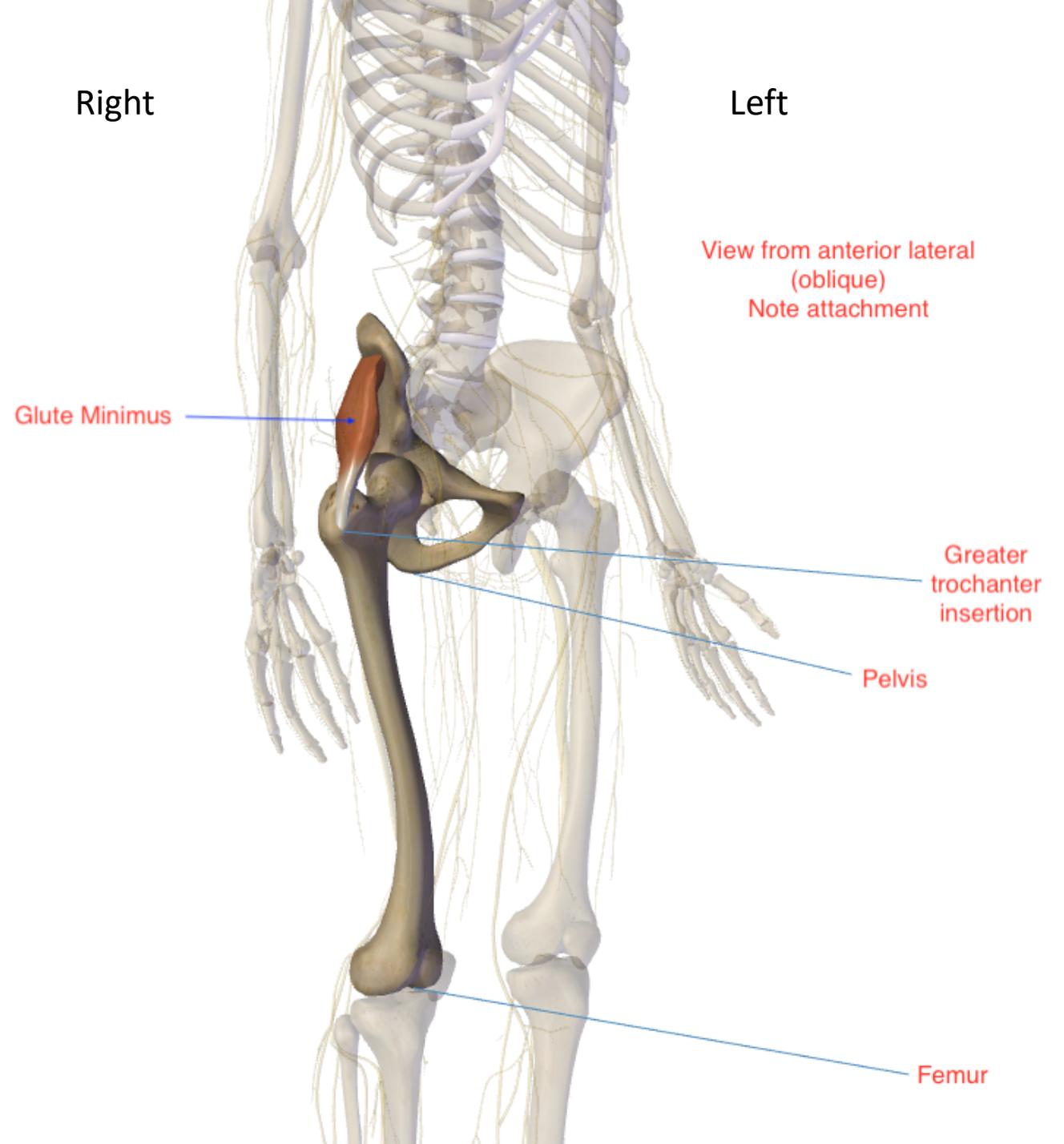
Gluteus Medius Trigger Point Locations



Gluteus Minimus

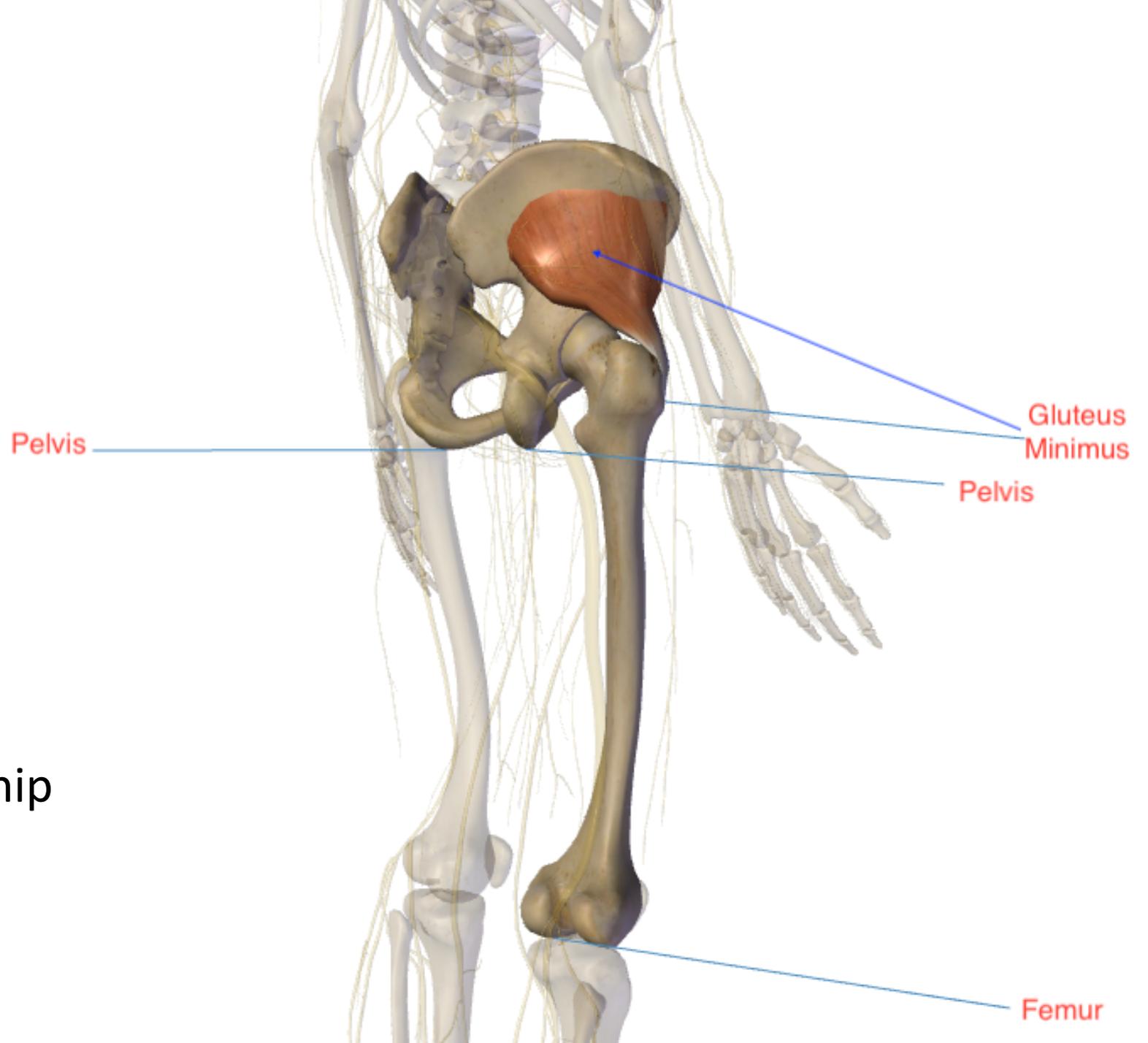


Gluteus Minimus



Gluteus Min

- Lies deep to Glute Medius
- Origin: Ilium
- Insertion: Greater trochanter
- Actions: Abduction of the hip, Stabilizes the hip



Finding the Gluteus Medius

- Is deep to gluteus minimus
- Find the origin:
 - Find the anterior gluteal line
 - Locate the inferior gluteal line
 - Line from anterior inferior iliac spine to sciatic notch
- Find the insertion: Muscle inserts on the greater trochanter
- Again, somewhat of a pie shape with point at insertion

Gluteus Minimus Trigger Points

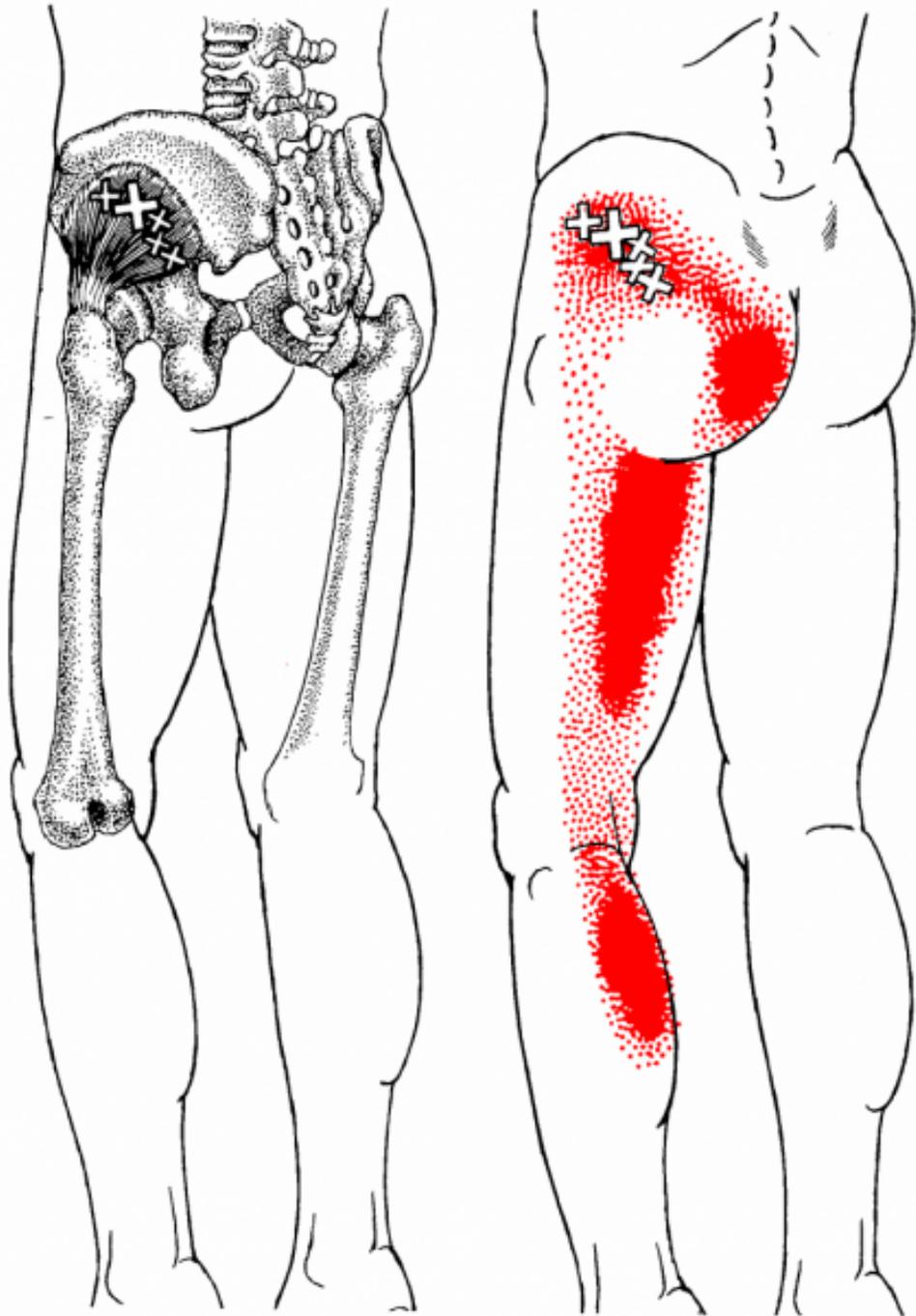
- **The sciatica impersonator**
- Differential dx: Actual sciatica (presentation will give it away, SLR); SOL/disc issue
- Differential dx: Meralgia Parasthetica, which is caused by compression of the lateral femoral cutaneous nerve under the inguinal ligament. Difference is with meralgia parasthetica, the pain is burning and there is numbness, tingling, & symptoms are more anterior

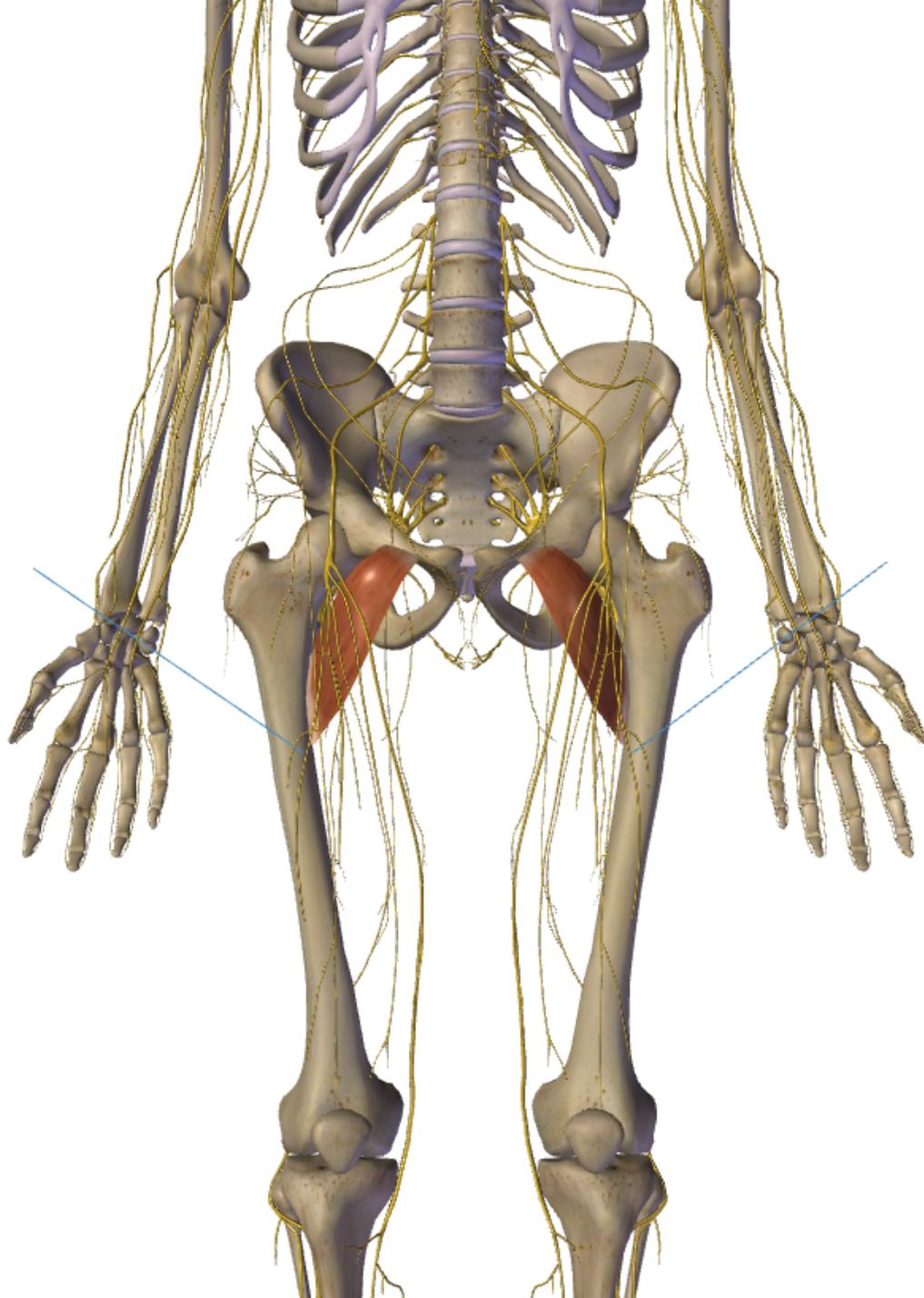
Gluteus Minimus Trigger Points

- Lateral thigh and hip pain, posterior thigh pain
- Pain often deep, aching
- Best located side-lying
- Don't pay attention to the X's. Trigger points must ultimately be located via palpation and vary in location.

Glute Minimus Trigger Points

- Locate and needle side-lying
- Can also needle prone





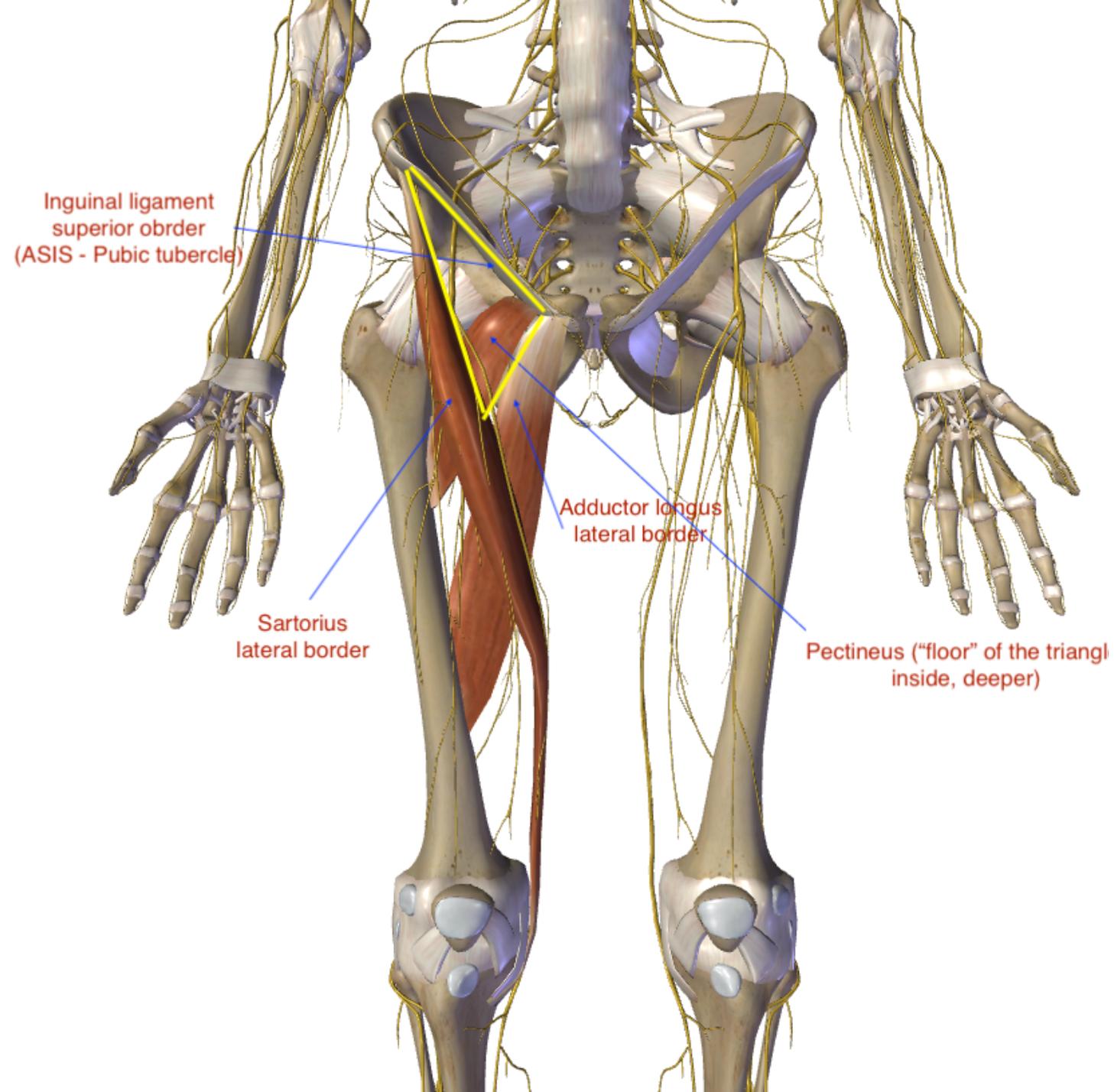
Pectineus

- In the femoral triangle
- Origin: Superior pubic ramus
- Insertion: linea aspera femur
- Actions: flex and adduct the thigh

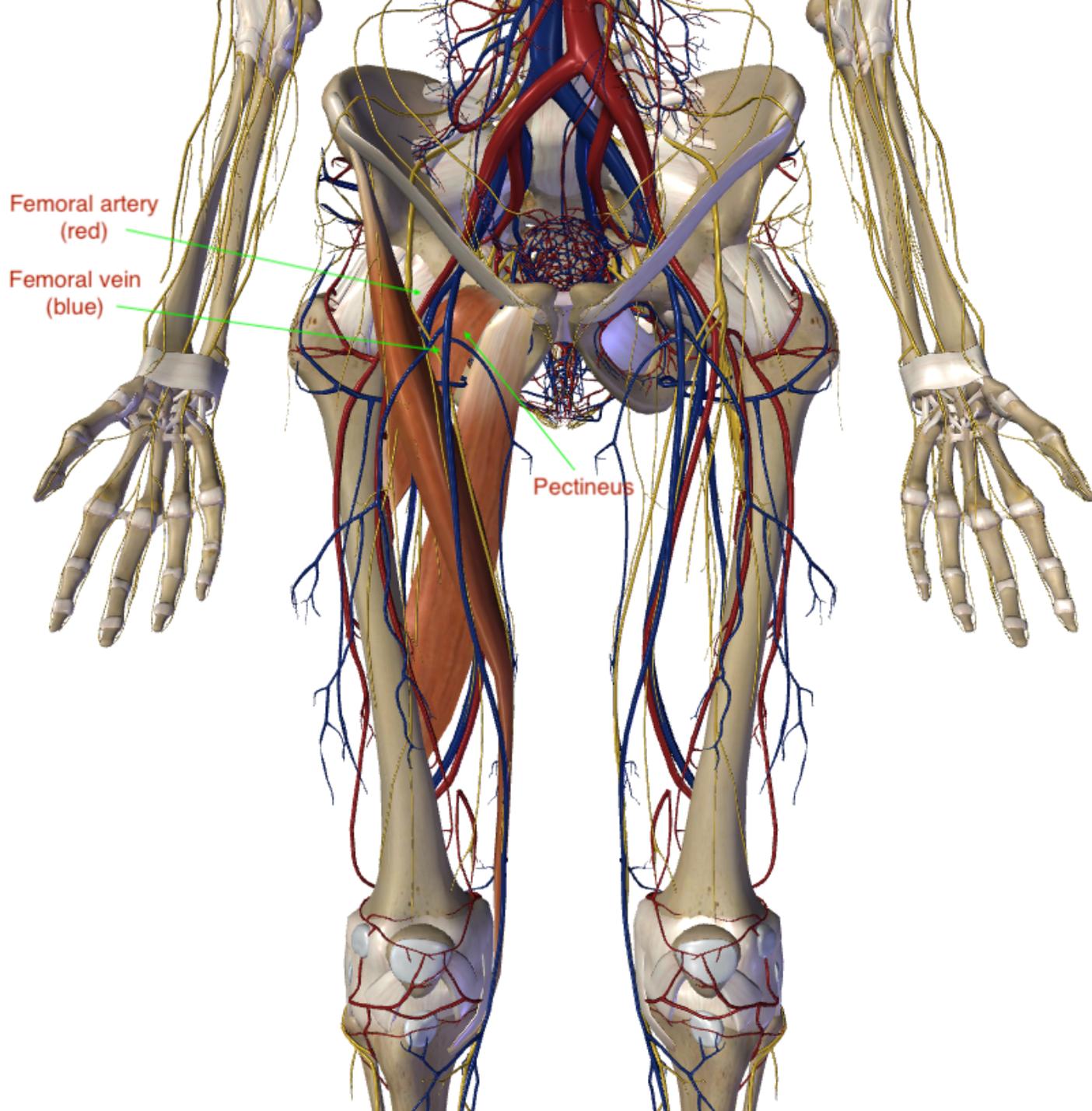
The femoral triangle

- Superior border: inguinal ligament (ASIS-Pubis symphysis)
- Medial border: Adductor longus
- Lateral border: Sartorius
- Inside the triangle:
 - Femoral vein, artery, and nerve
 - Iliopsoas, near insertion site
 - Pectineus (covered later)

Finding the Pectineus in the femoral triangle



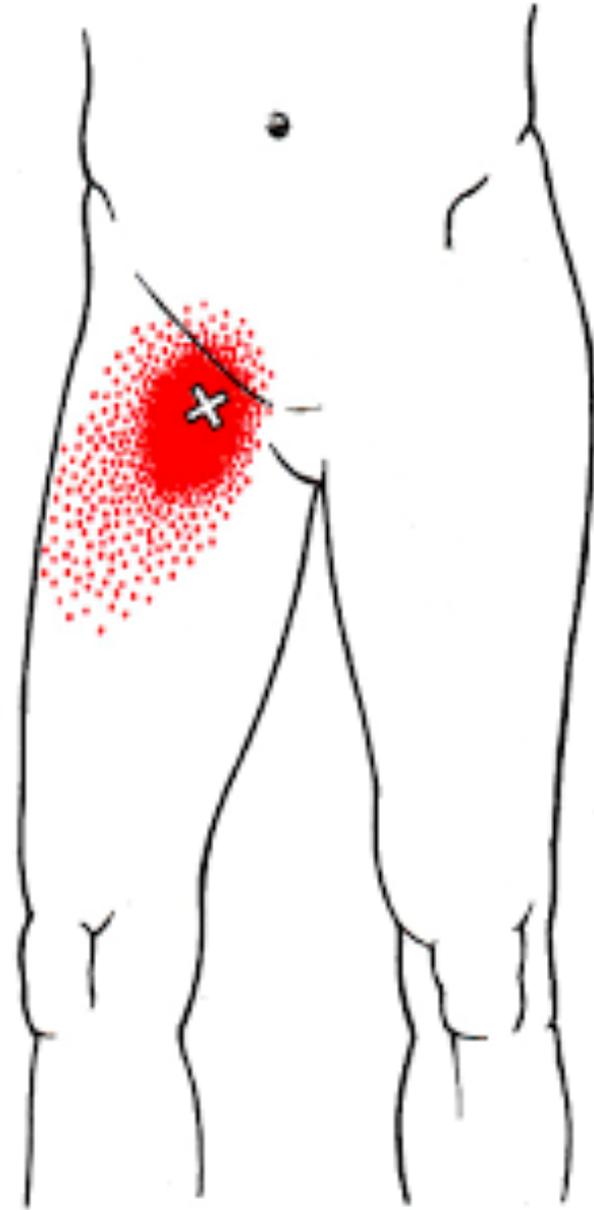
- Patient supine, leg flexed and externally rotated
- Can bolster with pillow at the knee
- Palpate deep and have patient perform adduction against resistance



Needling the Pectineus

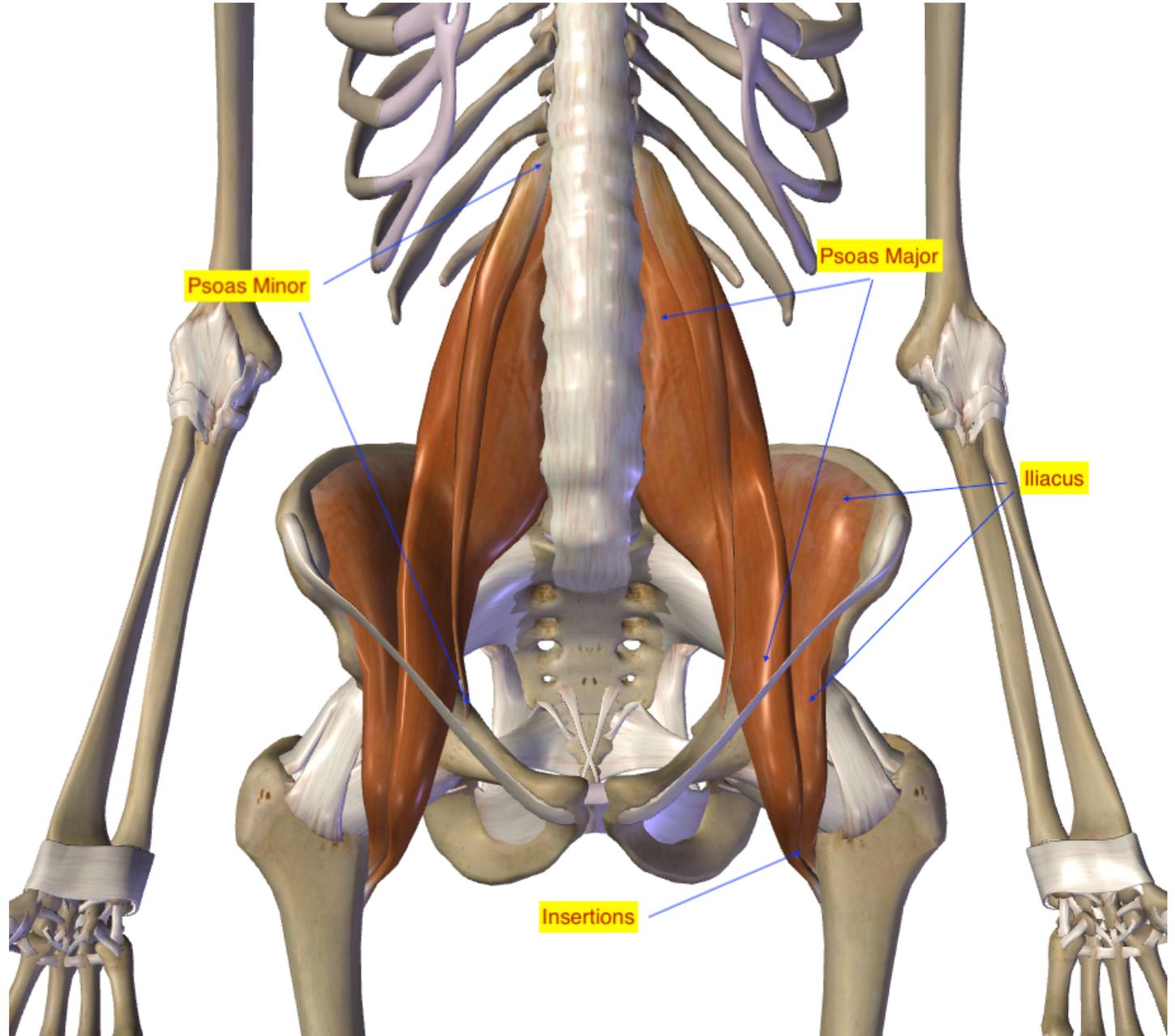
- Find the femoral artery
- Find adductor longus (medial border of triangle)
- Pectineus is medial to the artery and lateral to the adductor longus border
- Can palpate deep and have patient resist to contract the muscle

Pectineus
Trigger Point
Referral



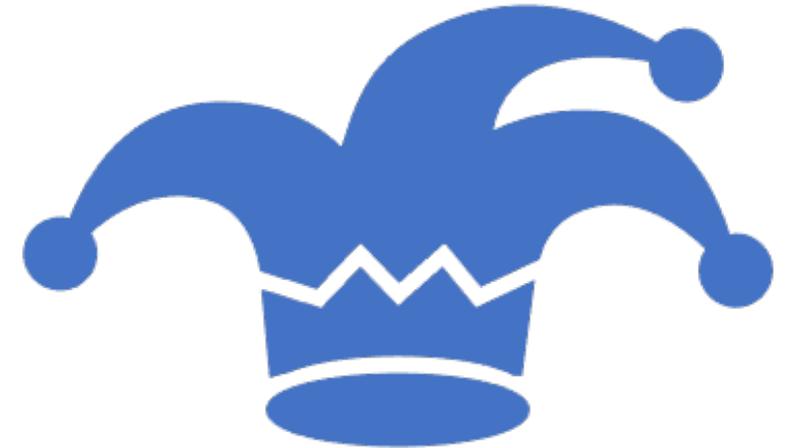
Iliopsoas

- Iliacus and Psoas
- Origin Iliacus: Iliac fossa
- Insertion Iliacus: Lesser trochanter of femur
- Actions: Flexion of thigh



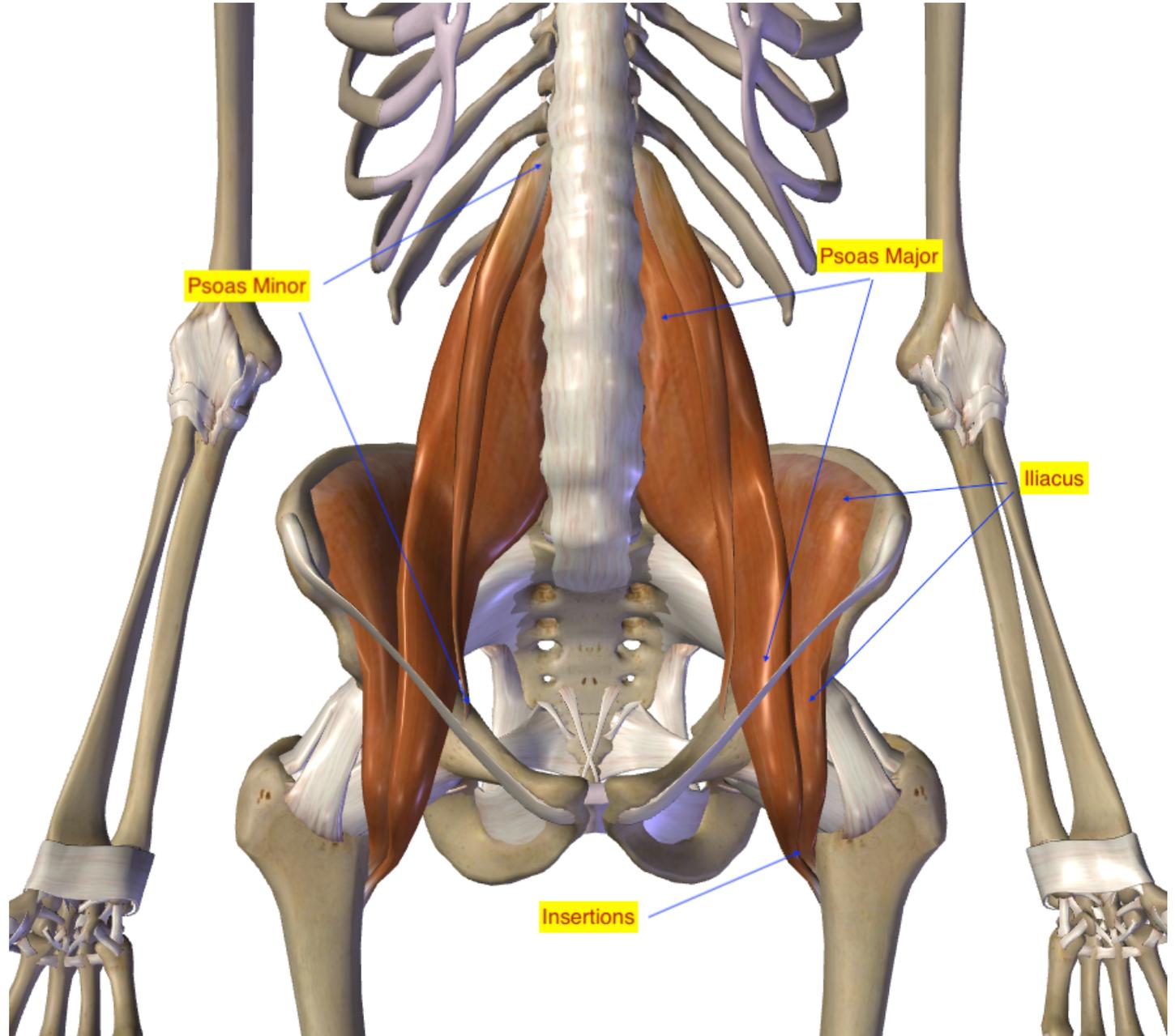
The “PRANKSTER”

- Psoas* (L1, L2, L3)
- Iliacus* (L1, L2, L3, L4)
- These muscles are almost always indicated in HERNIA/HERNIAL surgeries



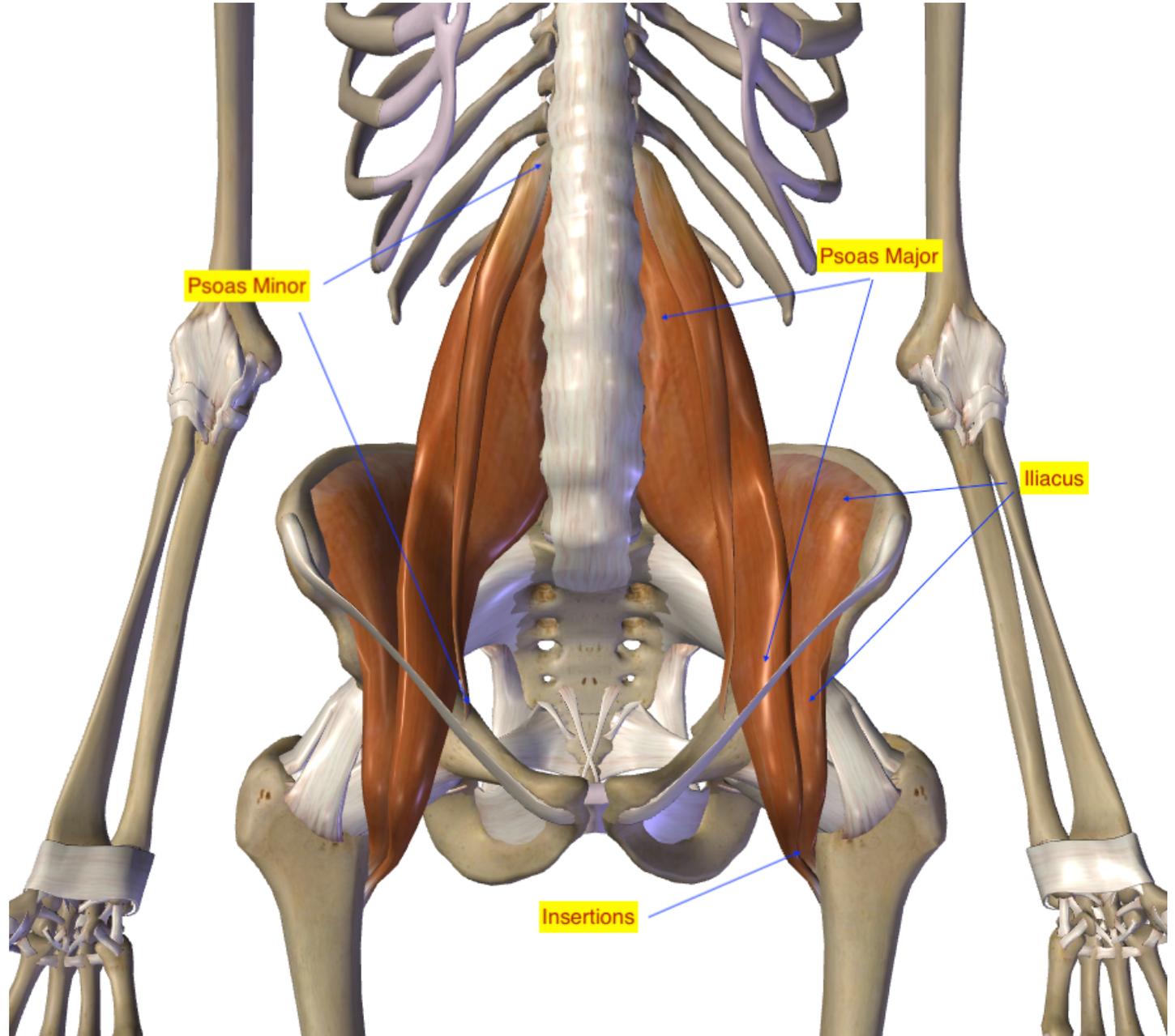
Iliopsoas

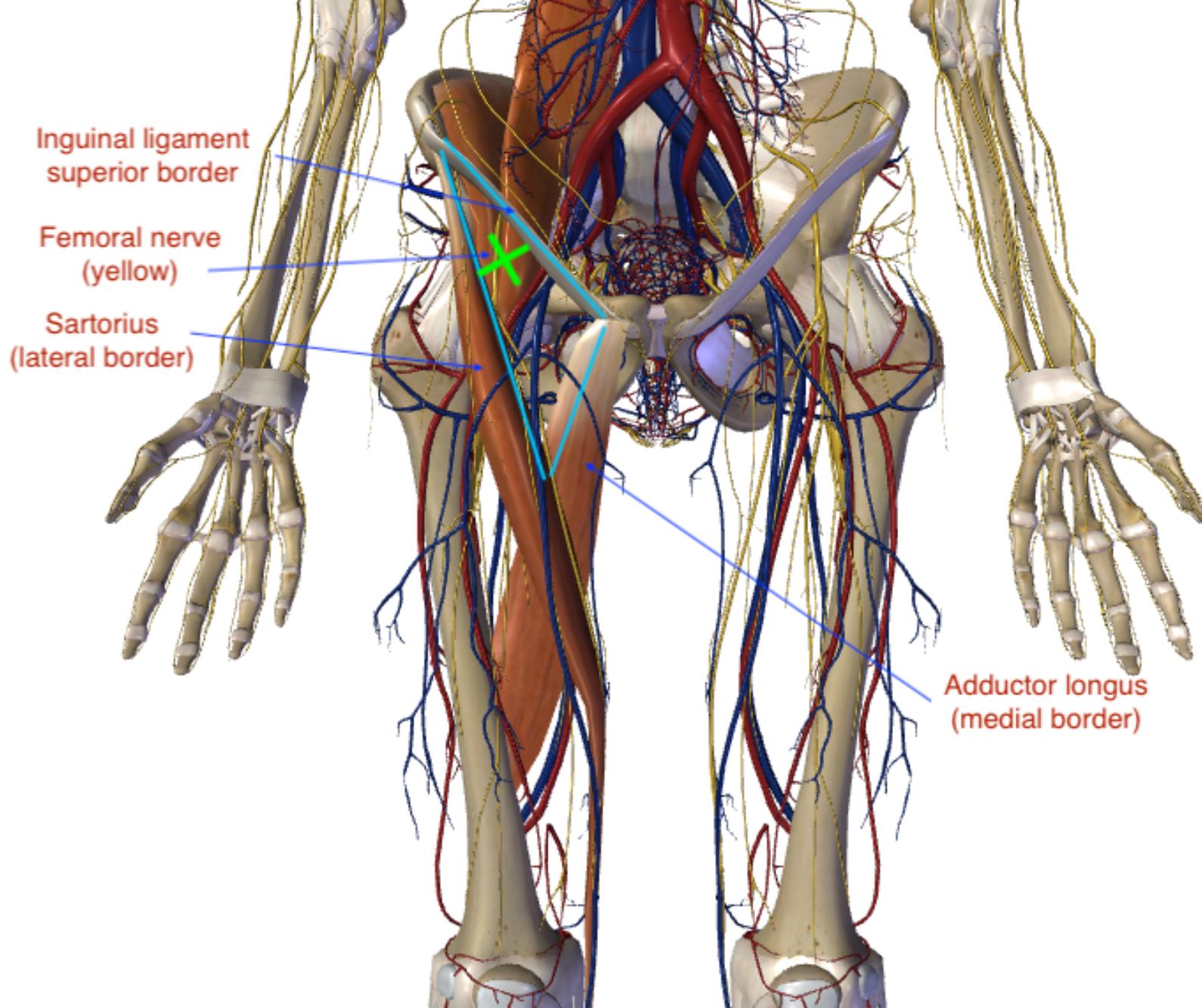
- Origin Psoas: T12-L4/L5 Vertebrae and transverse processes
- Insertion Psoas: Joins with iliacus fibers to insert on the lesser trochanter
- Sits behind the abdominal wall



Psoas Actions

- A true core muscle
- Many fascial connections throughout the core
- Stabilizes, connects appendicular and axial skeletons, stabilizes during sitting, with iliacus strongly flexes the hip joint; stabilizes the head of femur in the acetabulum





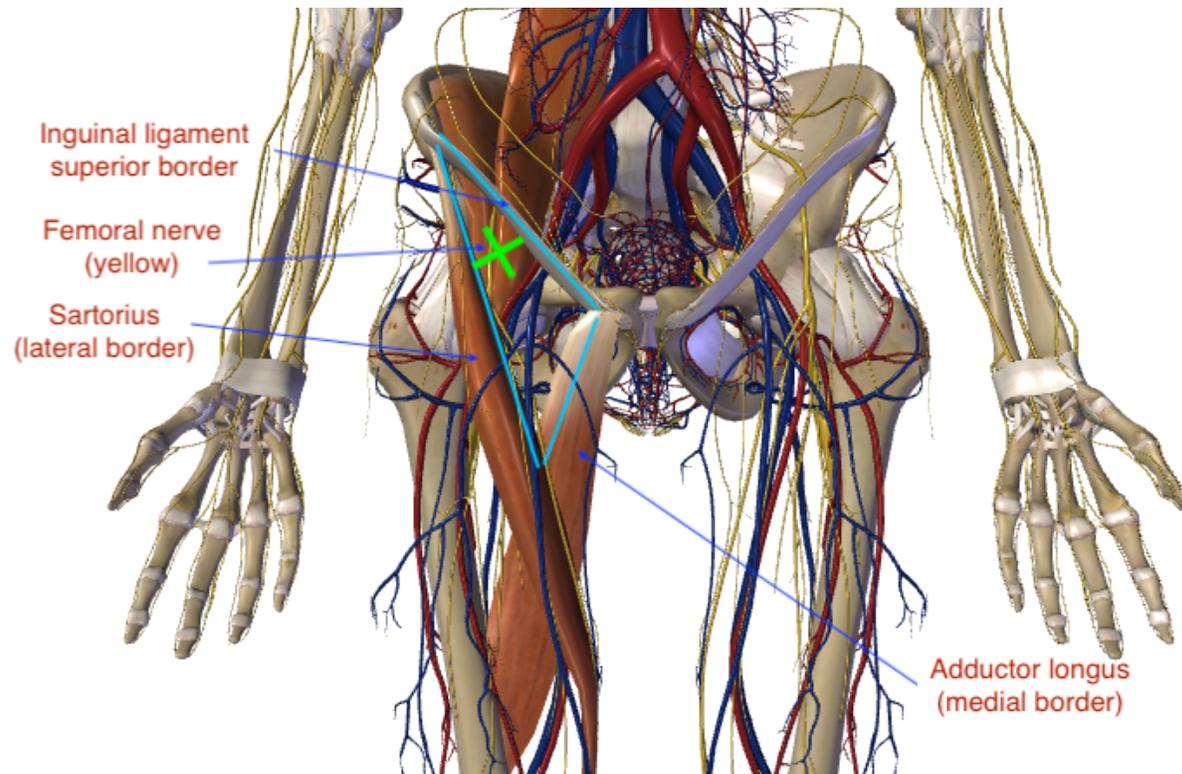
Finding the iliopsoas in the femoral triangle

- The green “X” is where you can access the muscle for needling

Finding the iliopsoas in the triangle

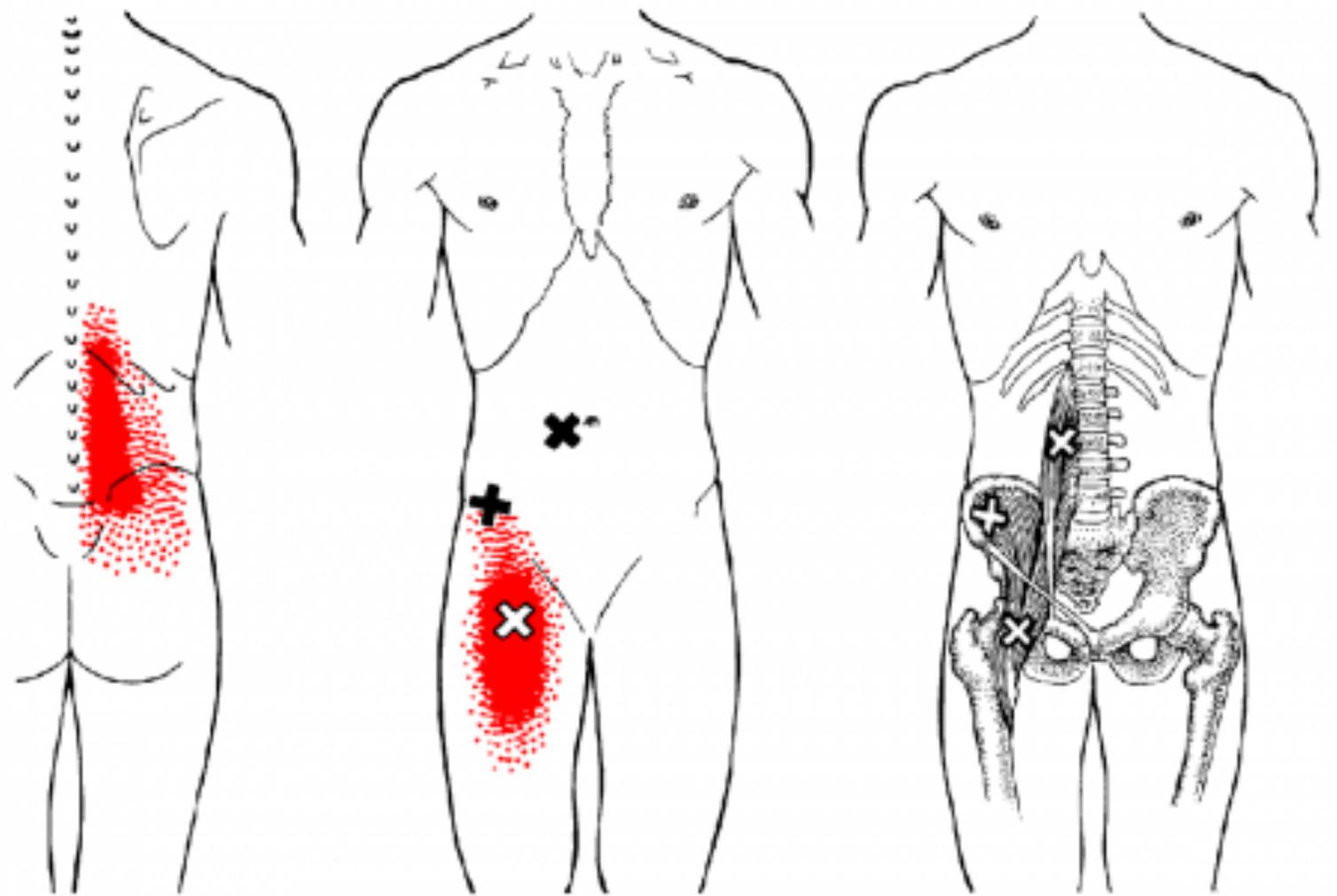
- Locate the inguinal ligament and go just below that
- Locate the medial border of the sartorius
 - To help with this, patient can lift the leg off the table in the sign of a “4”
- Then go just medial to the sartorius and palpate a little deeper
- Have the patient flex and raise their leg off the table (semi-assisted). You will then feel the iliopsoas contact under your fingers

Needling the iliopsoas in the triangle



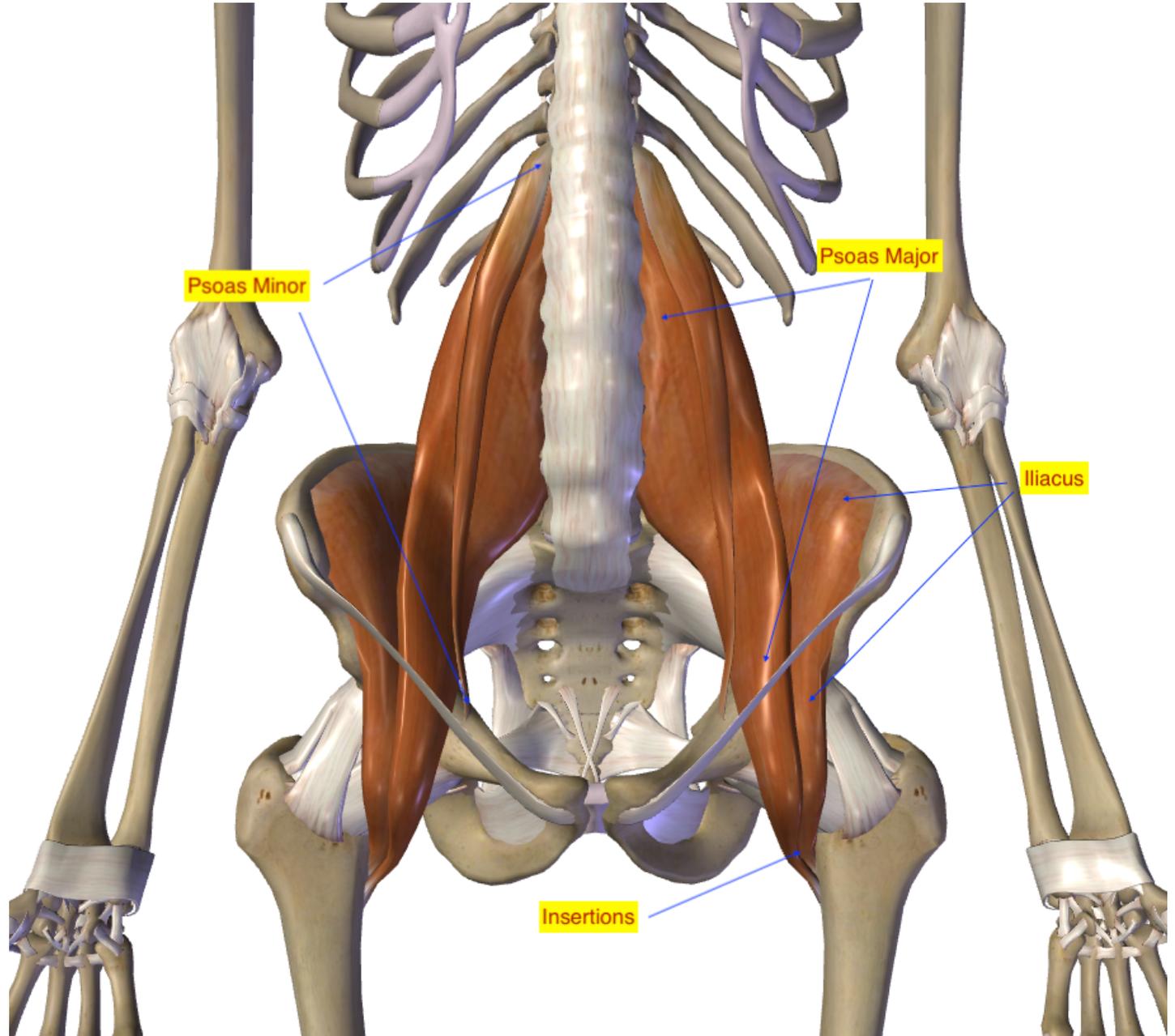
- Medial to lateral – VAN
 - Femoral vein, artery, nerve
 - Palpate the femoral nerve
 - Note – just medial to the medial border of the sartorius is lateral to the femoral artery
 - Needle with some caution just to avoid hitting the femoral nerve directly

Iliopsoas Trigger Points



Iliacus

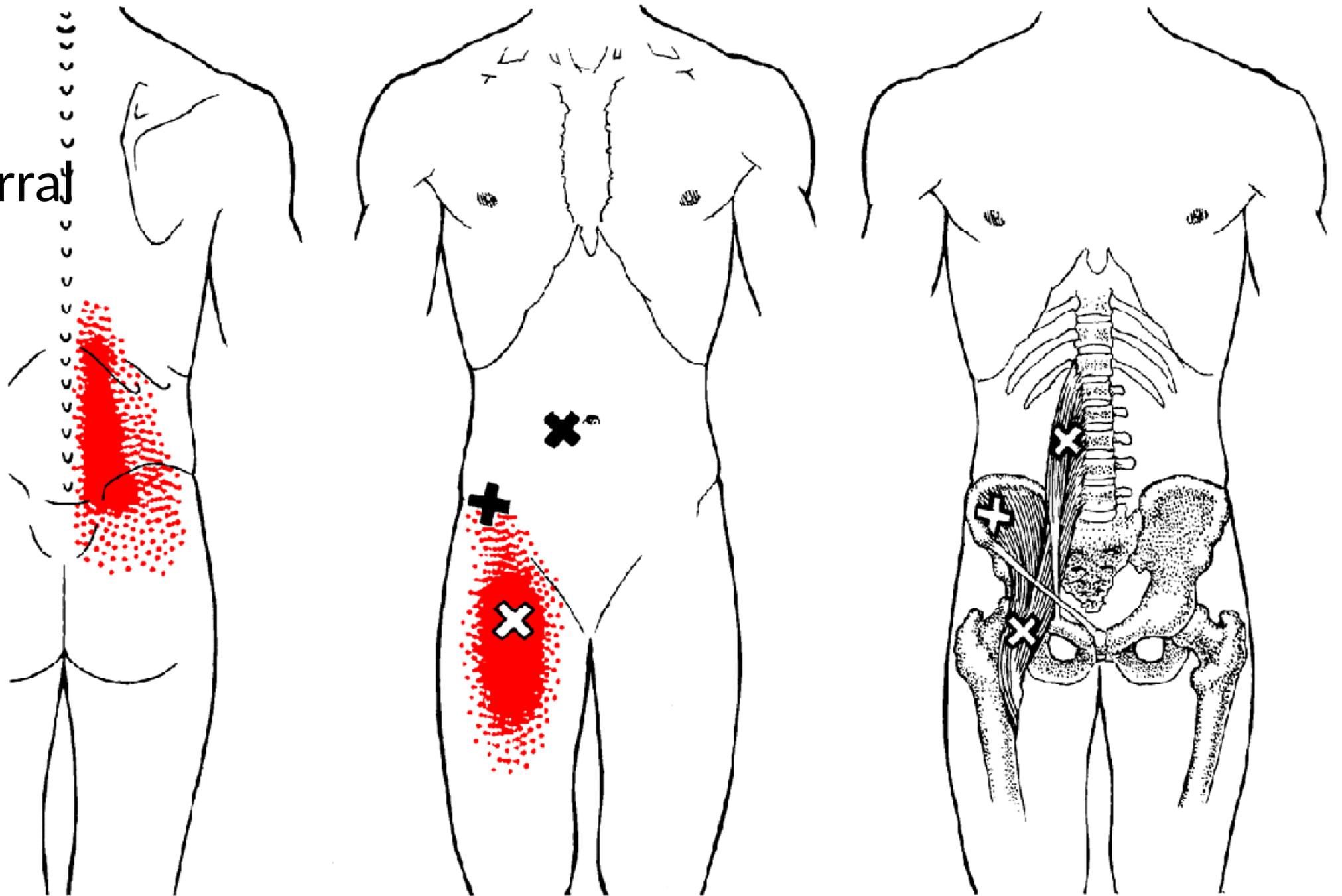
- Origin: Upper 2/3 of iliac fossa of ilium, internal lip of iliac crest, lateral aspect of sacrum, ventral sacroiliac ligament, and lower portion of iliolumbar ligament
- Insertion: Lesser trochanter of femur. Its fibers are often inserted in front of those of the psoas major and extend distally over the lesser trochanter.
- Sits behind the abdominal wall
- Actions:



Iliacus functions and dysfunction

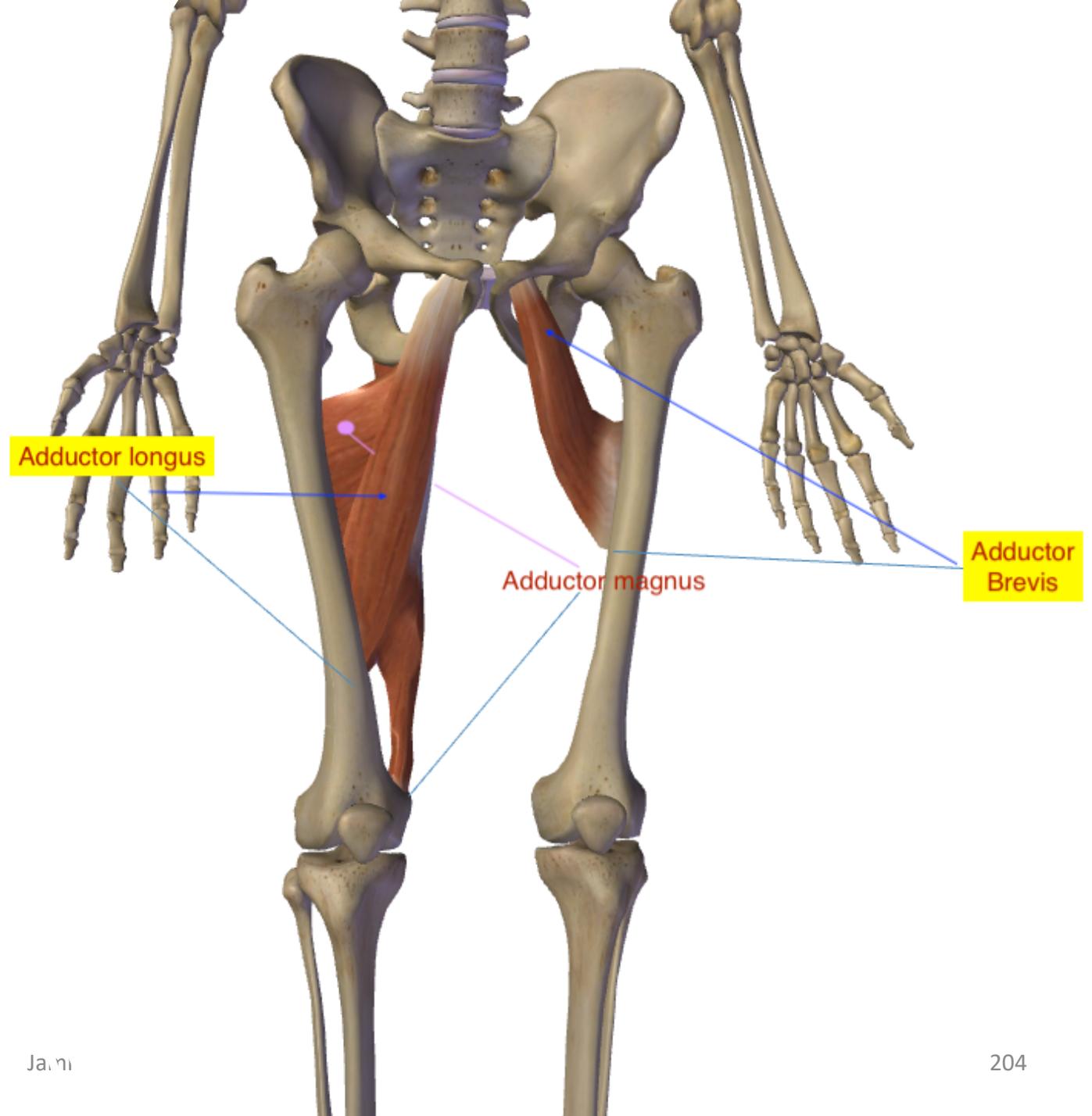
- Helps maintain proper body posture
- Together as the iliopsoas it is the strongest hip flexor in the body
- The iliacus is also constantly firing (active) during walking
 - If it is not functioning properly (as many hip muscles), antalgic gait and stress/strain on other muscles and hip, knee, and back
- Eccentrically controls lateral side-bending of the trunk
- Excessive sitting and exercising shortens this muscle, which can also cause stress/strain on other muscles as noted above
- Source: <https://www.physio-pedia.com/Iliacus>

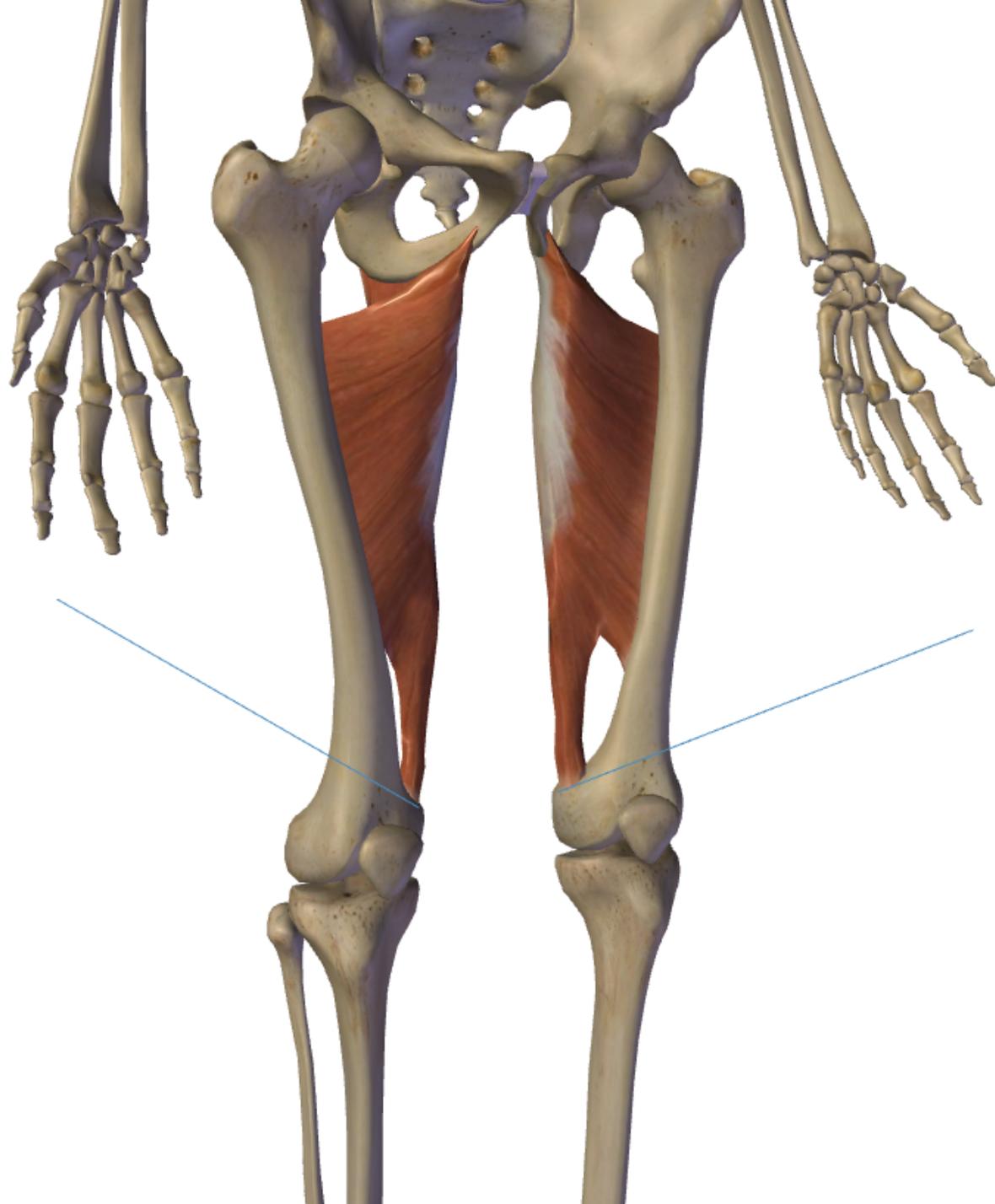
Iliopsoas Pain Referral



Adductors

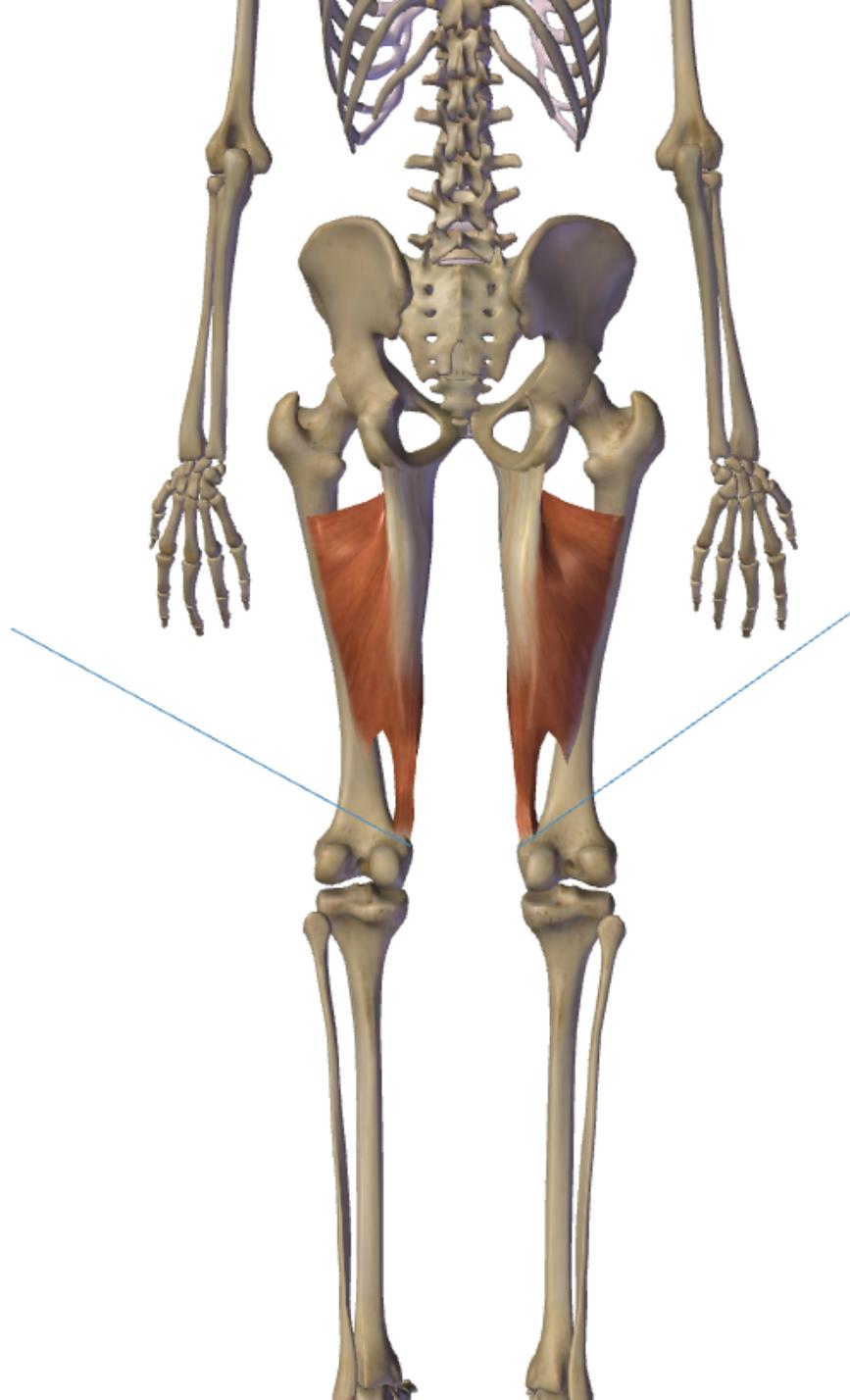
- Magnus, Longus, Brevis
- Actions: Adducts the leg, internal rotation of the thigh, stabilize the hip, for example, with rising and standing





Adductor Magnus

- Origin, upper portion: Pubic ramus
- Insertion, upper: Linea aspera of femur (portion of the posterior femur that is a site of various attachments); posterior medial femur
- Upper portion is sometimes called the adductor minimus

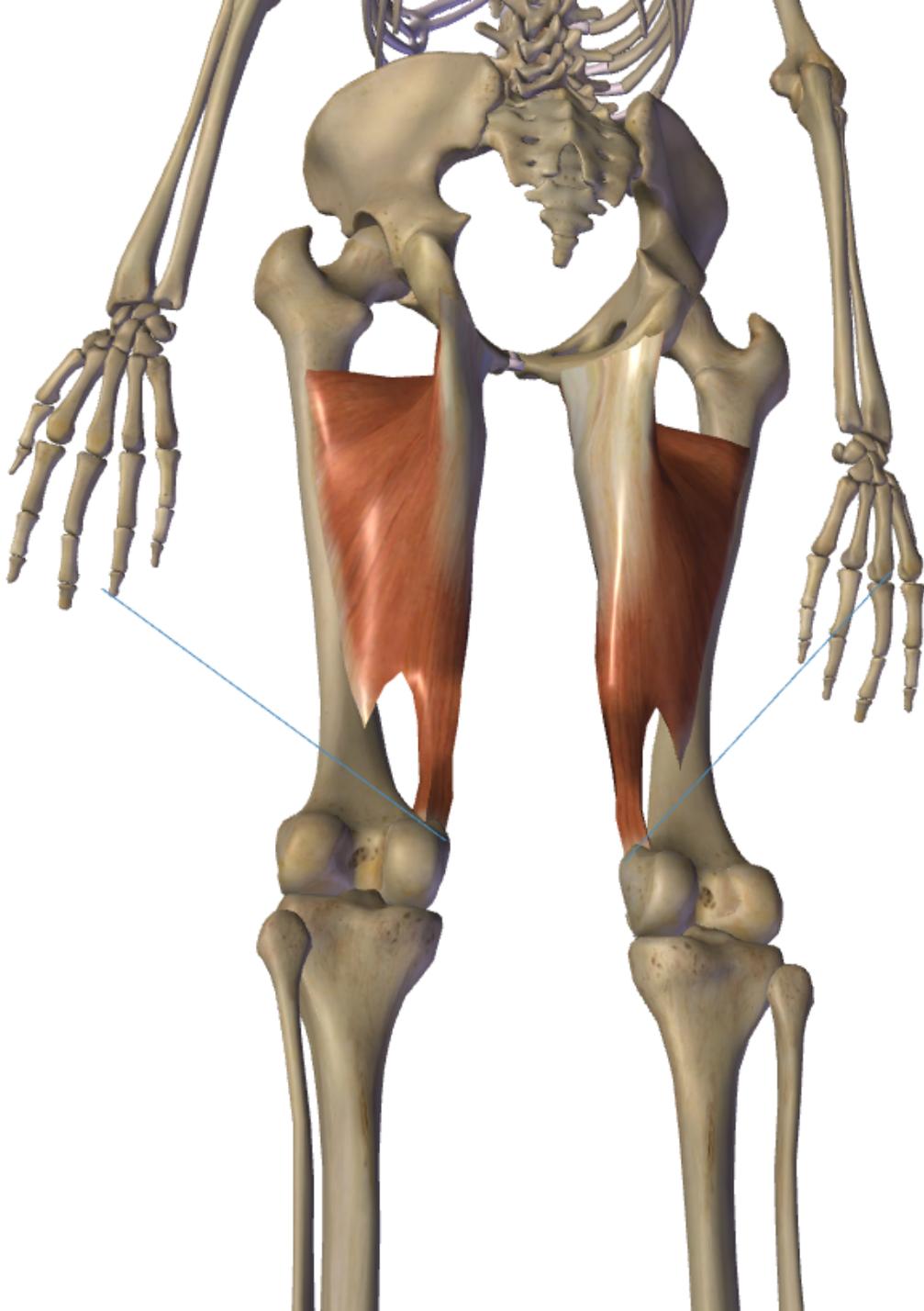


Adductor Magnus

- Origin lower portion: Ischial ramus
- Insertion lower portion: to the femur, entire length of the Linea aspera via an aponeurosis

Adductor Magnus

- Actions: Adduction and extension of leg
- Cautions: Femoral artery



Finding the Adductor Magnus - Origin

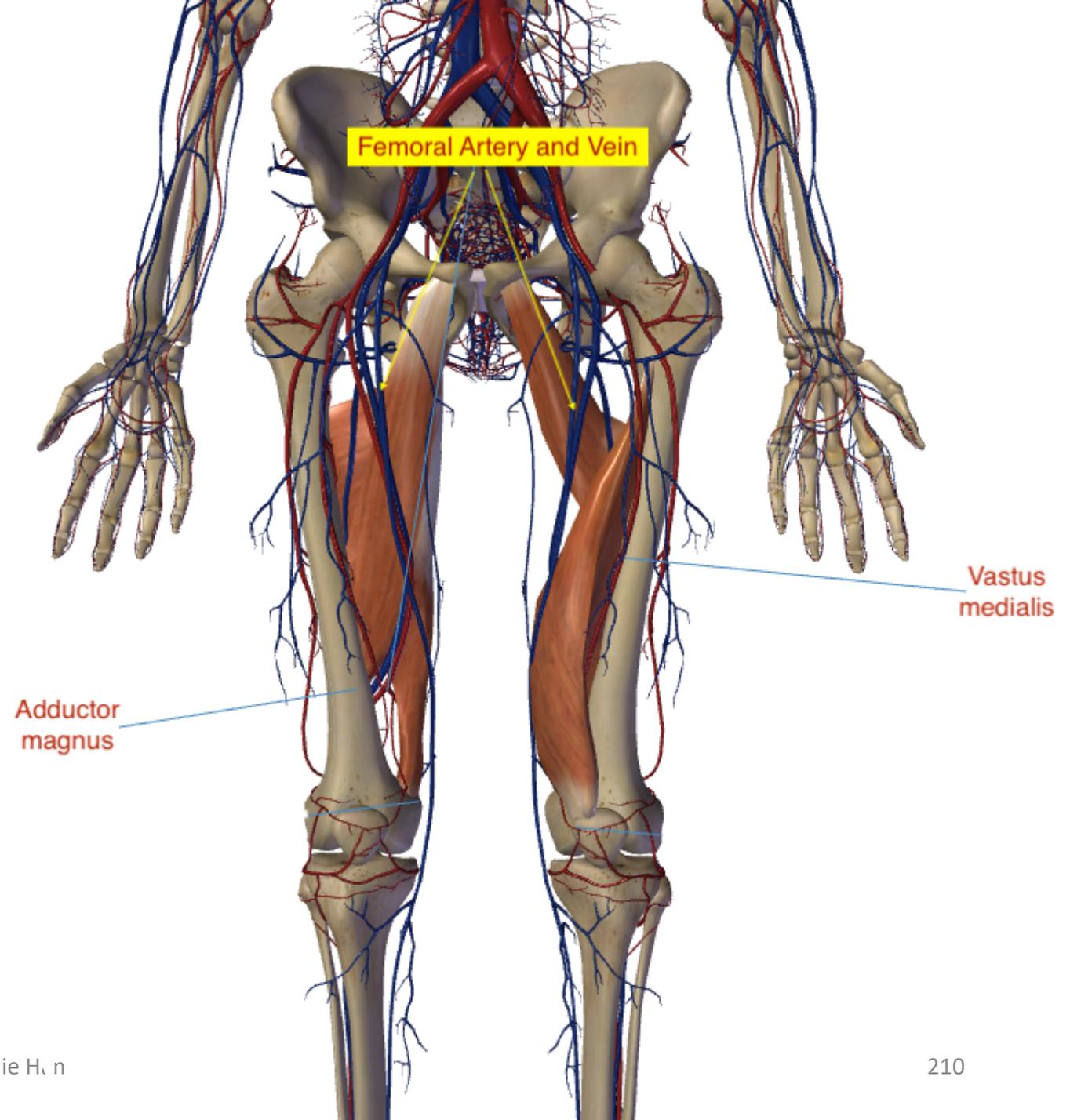
- Patient side lying
- Top leg flexed at hip and knee and slides forward to expose bottom leg
- Find ischial tuberosity of bottom leg
 - Patient can flex leg at the knee to contract hamstrings to help find ischial tuberosity
- Palpate deep, communicate and get consent then move anterior superior along the ischial ramus
 - When in this area have the patient lift the bottom of the leg off the table to feel the adductor magnus contract

Finding the Adductor Magnus – Insertion

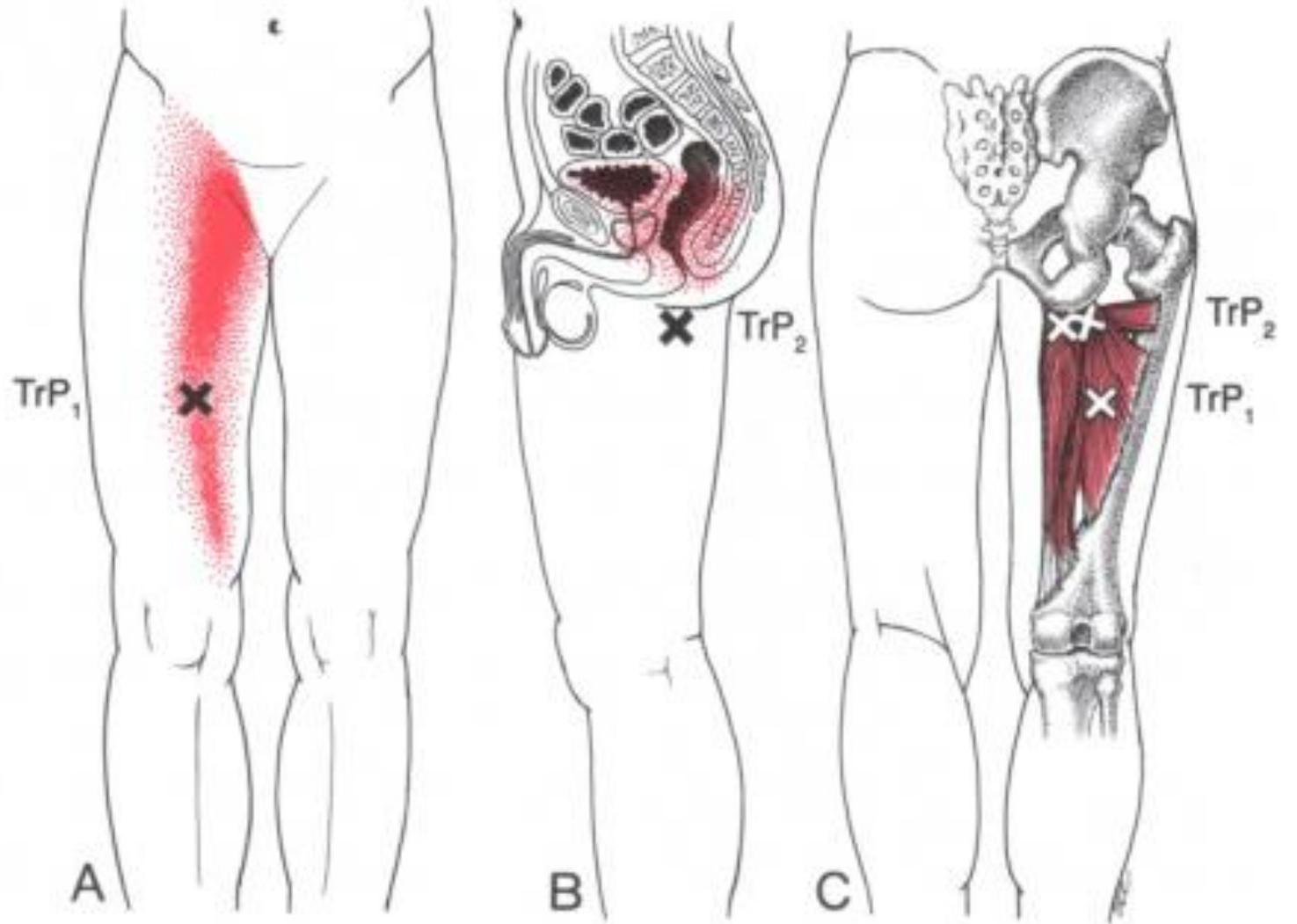
- 2 points of insertion
- First: Go about 6” or so below the gluteal fold to find the division between the semimembranosus (most medial hamstring) and adductor magnus
- Have patient again flex knee or lift leg off the table to get either muscle to contract.
- Inferior along the femur is the first area the adductor magnus attaches to the femur
- Second: There is about a 4-6” gap (depends on length of femur) and then the 2nd area of insertion is above the knee joint on the adductor tubercle
- The 2nd area is around LV8

Adductors and Femoral Artery

- Artery and vein run anterior to the adductors
- They are covered by the quadratus femoris muscles, the sartorius, and others
- Arteries always run deep
- As long as you needle relatively slow and cautious you cannot penetrate the artery. It has a muscular wall and will move out of the way



Adductor Magnus Trigger Points



Adductor Magnus Trigger Points

- Prone or side-lying. Side lying with top leg forward to expose the inner thigh of the bottom leg
- Perpendicular insertion
- Trigger point 1 and 2: Just below gluteal fold near the attachment to the ischial tuberosity
- Trigger point 3: ~Midpoint of its femur attachment, in the belly

Adductor Magnus Trigger Points

Trigger point 3 continued:

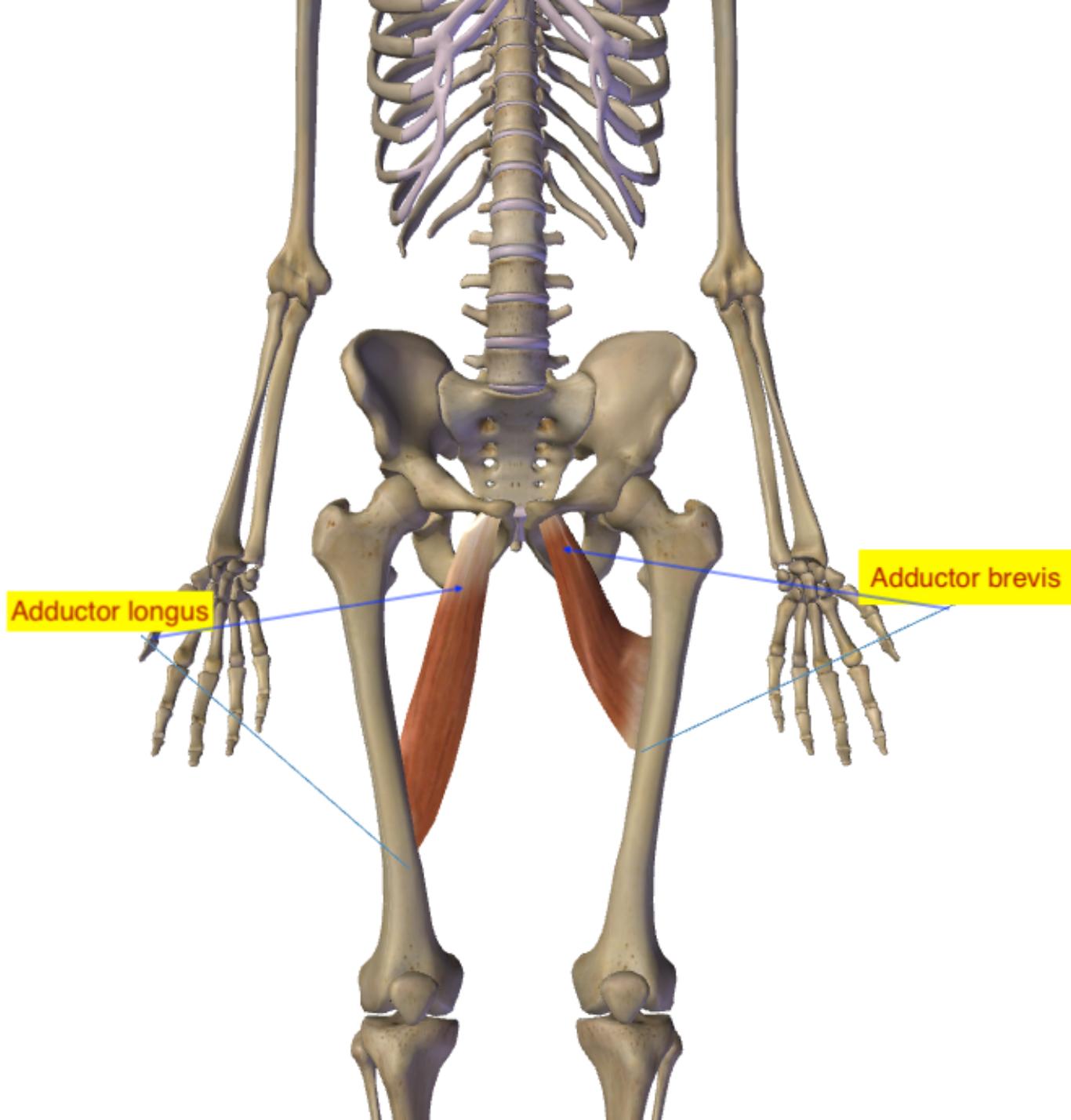
- Pain Referrals: hip and groin; pelvic region
- Diff diagnosis: Pubic fx, osteitis pubis, gyn/uro-genital causes
- May be seen with: Vastus medialis trps, hamstring trps
- Common causes: skiing, rollerblading, sitting, hill running up/down

Adductor Magnus Trigger Points

Can be
misdiagnosed as
dysmenorrhea

Can cause perineal/
pelvic pain, painful
intercourse, stress
incontinence

Can cause anterior
thigh pain

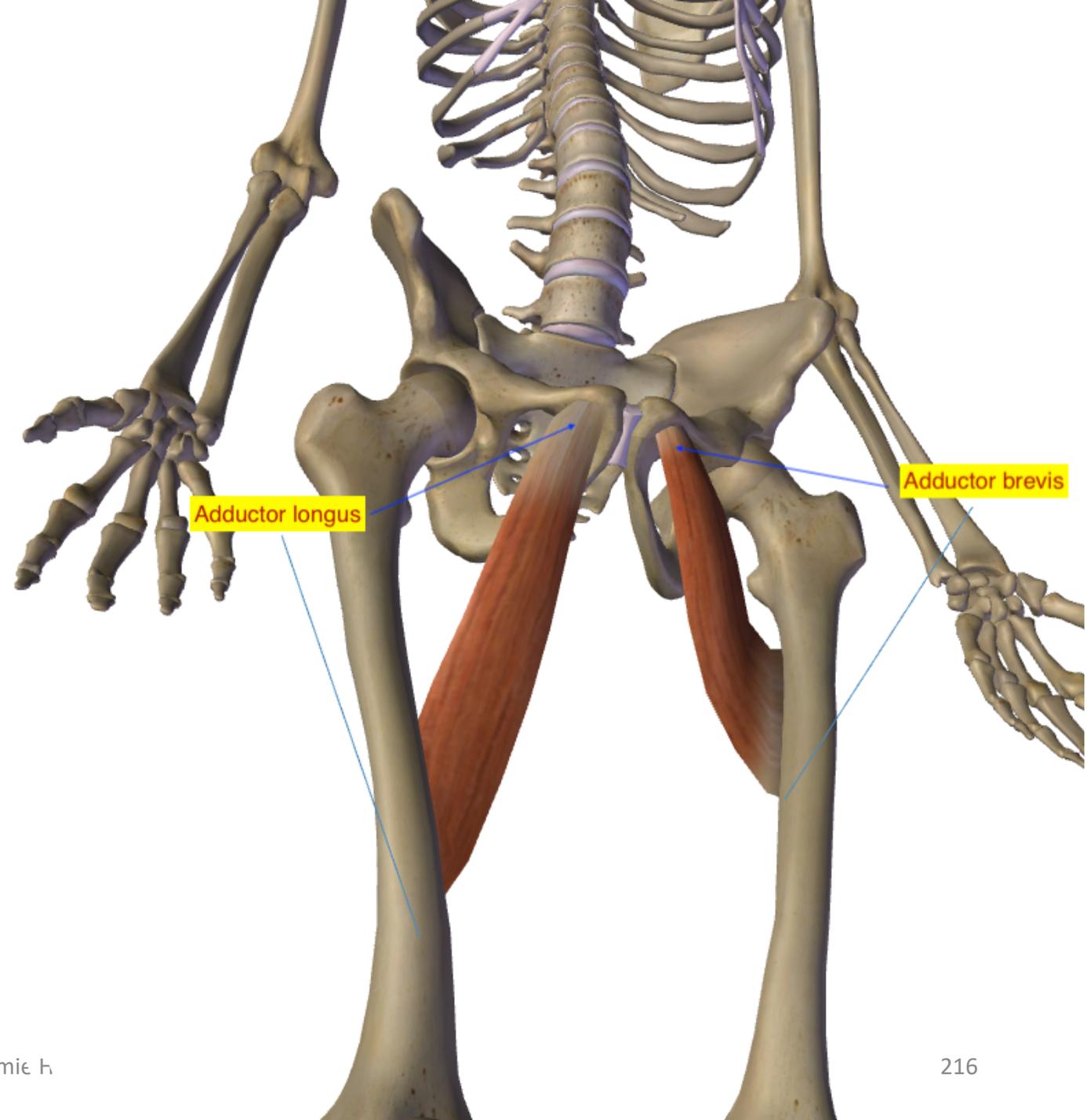


Adductor Longus & Brevis

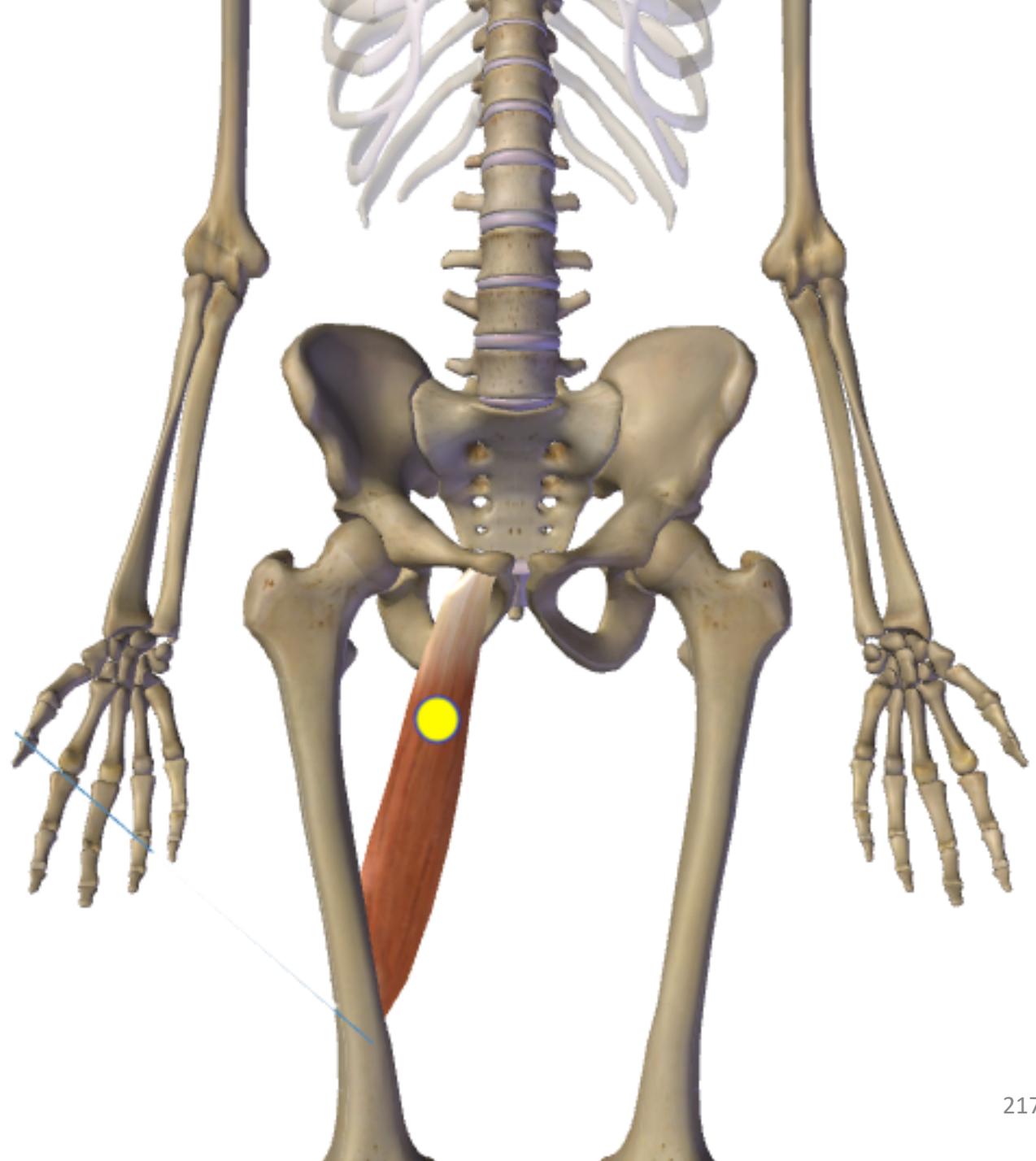
- Adductor brevis sits behind adductor longus
- Can access the trigger point by going through adductor longus

Adductor Longus & Brevis Origins

- Origins: Pubic ramus
- Insertions: Posterior-medial femur



Adductor longus

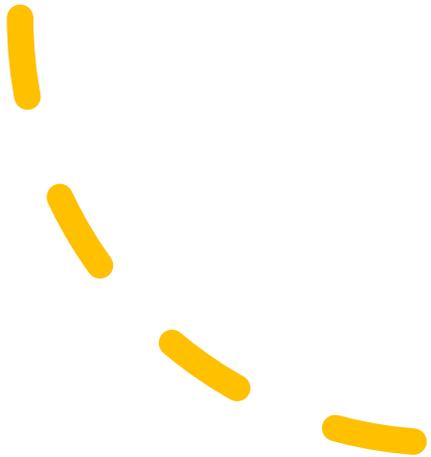


Finding Adductor Longus

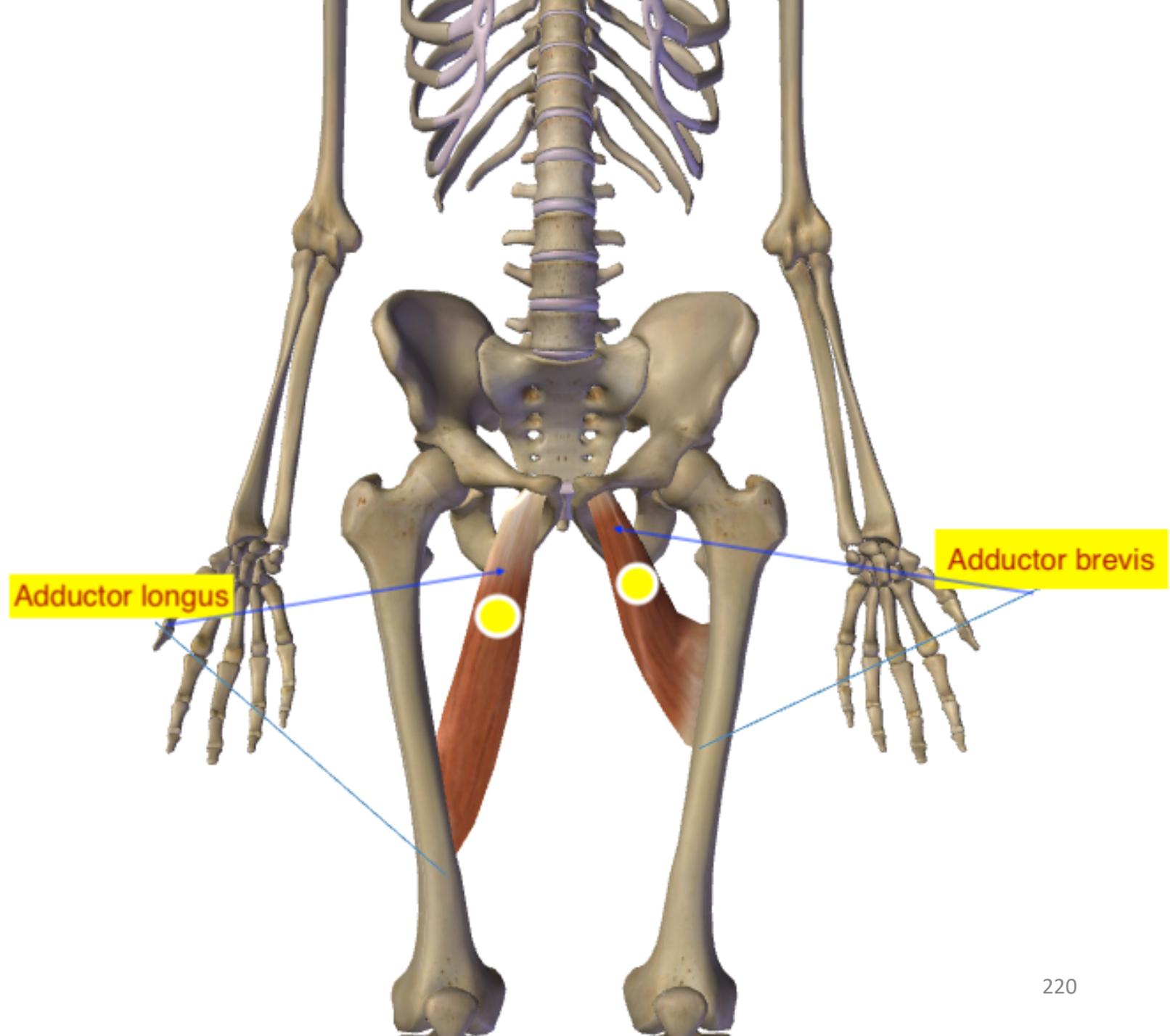
- Patient supine
- One leg is in figure 4 position (knee and hip flexed)
- Can bolster outside of knee or have your knee there to rest leg against
- Resist adduction to get muscle to contract
 - Can often see the adductors “pop up”
 - The muscle in the middle of the medial leg is the adductor longus
 - The one more medial is the gracilis

Finding Adductor Longus

- Palpate the adductor longus until $\frac{1}{2}$ way down (or less)
- The muscle then goes deep to attach on the femur and is not really palpable
- Adductor brevis sits behind the longus and is not really palpable

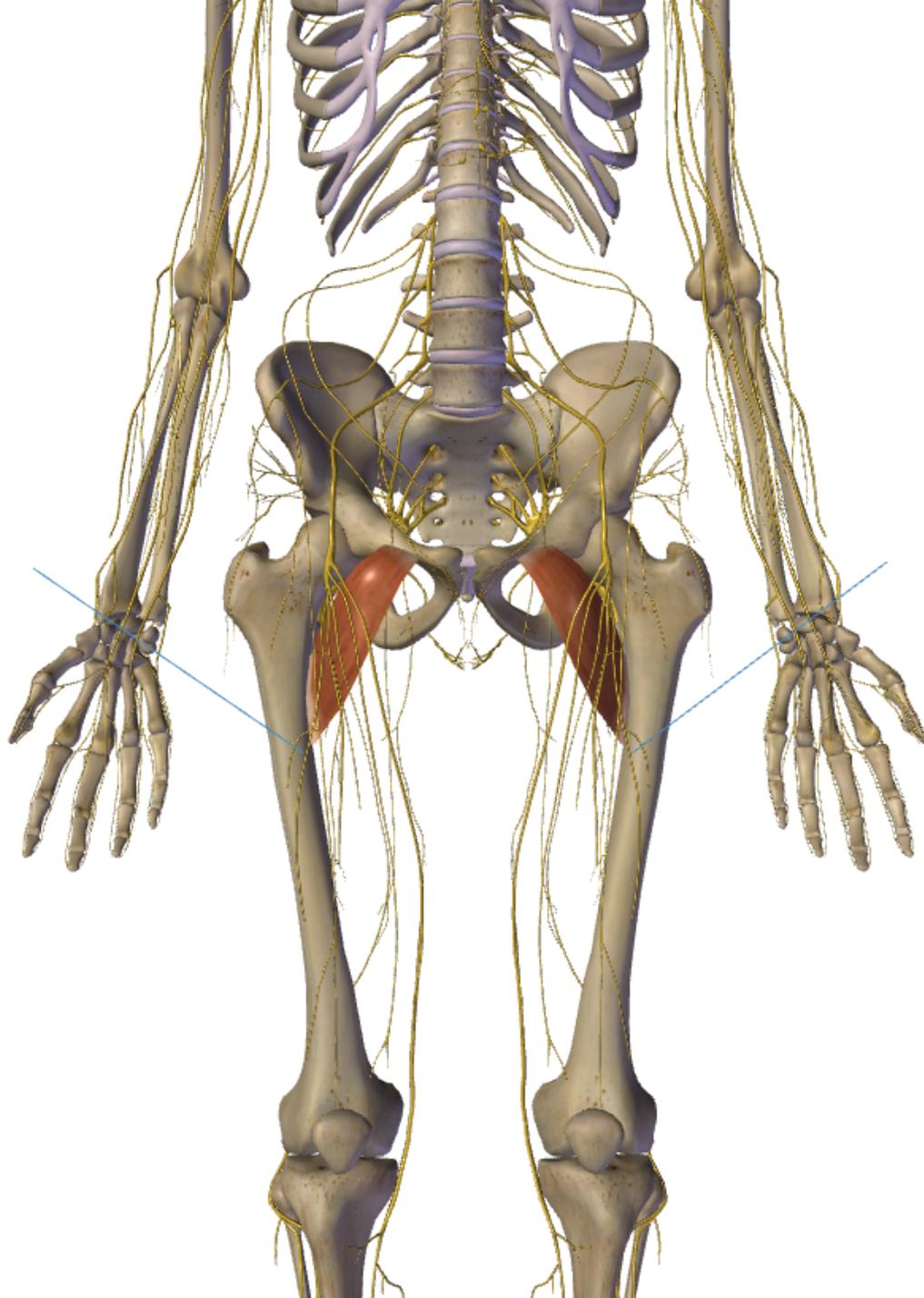


Adductor Longus & Brevis Trigger Points



Adductor Longus & Brevis Trigger Points Referral

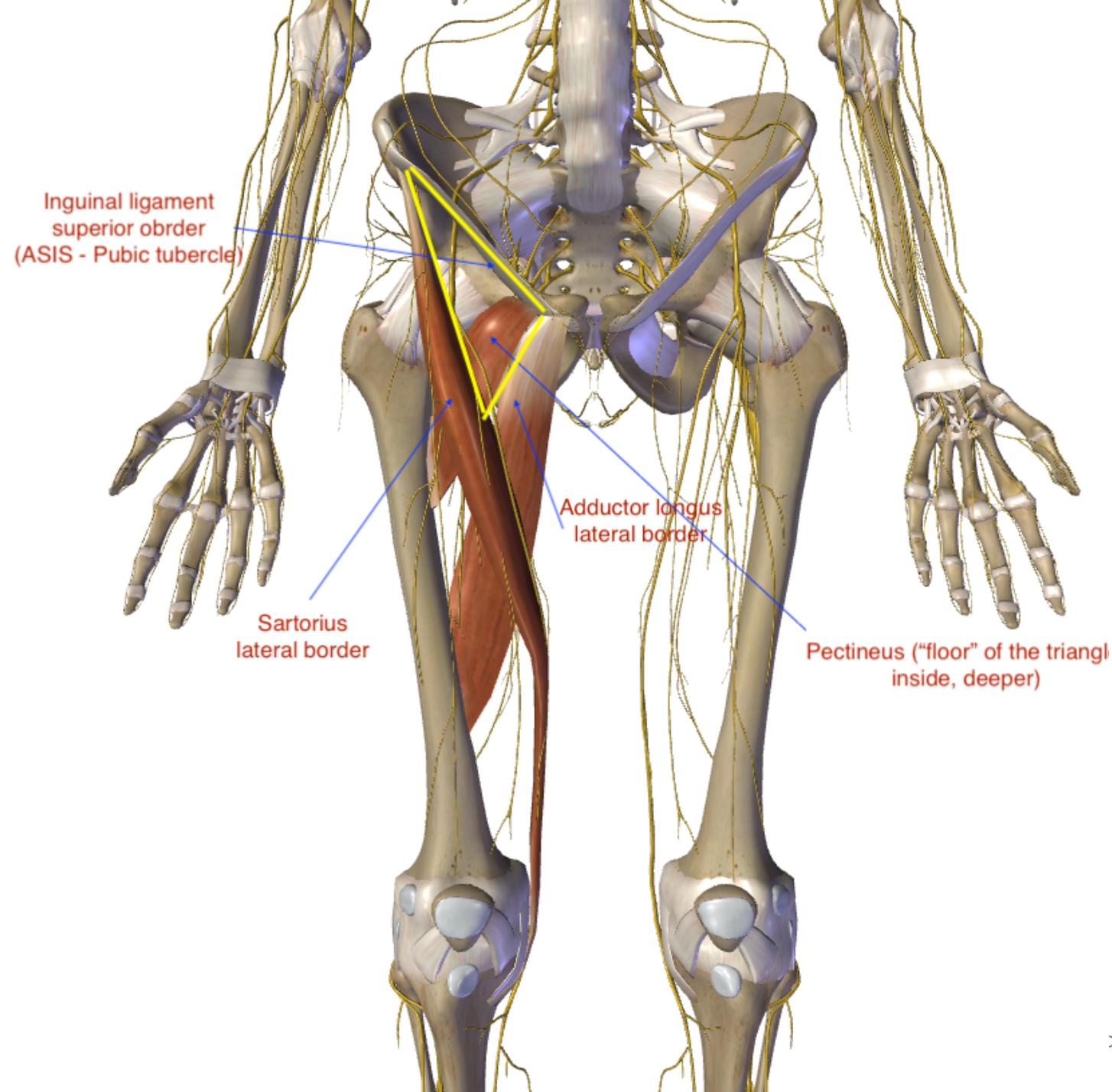




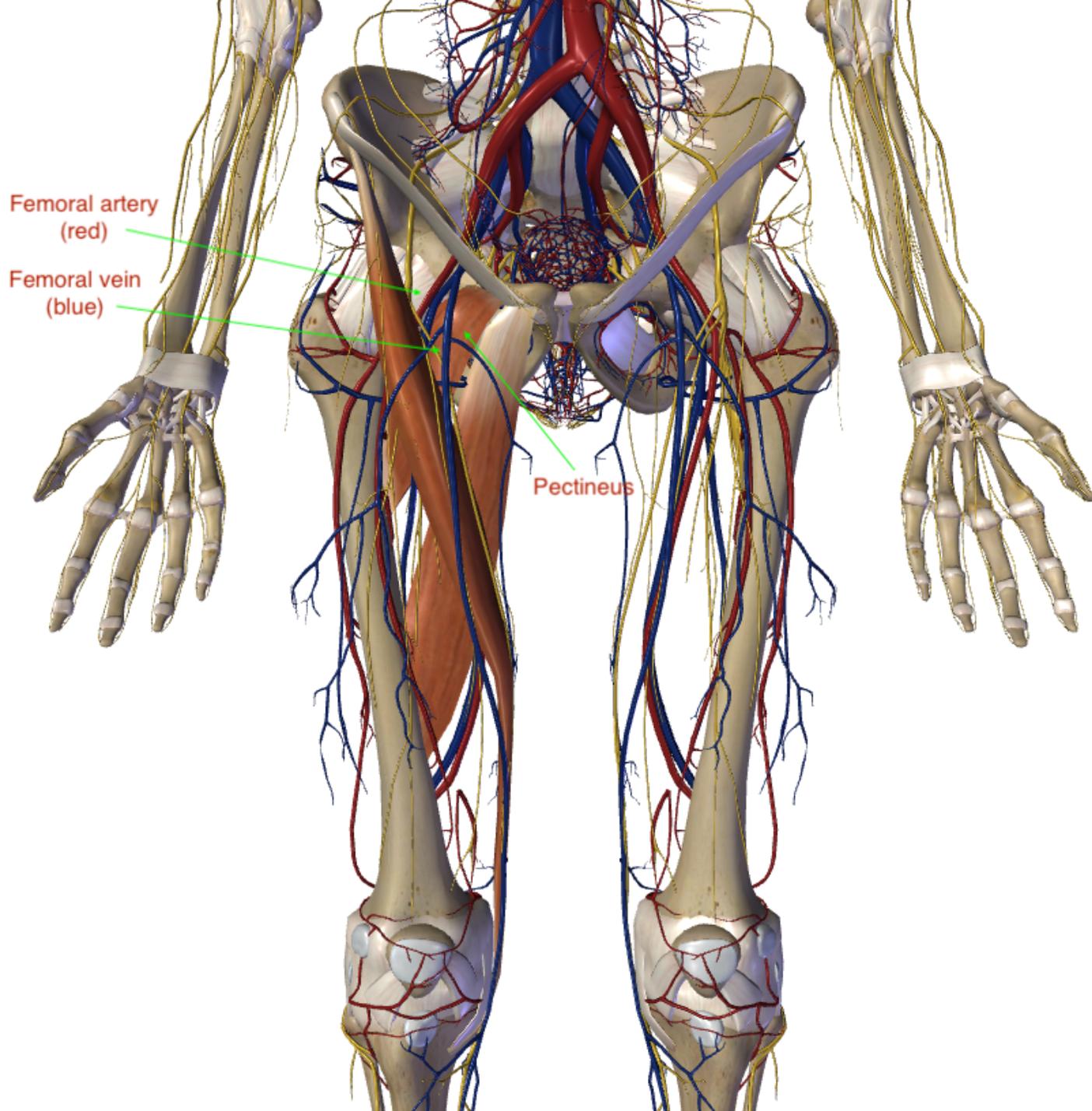
Pectineus

- In the femoral triangle
- Origin: Superior pubic ramus
- Insertion: Linea aspera femur
- Actions: flex and adduct the thigh

Finding the Pectineus in the femoral triangle



- Patient supine, leg flexed and externally rotated
- Can bolster with pillow at the knee
- Palpate deep and have patient perform adduction against resistance

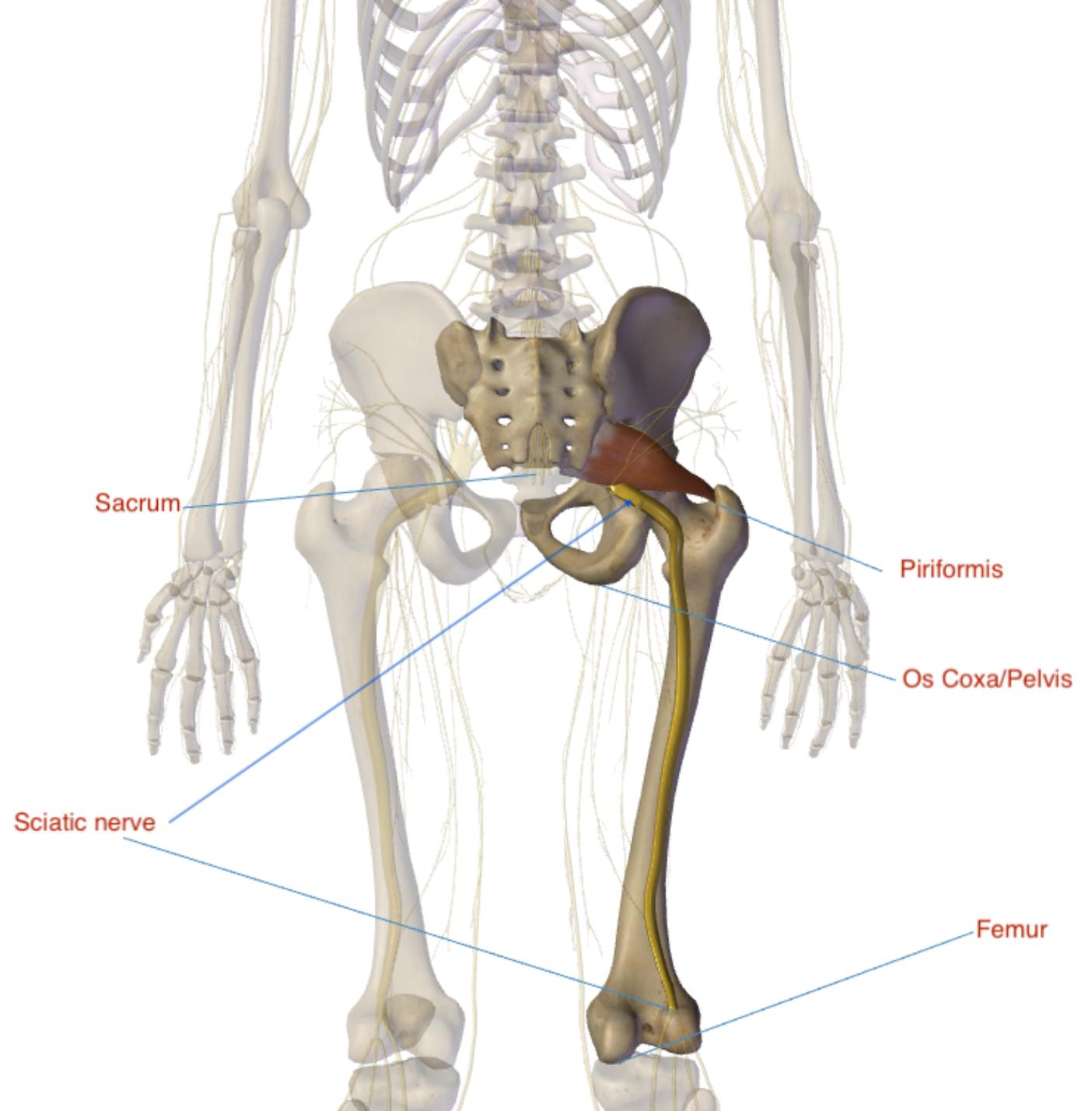


Needling the Pectineus

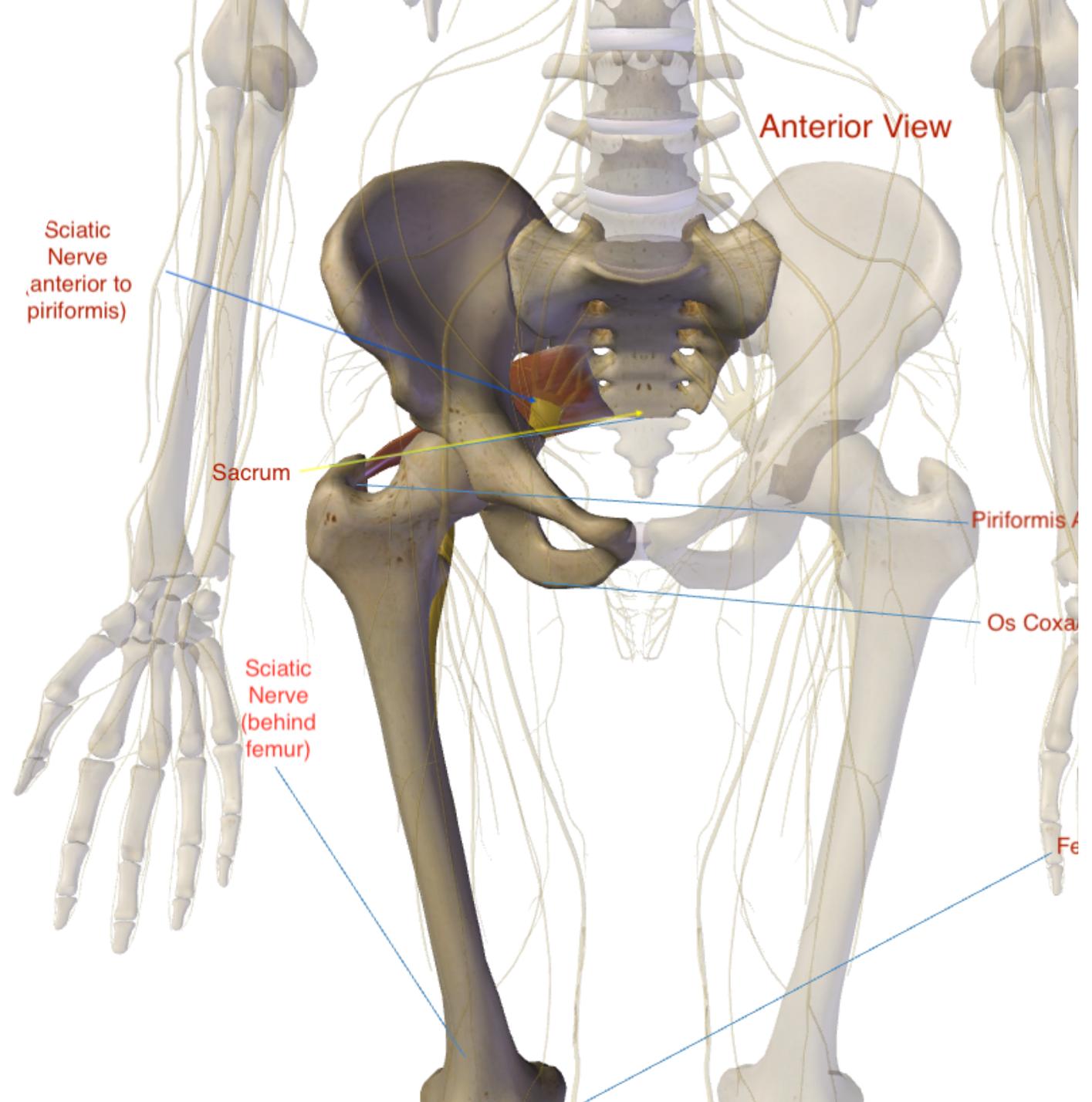
- Find the femoral artery
- Find adductor longus (medial border of triangle)
- Pectineus is medial to the artery and lateral to the adductor longus border
- Can palpate deep and have patient resist to contract the muscle

Piriformis

- Origin: Lower 1/3 of sacrum
- Insertion: Greater trochanter
- Actions: Primarily external rotation

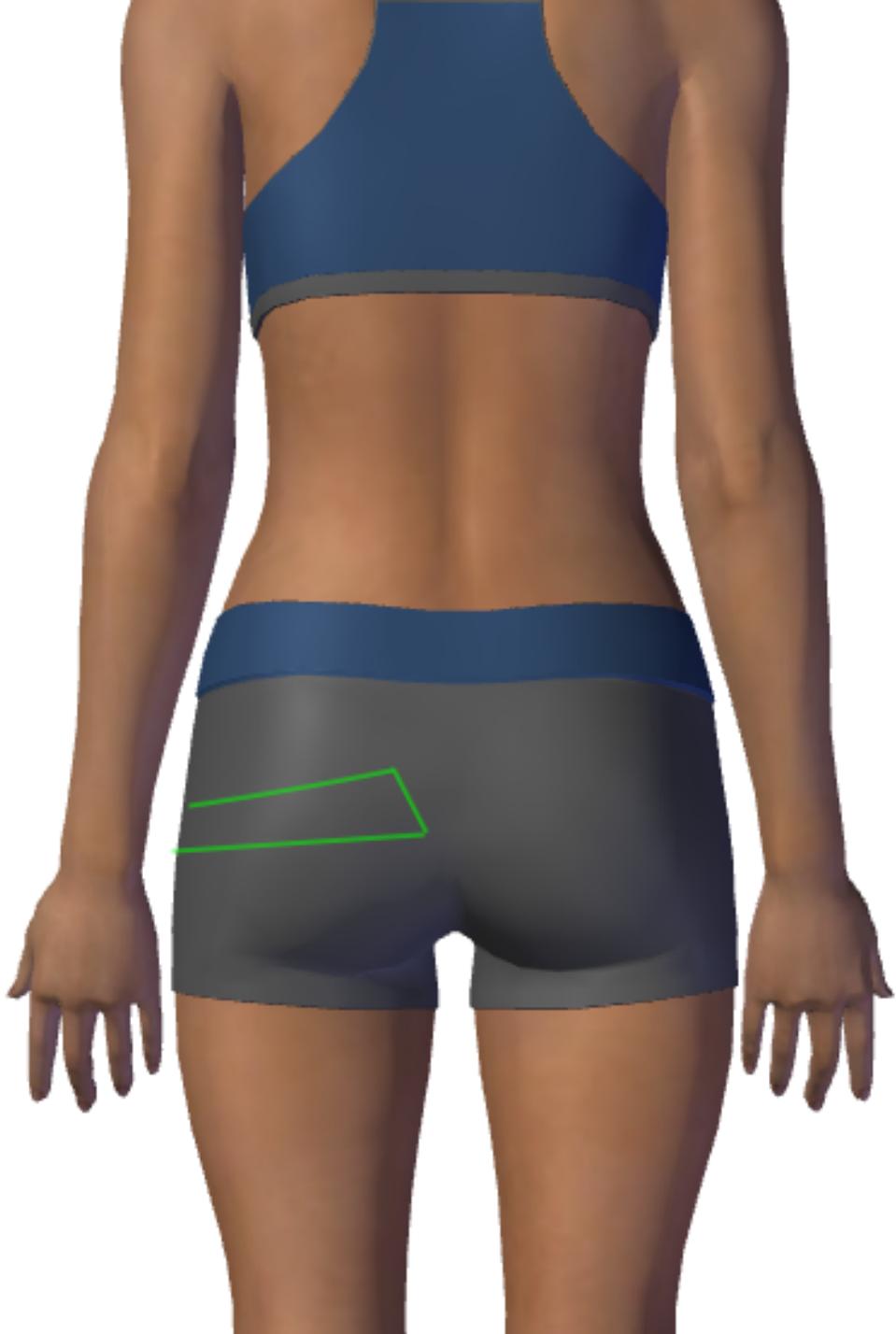


Piriformis – anterior view



Finding the Piriformis

- Patient prone
- Palpate the lower 1/3 of the sacrum
 - Difficult to palpate the actual muscle at the origin as it attaches to the anterior sacrum
- While prone, flex patient's leg at the knee to ~90 degrees
 - Take the leg through int and ext rotation to help find the greater trochanter
 - Have patient rotate, this can also help palpate the piriformis if the glute max is relaxed (glute max doesn't work as much in this position)
- The muscle runs from the lower 1/3 of the sacrum to the greater trochanter at a slight inferior angle; palpate deep, it's under glute max

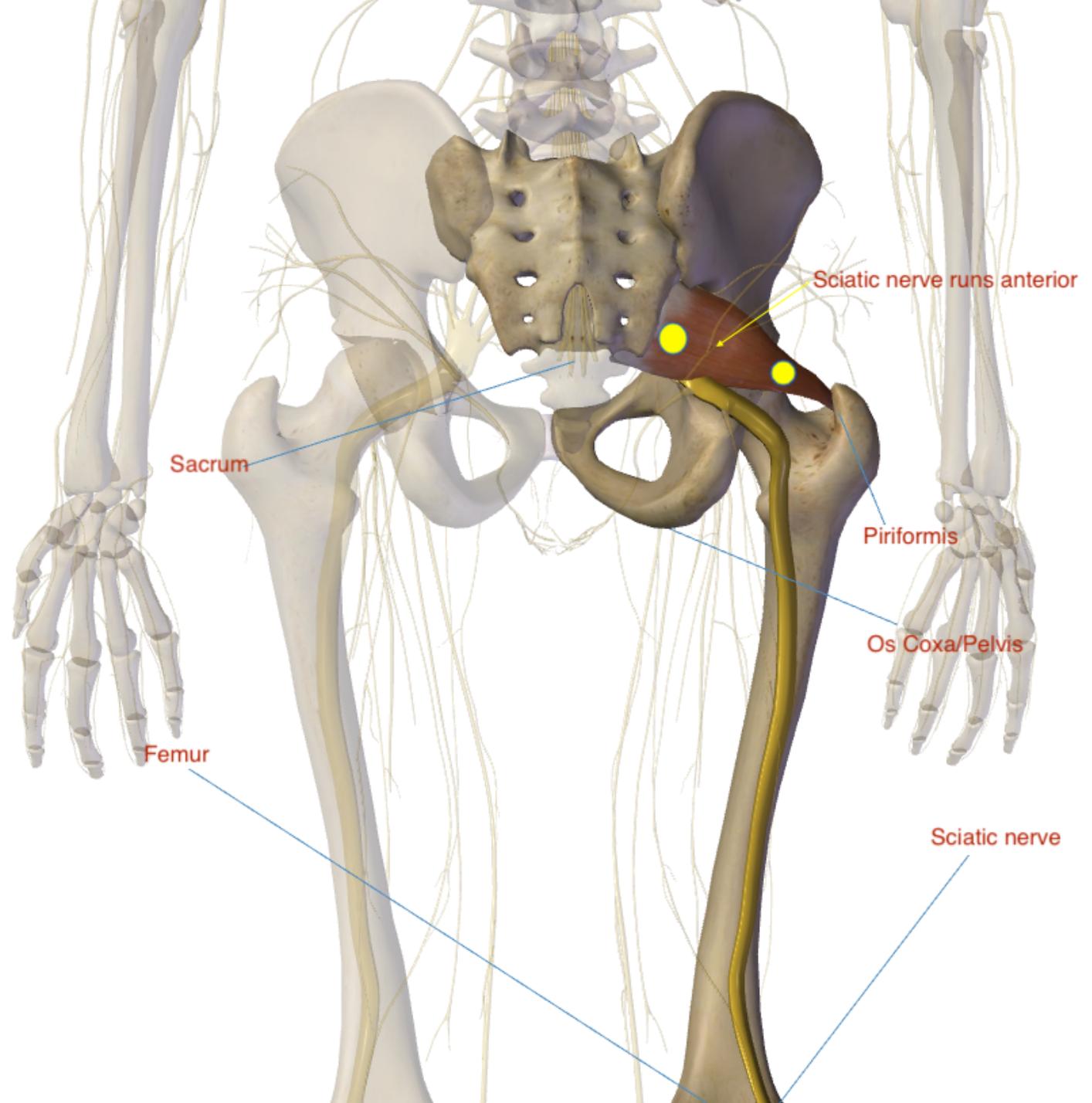


Finding the Piriformis

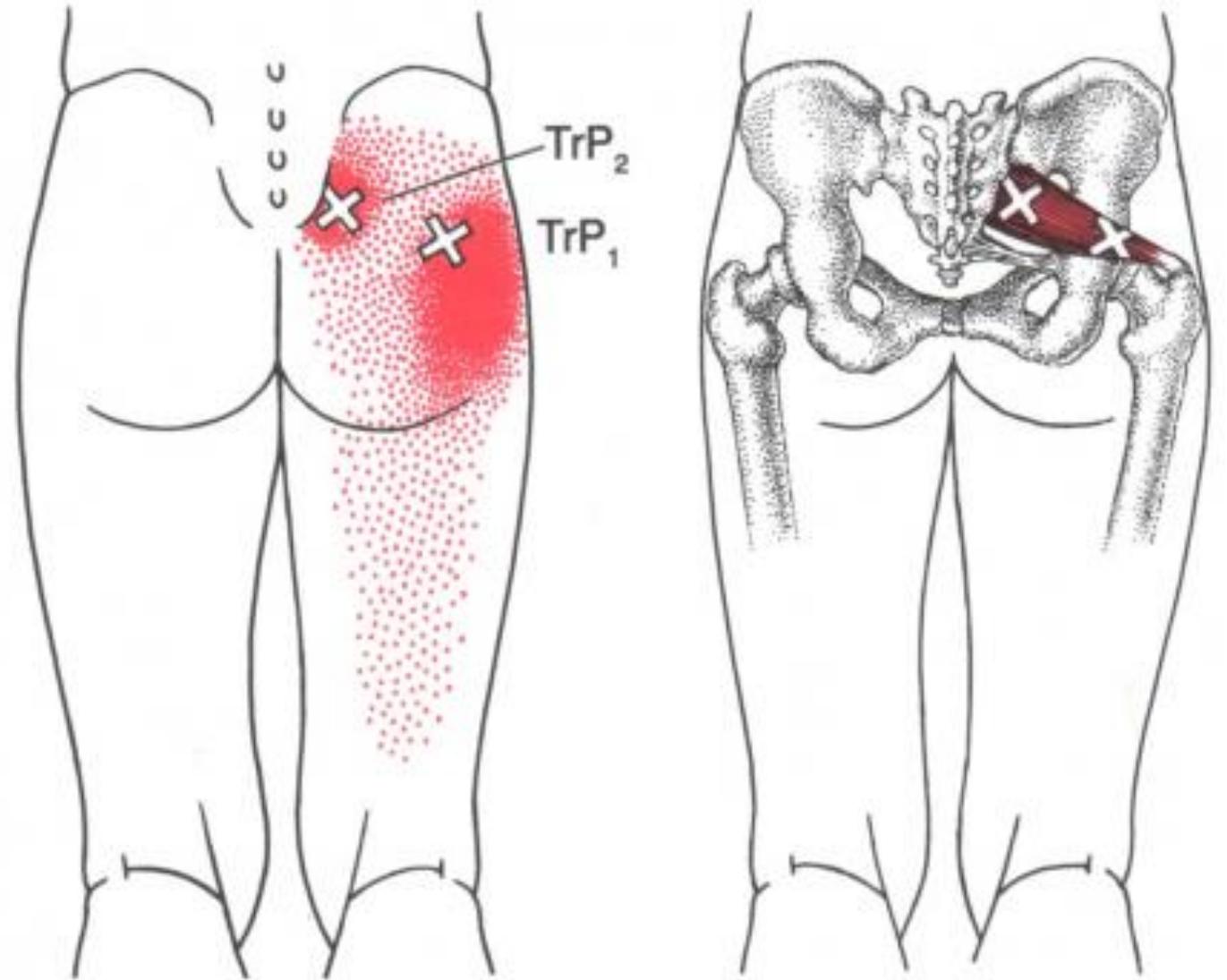
- ~Lower 1/3 of sacrum
- Slightly inferior line drawn from lower 1/3 to greater trochanter

Piriformis Trigger Points

- Search the areas of the yellow dots
- Caution: Sciatic Nerve
- Sciatic nerve: Just go slow and no sudden, jolty movements with the needle as you get the level of the trigger point towards the sacrum

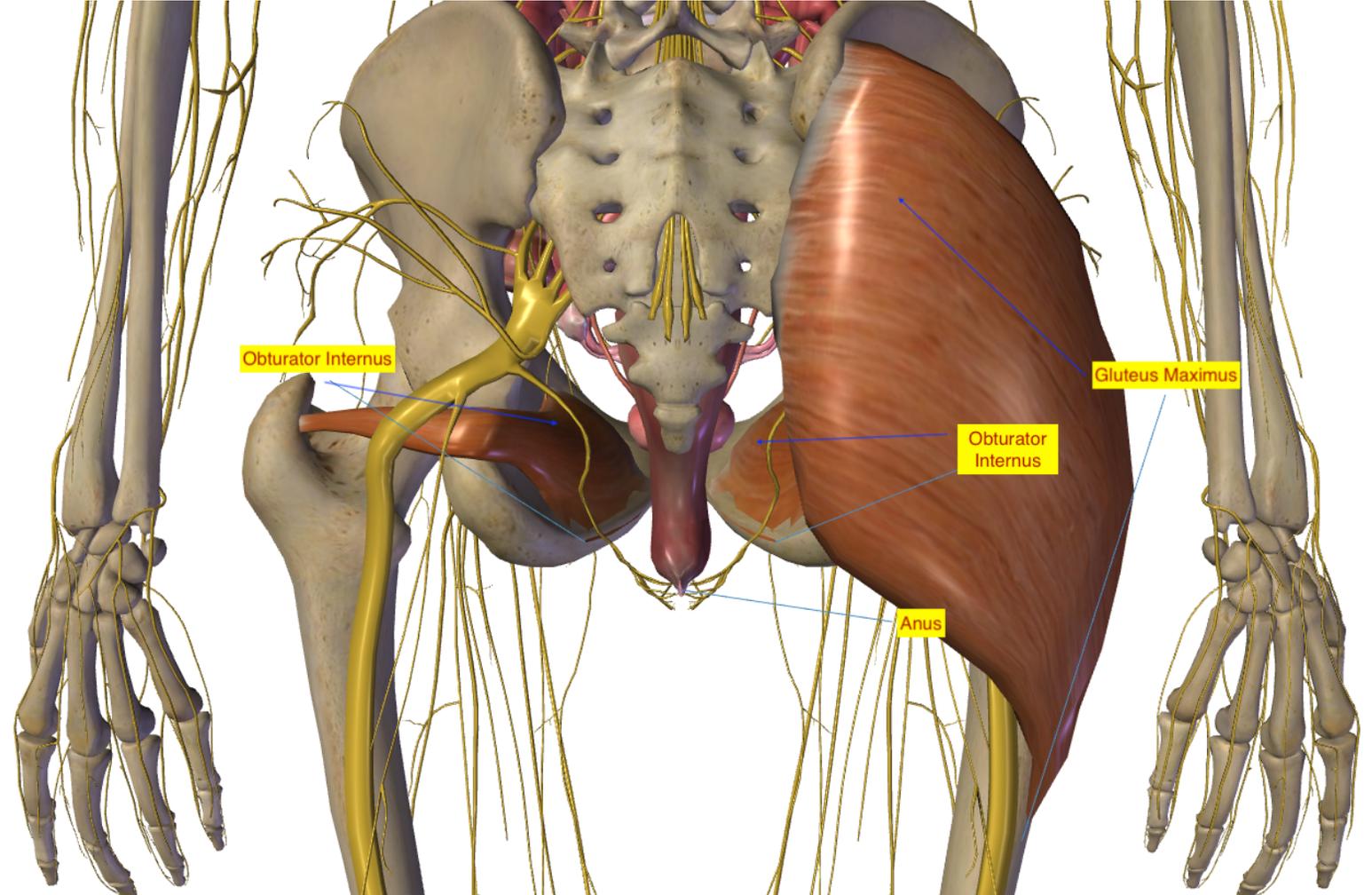


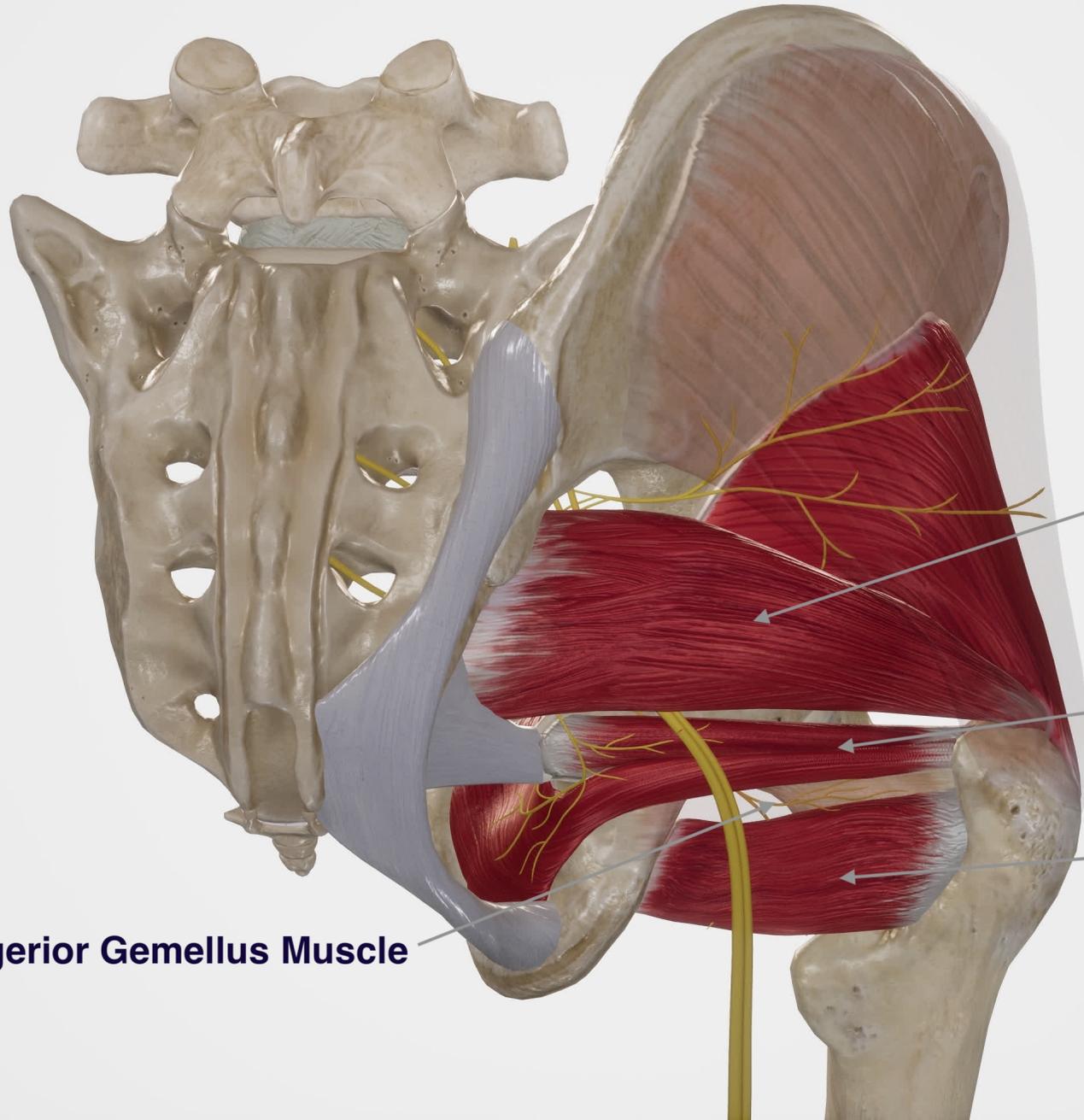
Piriformis Trigger point referral



Obturator Internus

- Origin: Obturator foramen
- Insertion: Gr. Trochanter
- Actions: Externally rotates hip ~30 degrees;
- Stabilizer - helps keep head of femur in acetabulum





Piriformis

Obturator Internus

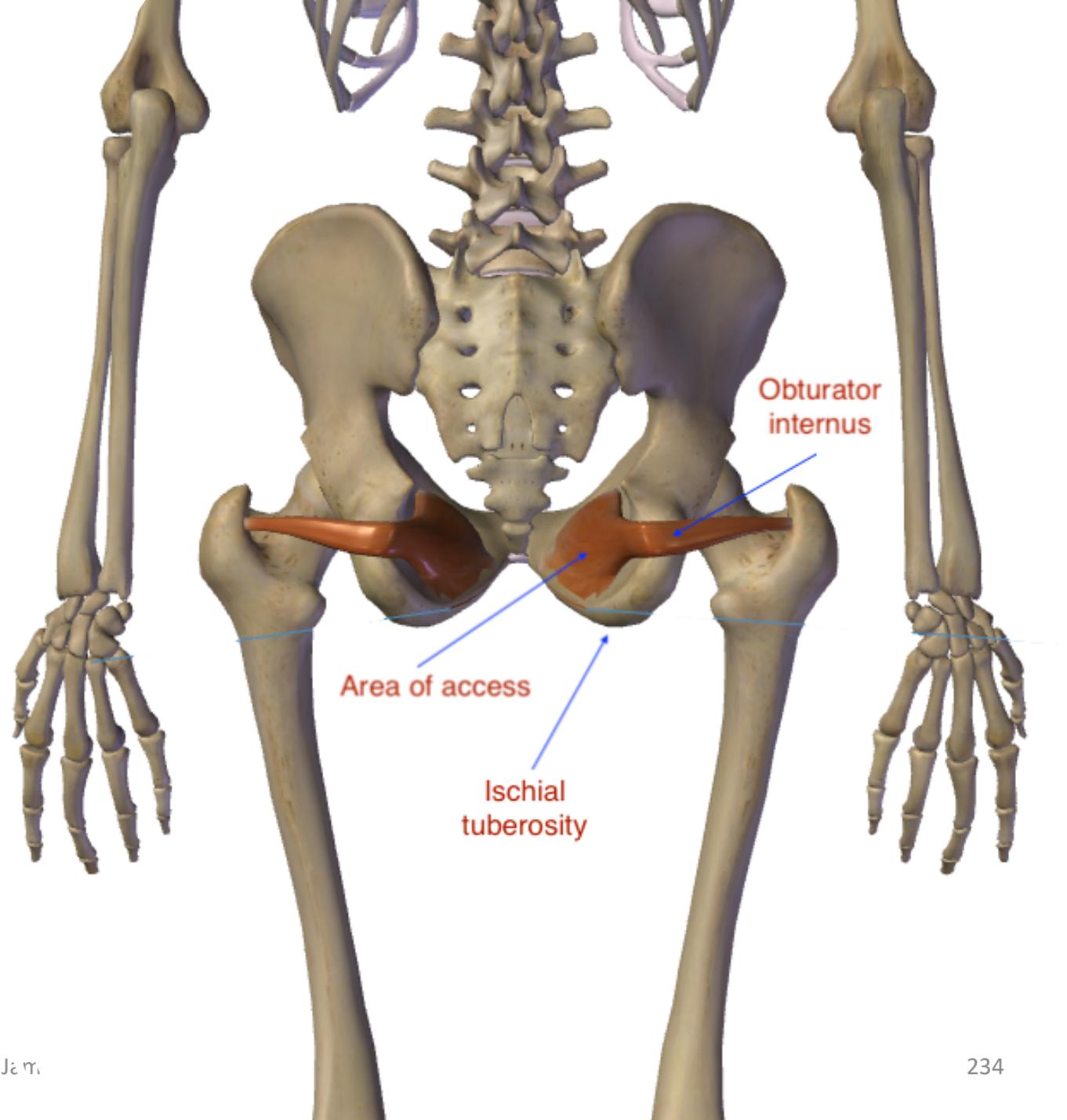
Quadratus Femoris

Not shown: Ingerior Gemellus Muscle

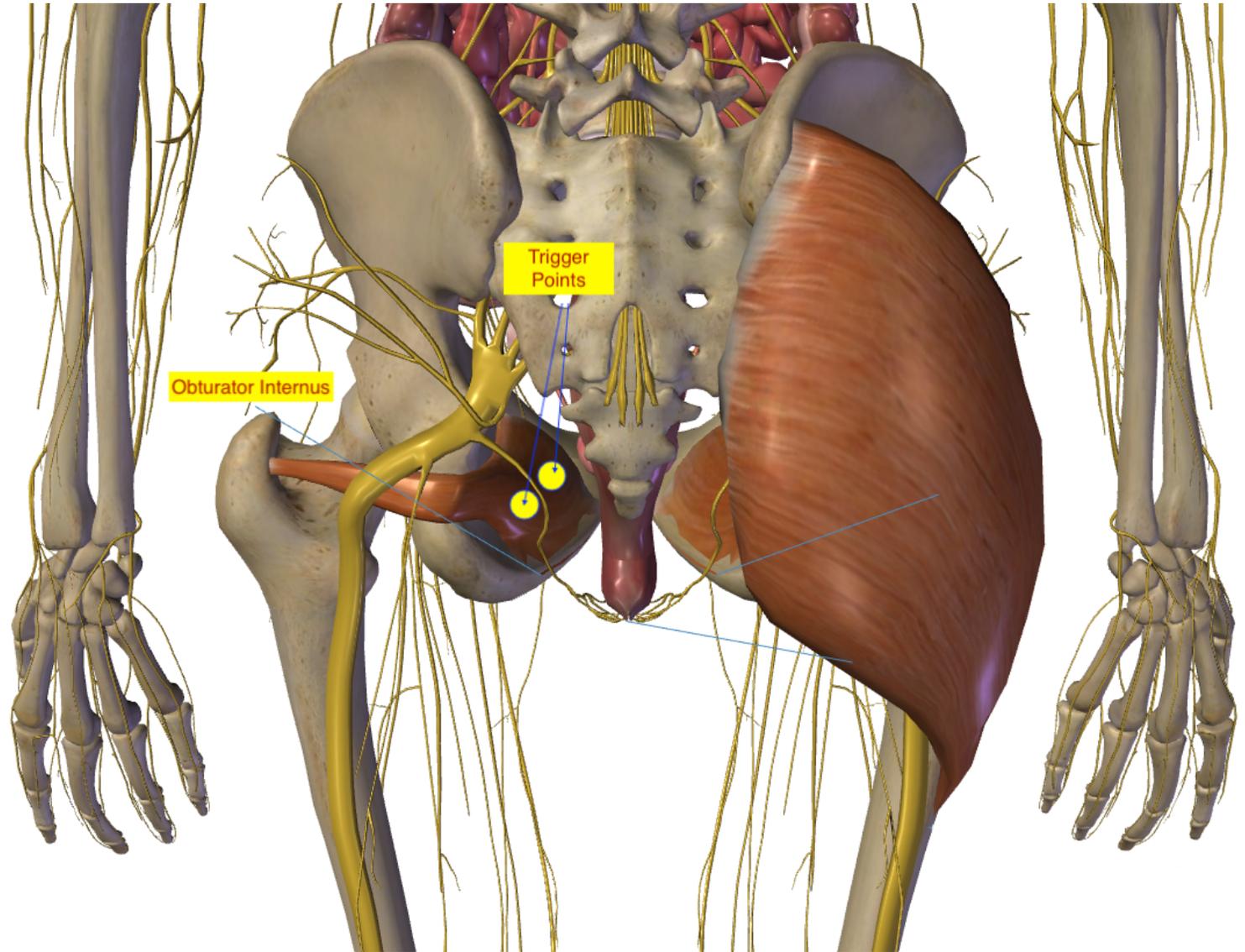
Finding the Obturator Internus + Trigger Pt.

- This is a sensitive area. Keep communication and get consent
- In the clinic, palpate enough to find where to needle
- Patient prone
- Find the ischial tuberosity
- Palpate on medial side of ischial tuberosity deep, hooking your fingers towards the ischial tuberosity
- Then travel up (superior) to the ischial spine (bone) while palpating deep
- You are pressing in towards the obturator foramen

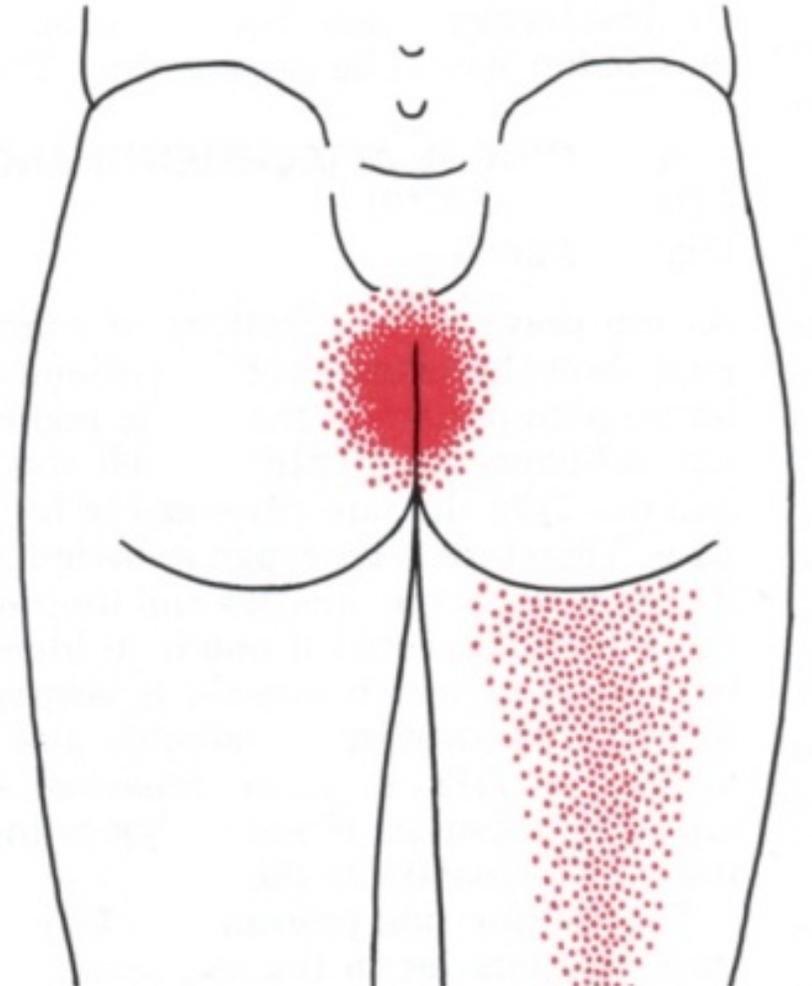
Finding the Obturator Internus



Obturator Internus Trigger Points

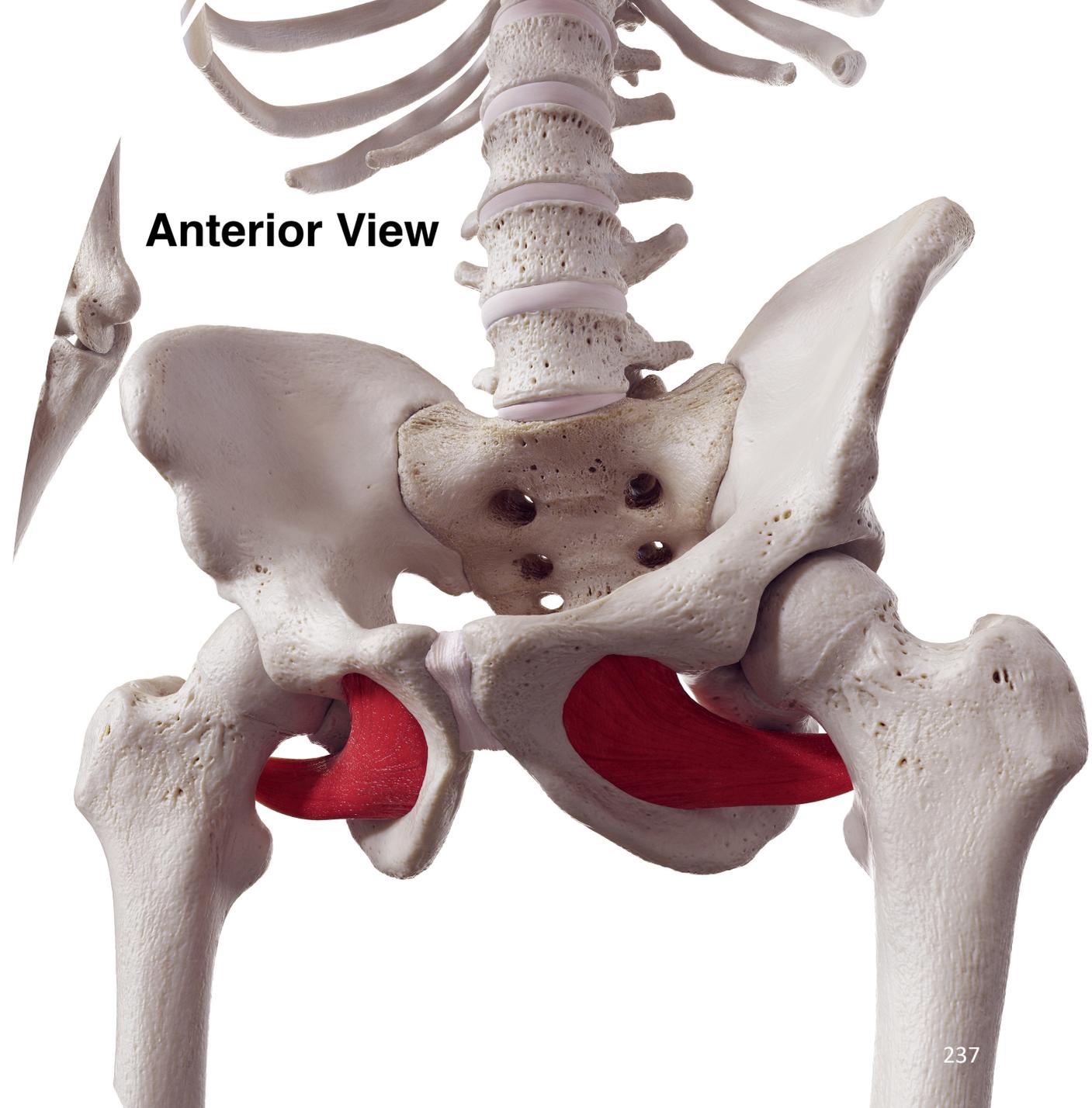


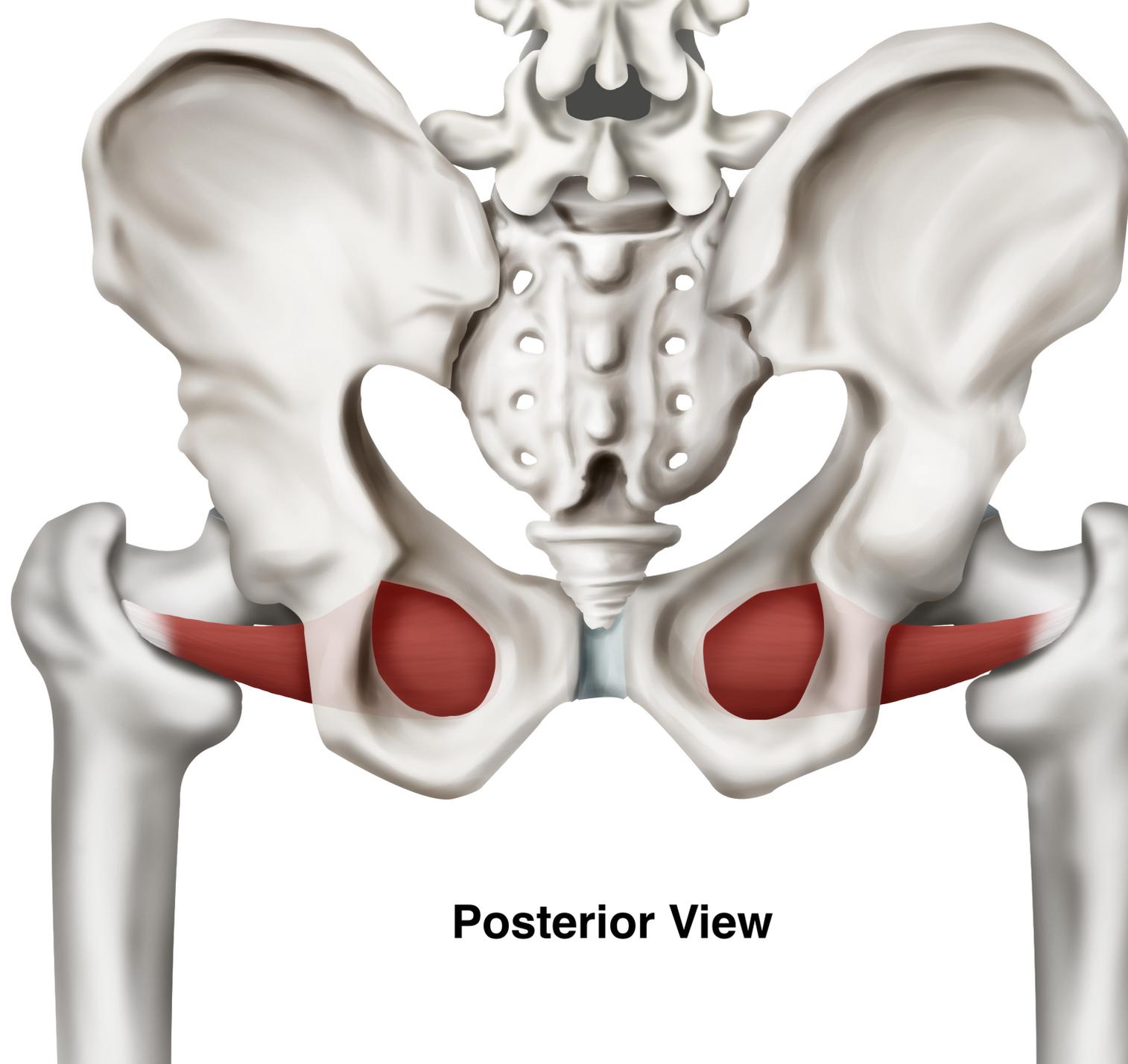
Obturator Internus Trigger Point Referral



Obturator Externus

- Origin: Bony margin of the obturator foramen and obturator membrane
- Insertion: Greater trochanter
- Actions: Depending on position of the thigh, it abducts or externally rotates the thigh





Posterior View

Obturator Externus

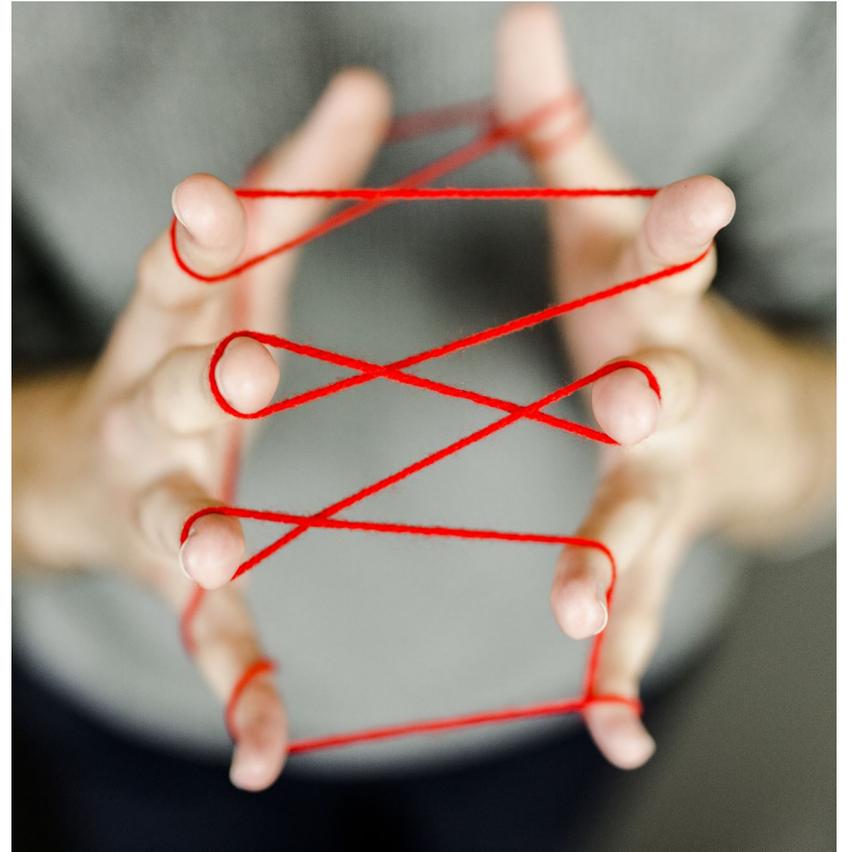
- Trp Pain referral: Groin, anteromedial thigh, or hip pain.
- You do not need to focus on a specific trigger point here, just go for the belly of the muscle
- The muscle is triangle shaped, has a broad base and tapers to its attachment

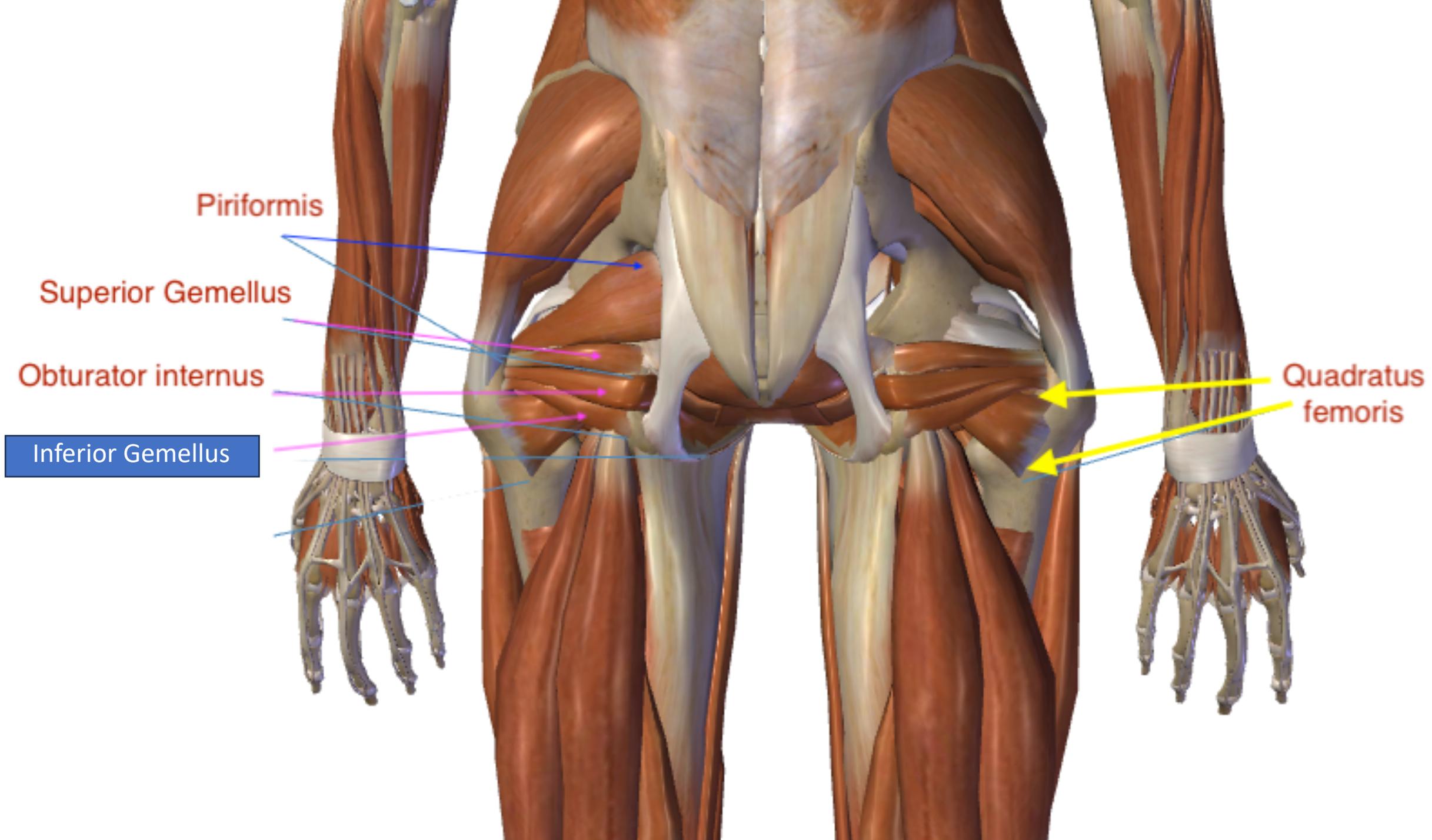
Quadratus Femoris

- Quadratus femoris is a short, flat and rectangular muscle. It is situated inferior to the obturator internus and gemelli
- Origin: upper part of lateral border of ischial tuberosity, inferior to the lower acetabulum rim
- Lateral border of the ischial tuberosity
- SCIATIC NERVE HERE

QF, OE, and Gemellus Trigger Point Pain

- Pain is generally local (trigger points do also cause local pain)
- These muscles are all very close together
- Going in and needling 1 you are likely to get several of them with some redirection





Piriformis

Superior Gemellus

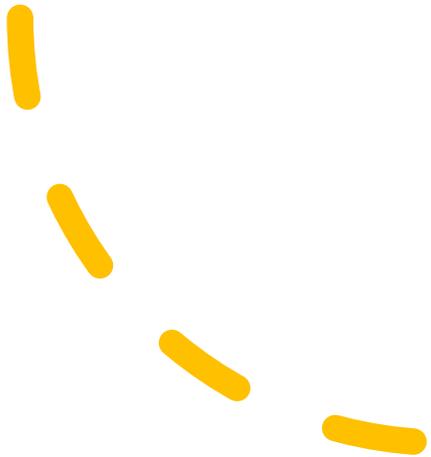
Obturator internus

Inferior Gemellus

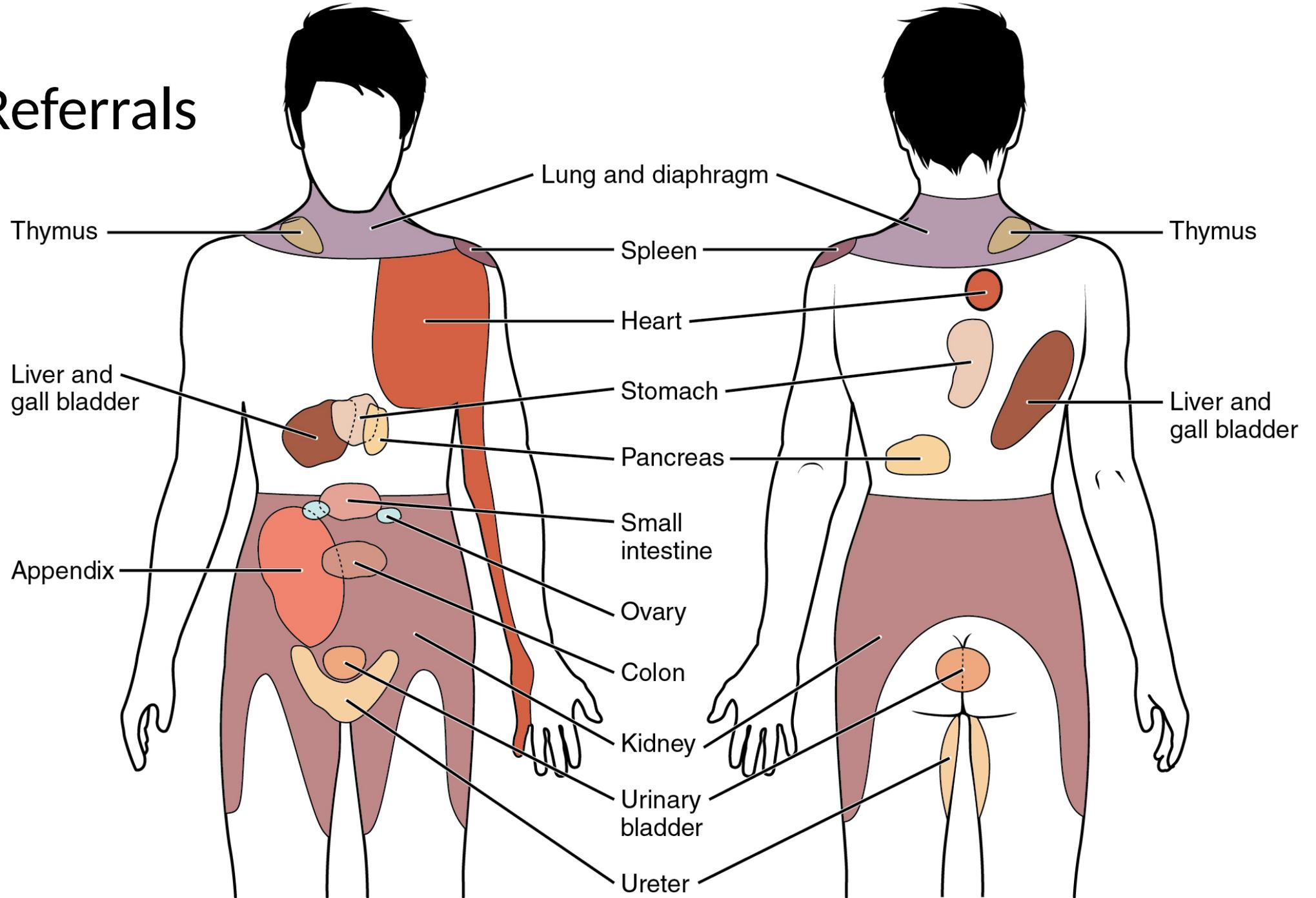
Quadratus femoris

Another source of pain in the pelvic area...

- Visceral referrals
- Issues/conditions in different organs can refer pain
- Something to be aware of in recalcitrant, stubborn pain



Visceral Referrals





Important Aspects of Treating Pelvic Floor Patients

- Ethics
 - Informed Consent
 - Verbal Consent
 - Communication
 - Draping and Palpation
- 



Clinical Ethics

- Clinical ethics is based on a set of core values, which we as practitioners must uphold in our relationships with our patients, members of our profession, other health care providers, and the public.
- Your patients come to you because they trust you.
- When you are helping patients with PFD there are many more layers of trust that must be achieved.

Ethics

- We are professionals who act in a manner that enhances the reputation of, and inspires public confidence in, our chosen profession. We have a responsibility to follow this code of ethics, and to keep informed about the laws and developments in professional standards that affect ethical health care practice.

Ethics

- Health and Well being is always paramount
 - Hold the health and well-being of our clients as a primary responsibility.
 - Provide care within our scope of practice to assist patients to achieve optimum level of health at all stages in life.
 - Seek additional information or knowledge and refer the client to another health care provider in accordance with the requirements of the regulation, or when aspects of the care required are beyond their level of competence.

Ethics

- Responsibility to the Public
 - Address institutional, social and political factors influencing health and health care in ways that are consistent with our professional role and responsibilities.
- Provide the best care circumstances permit
 - Participate, to the best of our abilities in research and other activities that contribute to the ongoing development of acupuncture and TCM.

Ethics

- Responsibility to other health care providers
 - Respect and value the knowledge and skills of other health care providers and cooperate with others so that maximum health benefits to their clients can be realized.

Ethics

- Responsibility to patients

- Inform patients about the effects and risks of treatment, and of the scope and limitations in which they are entitled to practice.
- Ensure that care is authorized by informed consent and practice within relevant law governing consent and choice.
- Find out patient needs and values, and help them to obtain appropriate information about their care and the services available to them.
- Involve patients in health planning and health care decision making, in order to promote their clients self determination and ability to act on their own behalf in meeting their health care needs.

Ethics

- RESPECT

- You are sensitive too, and respectful of the patients individual needs, values, dignity and choices.
- DO NOT exploit patients' vulnerabilities for their own interests or gain, whether sexual, emotional, social, political, financial, or any other way.
- Respect the privacy of clients when care is given.
- Protect the patient's confidentiality, and the confidentiality of their health care information.

Ethics

- We are not a one stop shop, so be respectful of other practitioners on the healthcare team
- Promote principles of equity and fairness to assist patients in receiving unbiased treatment and a share of health services and resources proportionate to their needs.

Ethics

Accountability

Practice only while their ability to do so is unimpaired.

Strive to ensure that your patients receive and understand complete and accurate information about their treatment.

NEVER create client vulnerability or dependence through misleading a patient by claiming ability to “cure”.

MAINTAIN complete and accurate patient records.

Ethics

Strive

Always strive to acquire new skills and education in order to further our profession and help our patients

Ask

ALWAYS ask for consent every step of the way when working in the Pelvic Floor

Go over

Carefully go over the consent form and always pause to ask if your patients have any questions or hesitations

Language around consent

- NEVER use slang terms when discussing body parts: tushy, butt, vaj etc.
- Use terms like: Glutes, pelvic girdle, perineal body, vaginal orifice etc.
- ALWAYS ask permission to touch ALWAYS
- NEVER comment on undergarments. I once caught myself saying “ These are cute!” Do not do that. My patient and I have a very good relationship (and I was treating for IT band syndrome, so was working in TFL). She happens to be an MD, so I apologized immediately and we laughed about it.

Touch

- Explain in the VERY beginning that the word PALPATE/PALPATION will be used often and it means to medically touch and assess.
- ALWAYS say: I am going to Palpate your left glutes (etc.) with my left hand, is that ok? You may run in to some resistance in the beginning:
 - For example, I have a patient who was seriously injured in a consensual aggressive sexual act and we established VERY early on that I may not touch the mons pubis at this time (I have been working with this person for months now, and we are working toward that specific agreed upon goal)

Touch; what to say

I am going to take my left hand and palpate your anococcygeal ligament, is that ok?

I am going to take my left hand and palpate your vagina fourchette, is that ok?

I ask these questions everyday all day. Make it an important part of your dialogue.

Neuromuscular memory

- ALSO, muscles are capable of neuromuscular memory and habit.
- You WILL encounter areas that you will work in that will TRIGGER your patient.
- WHEN this happens, immediately withdrawal the needle, ask the patient if they are alright, tell them that they may take all the time they need, and sit quietly with them until they have calmed down. NEVER make sudden moves or touches here (think if they jerk on the table and you quickly put your hand on them)



Neuromuscular memory

- REASSESS.** “ do you feel comfortable continuing in this region, or should we save it for another time?” OFTEN times they will allow you to continue. AT THE END of the treatment, you can tell them that they did a very good an important job in their healing, and that they are always in charge of their treatment.

- AT THE END of the treatment, you can tell them that they did a very good an important job in their healing, and that they are always in charge of their treatment.

Touch and consent

- Also, ask them if they would like additional support around their triggers.
- Have a referral list ready for them with colleagues that you KNOW who can help with:
- PAIN (acute trauma/chronic/neurogenic/psychogenic)
- ASSAULT (sexual/incest/violence/verbal)
- Gender identity (trauma around surgical, and acceptance, isolation, fear etc.)
- LGBTQ support
- Urologists/GenitoUrologists

Touch, consent and support

- OBGYN/GYN
- Postpartum Support GROUPS
- Pilates/YOGA/Meditation
- Pelvic Floor PTs
- Osteopaths
- Chiros
- Functional Medicine/ND's for (testing and labs and GI support if you don't provide this in clinic)*

Adding sex history to your intake form

- One thing you must add in your intake form is DETAILED sex history.
 - This is a very sensitive topic but can answer a lot of your questions without bringing it up awkwardly.
1. Sexual Orientation (appropriate pronouns as well) and whether or not these are known to partner/family/friends
 2. Frequency of masturbation, sexual intercourse (penetrative and otherwise) and masturbation by partner, etc.
 3. Sex outside of primary relationship

Adding sex history to your intake form

4. Ease of erection, ejaculation, orgasm, clitoral stimulation (impotence, failure to ejaculate, failure for clitoral/vaginal orgasm)

5. How pain is related to sex (with individual partners, assisted, masturbation etc.)

6. Pain on vaginal/rectal insertion (props, fingers, penis, tampon etc.)

7. Time involved with pain (immediately during, after or long after the above acts)

8. STI's

Adding sex history to your intake form

9. Sexual abuse/assault/rape/incest/torture

- Make sure to ask on your consent form if the patient is WILLING to discuss ANY/ALL of these with you (have a little check here box if you are ok discussing the above 1-9 or if there is ANYTHING you WILL not discuss write number(s) here)

Questions Around Ethics and Consent

Let's Discuss

Smaller & Deeper Pelvic Floor Muscles

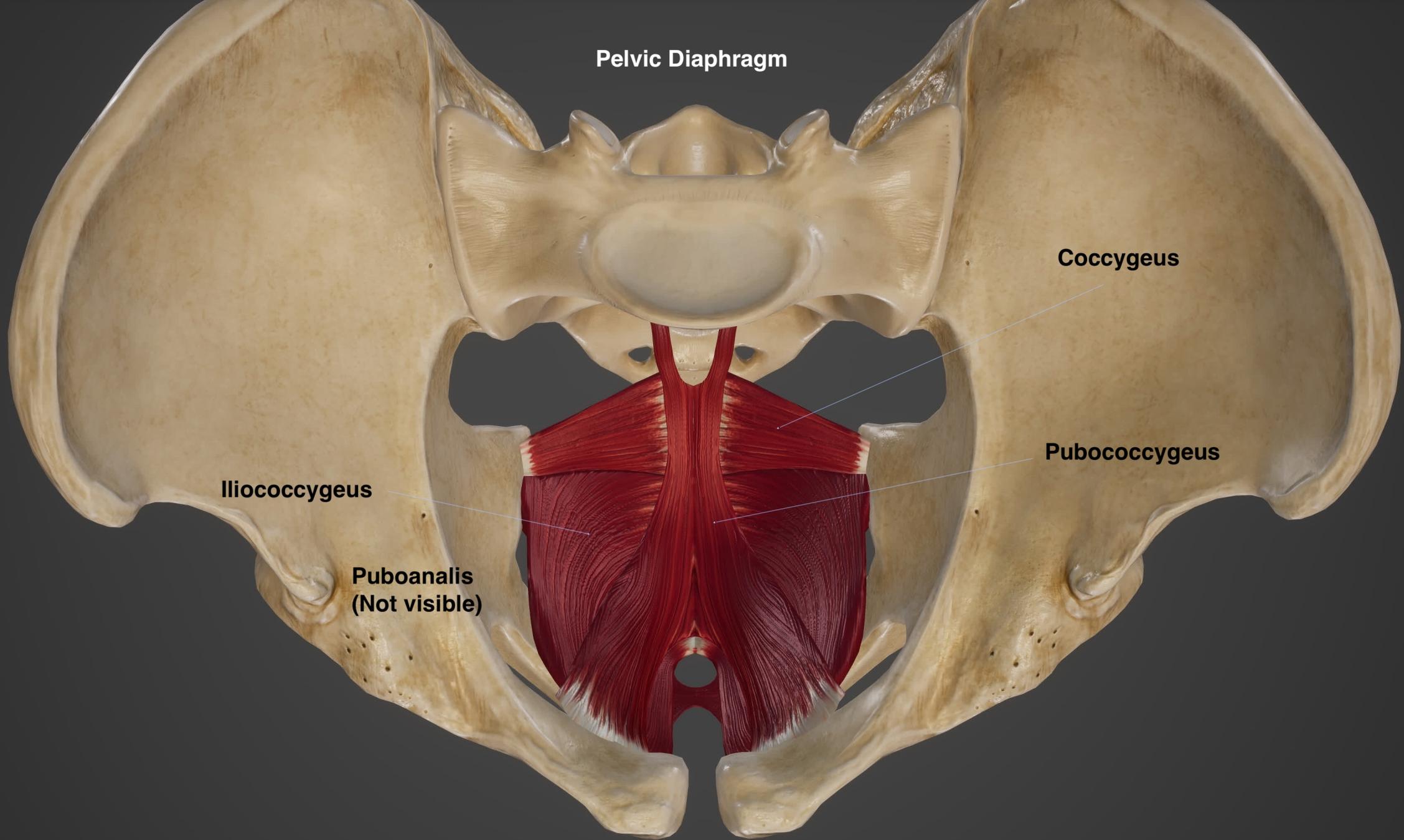
RECAP:

Pelvic floor is a sling that consists of:

- The pelvic floor is a funnel-shaped structure covering the base of the pelvis from the pubic symphysis anteriorly to the coccyx posteriorly and stretches from one ischial tuberosity to the other. It consists of the pelvic diaphragm – the levator ani (3 muscles) and coccygeus

Recap

- The levator ani muscle is a broad thin muscle that is made up of a group of:
 - Pubococcygeus
 - Puborectalis
 - Iliococcygeus
- The muscles join in the middle of the pelvis at:
 - Prostate in males
 - Vagina and urethra in females.



Pelvic Diaphragm

Coccygeus

Pubococcygeus

Iliococcygeus

**Puboanalis
(Not visible)**

Pubococcygeus

- Pubococcygeus originates from:
 - Both sides of the body of the pubis, lateral to the puborectalis muscle and anterior to the obturator canal at the tendinous arch.
 - It travels posterior and medial to insert onto the perineum, coccyx and anococcygeal ligament
 - It is wider but thinner intermediate part of the levator ani.
 - Parts attach to the perineal body (puboperineal), the anal canal (puboanal), vaginal wall.

Pubococcygeus - Needling

Patient in side lying position deep depression palpate between anus and perineal body

Precautions: rectum

Puborectalis

- Puborectalis is a U-shaped muscle
 - Originates on both sides on the pubic body just lateral to the pubic symphysis
 - The muscle runs posterior and encircles the rectum, so both side join together
 - Some fibers join the EXTERNAL ANAL sphincter.
-
- *The contraction of this muscle causes the anorectal junction to bend 90 degrees. This maintains fecal continence during contraction and enables defecation on relaxation. Some fibers may extend towards the urethra in both male sand females and to the vagina in females, aiding with urinary continence.



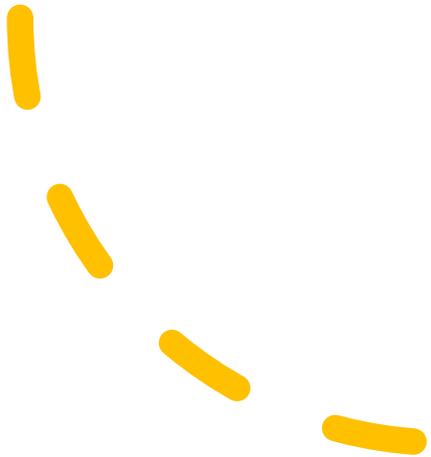
Puborectalis

Needling: See
Pubococcygeus

Precautions :
rectum

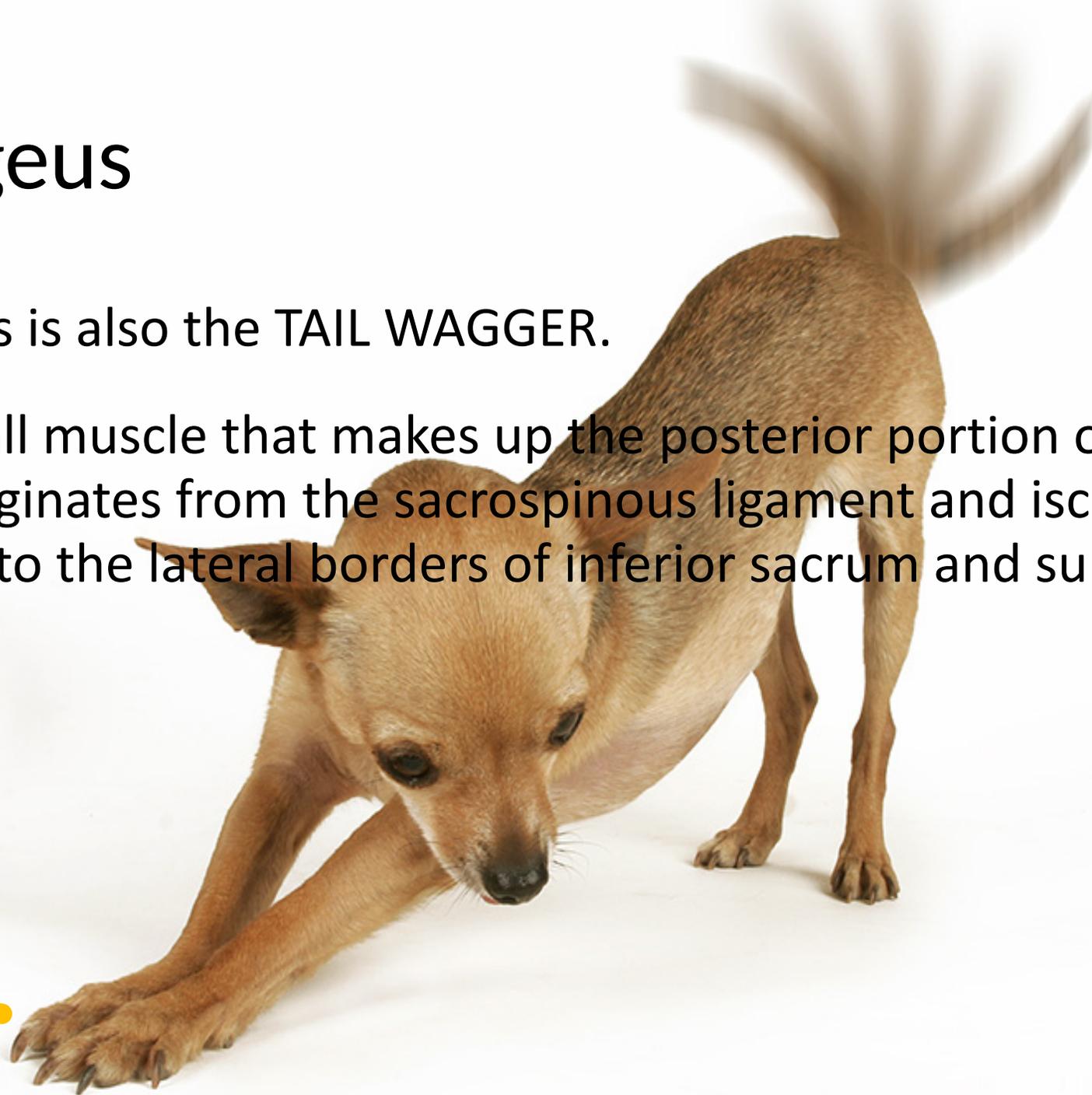
Iliococcygeus

- Iliococcygeus originates from the ischial spines and posterior portion of the obturator internus
 - It travels posterior and medially, and
 - Inserts onto the anococcygeal ligament and coccyx.
- Needling: see the above LEVATOR ANI



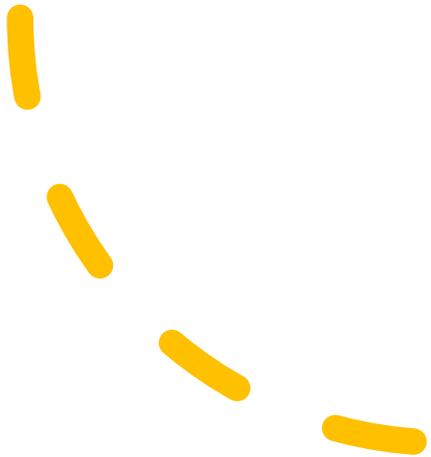
Coccygeus

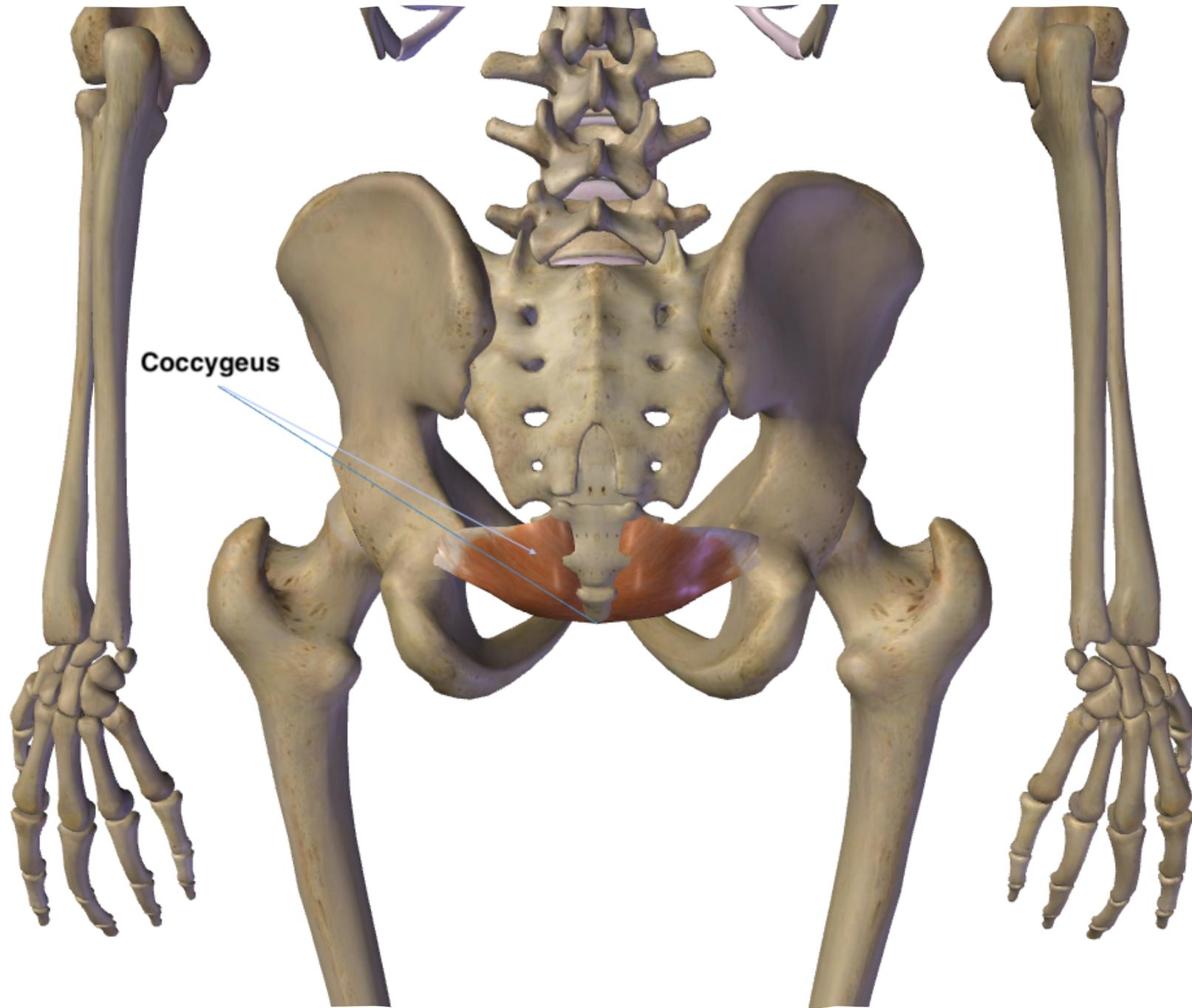
- Coccygeus is also the TAIL WAGGER.
- It is a small muscle that makes up the posterior portion of the pelvic floor. It originates from the sacrospinous ligament and ischial spine and inserts on to the lateral borders of inferior sacrum and superior coccyx.



Needling Coccygeus

- Locate Coccyx, deep palpation lateral to coccyx
- Precautions: Rectum; make sure needle is at the correct angle
- Depth:

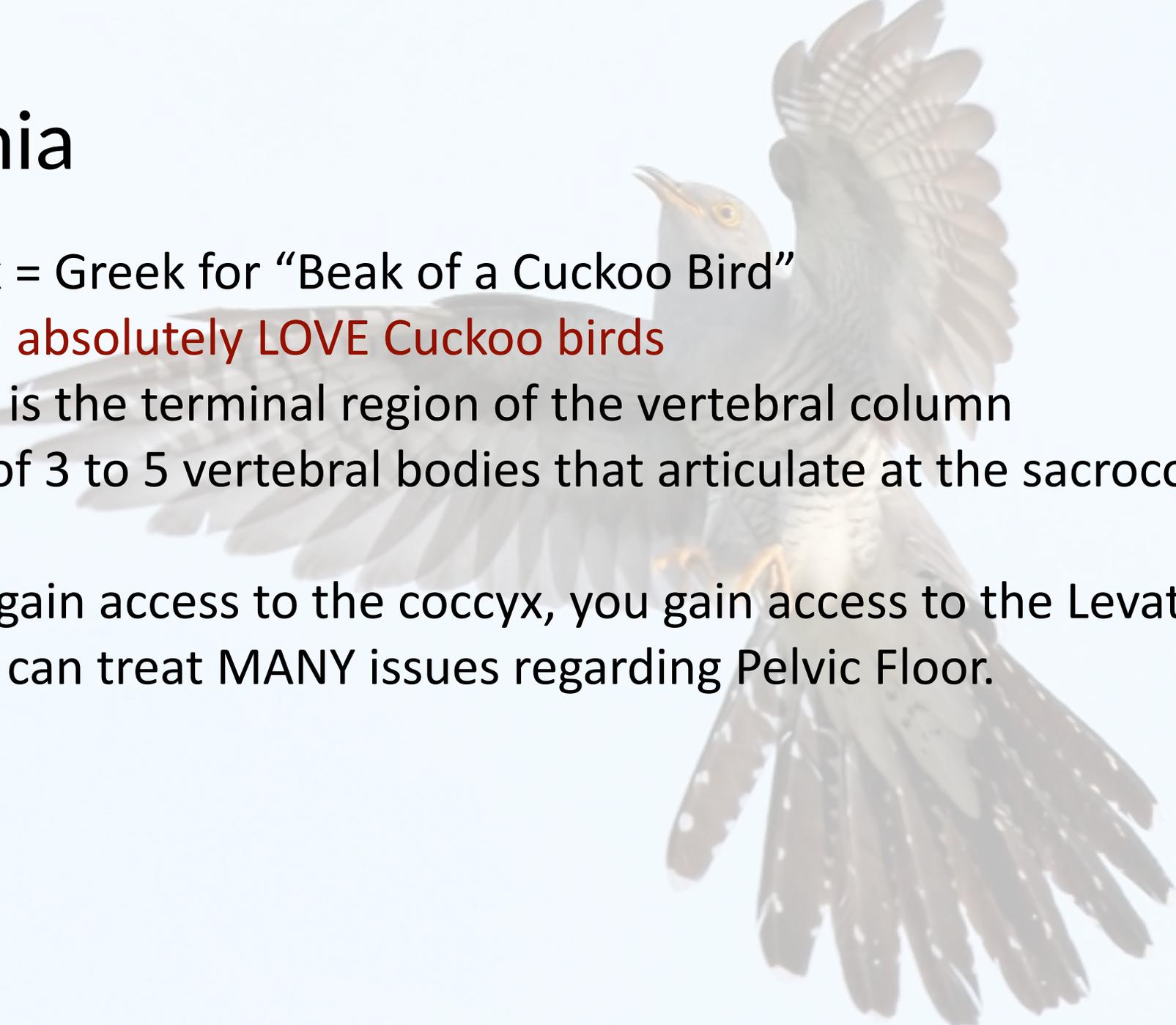




Coccygeus

Coccydynia

- The Coccyx = Greek for “Beak of a Cuckoo Bird”
- Side note: **I absolutely LOVE Cuckoo birds**
- The coccyx is the terminal region of the vertebral column
- It consists of 3 to 5 vertebral bodies that articulate at the sacrococcygeal joint
- When you gain access to the coccyx, you gain access to the Levator Ani group, and can treat MANY issues regarding Pelvic Floor.



Coccydynia / Coccygodynia / Coccalgia

- Coccygeal neuralgia or tailbone pain
- Terms used to describe the symptoms of pain that occur in the region of the coccyx
- The pain is most commonly triggered in a sitting position, but may also occur when the individual changes from a sitting to standing position.
- Most cases will resolve within a few weeks to months, however for some patients the pain can become chronic, having negative impacts on quality of life.
- For these individuals, management can be difficult due to the complex nature of coccygeal pain

Types of Coccydynia

- There are TWO primary groups that can present in your clinic:
- 1) Direct trauma to the coccyx:
 - This includes everything from vaginal childbirth, vertical impact (I treat A LOT of equestrians), repetitive micro-trauma (ill-fitted bike seats, slip and falls on ice for figure skaters), surgical interventions such as episiotomies (trophic changes and adhesions along the pelvic floor diaphragm) etc.

Types of Coccydynia

- 2) Systemic illness:

- Gastrointestinal disorders, urogenital disorders (these can both be MSK in nature as well, but we are talking about malignancies, Crohn's, interstitial cystitis etc.) infections, lumbar disc prolapse (which also can be grouped with MSK)

Coccydynia

- We work DIRECTLY with:
 - Osteo-needling (osteopecking, periosteum)
 - Ligamentous needling
 - Perineal needling (NOT just Ren and Du!)
 - MSK (Levator Ani, erector spinae, glutes, etc.)

Common BLADDER Issues in Clinic

We will be covering
typically urgency/
frequency and
Interstitial Cystitis

ALSO known as Painful
Bladder Syndrome
(lack of cystoscopic and
histological findings)

Painful Bladder Syndrome

- In the United States, approximately 1 million individuals are affected. The prevalence of interstitial cystitis is higher in the USA than in United Kingdom and Europe

Painful Bladder Syndrome



PBS

Common Symptoms:

- urinary frequency (includes multiple nighttime voids)
- urinary urgency
- suprapubic pelvic pain related to bladder filling

PBS

Additional symptoms

- dyspareunia (pain with intercourse)
- chronic constipation
- slow urinary stream
- food sensitivities that worsen symptoms (citrus, coffee, chocolate etc)
- radiating pain in the groin, vagina, rectum, or sacrum

PBS Comorbidities

- anxiety
- depression
- Chronic Fatigue Syndrome
- dysmennorrhea
- vulvodynia
- [fibromyalgia](#)
- [irritable bowel syndrome](#) (IBS)
- urethral burning
- pelvic floor dysfunction



PBS TREATMENT Protocol

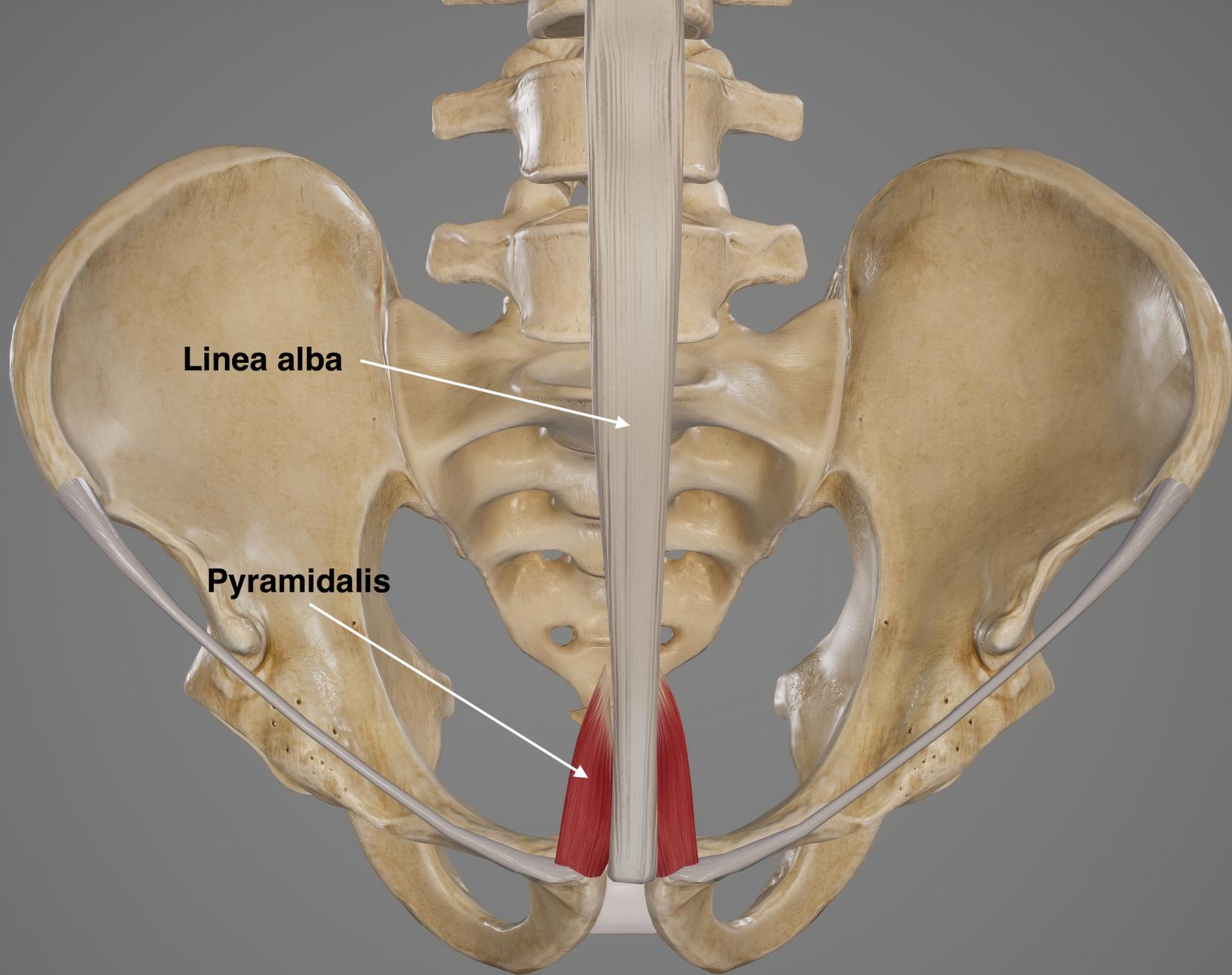
- Assess Pubic region, Pyramidalis, Rectus abs
- Deep palpation to trigger pain/urgency
- Treat what you see

Pyramidalis

- Small triangular muscles that lie just above the pubic bone on BOTH sides of the midline within the aponeurosis, UNDER the rectus abdominus
- It has tendinous attachments to the SUSPENSORY ligament of the PENIS.
- This muscle blends into the Linea Alba halfway between the pubic symphysis and umbilicus.

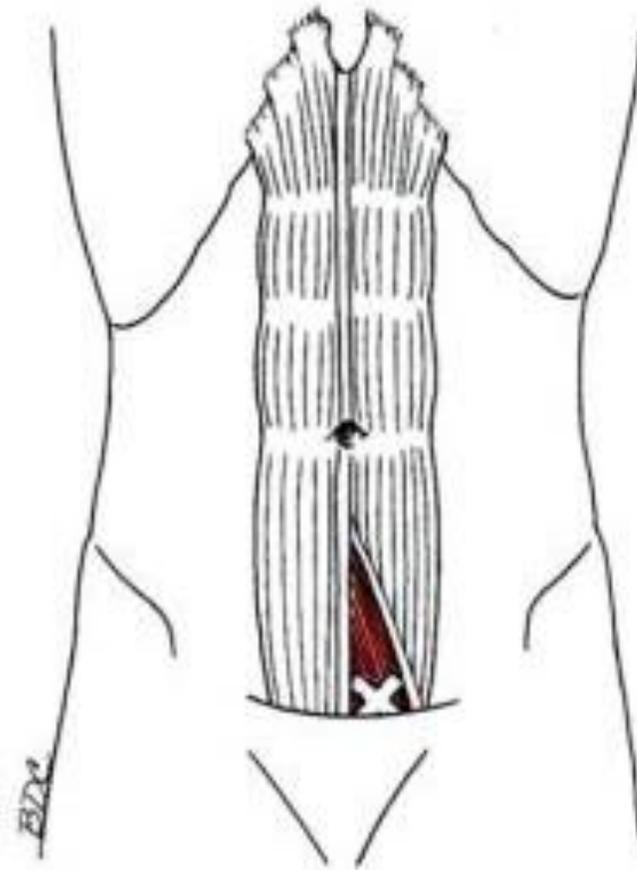
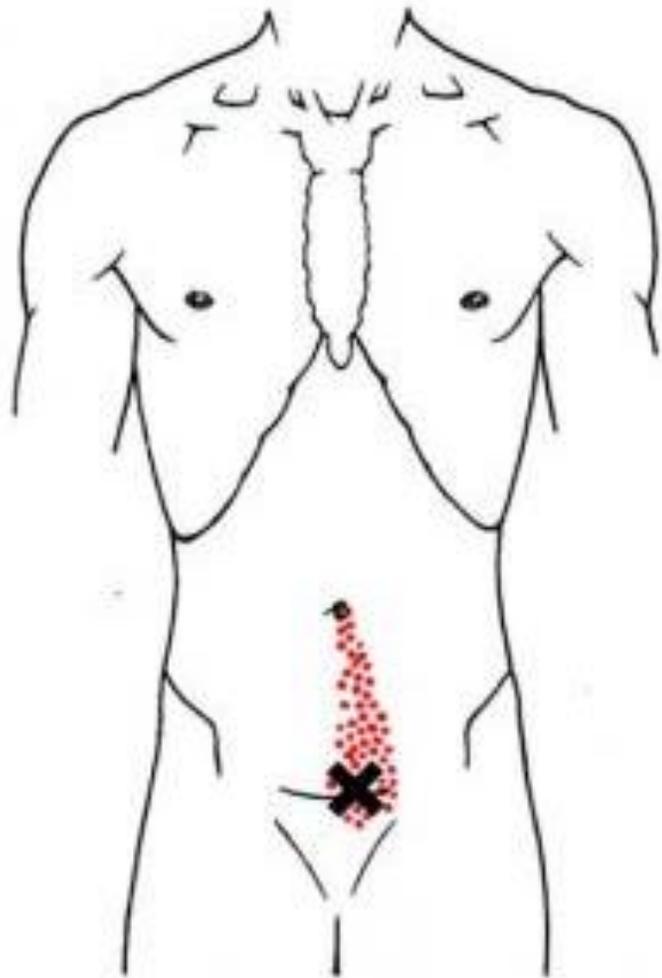
Interesting thought

- There is a strong direct connection between the pyramidalis muscle and adductor longus tendon via the anterior pubic ligament, which introduces the new anatomical concept of the pyramidalis–anterior pubic ligament–adductor longus complex



Linea alba

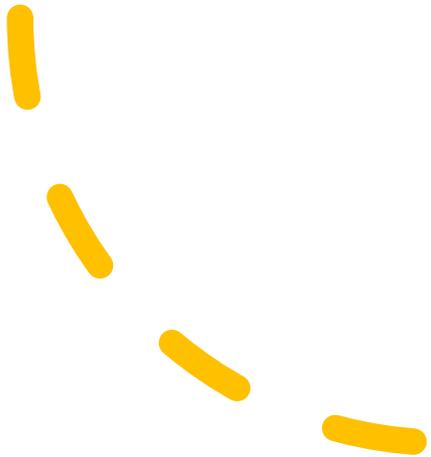
Pyramidalis



Pyramidalis

Rectus Abdominis

- These are unavoidable when dealing with PBS/Urgency and Frequency
- Not the first place I look to treat, but nonetheless you **MUST** needle these.



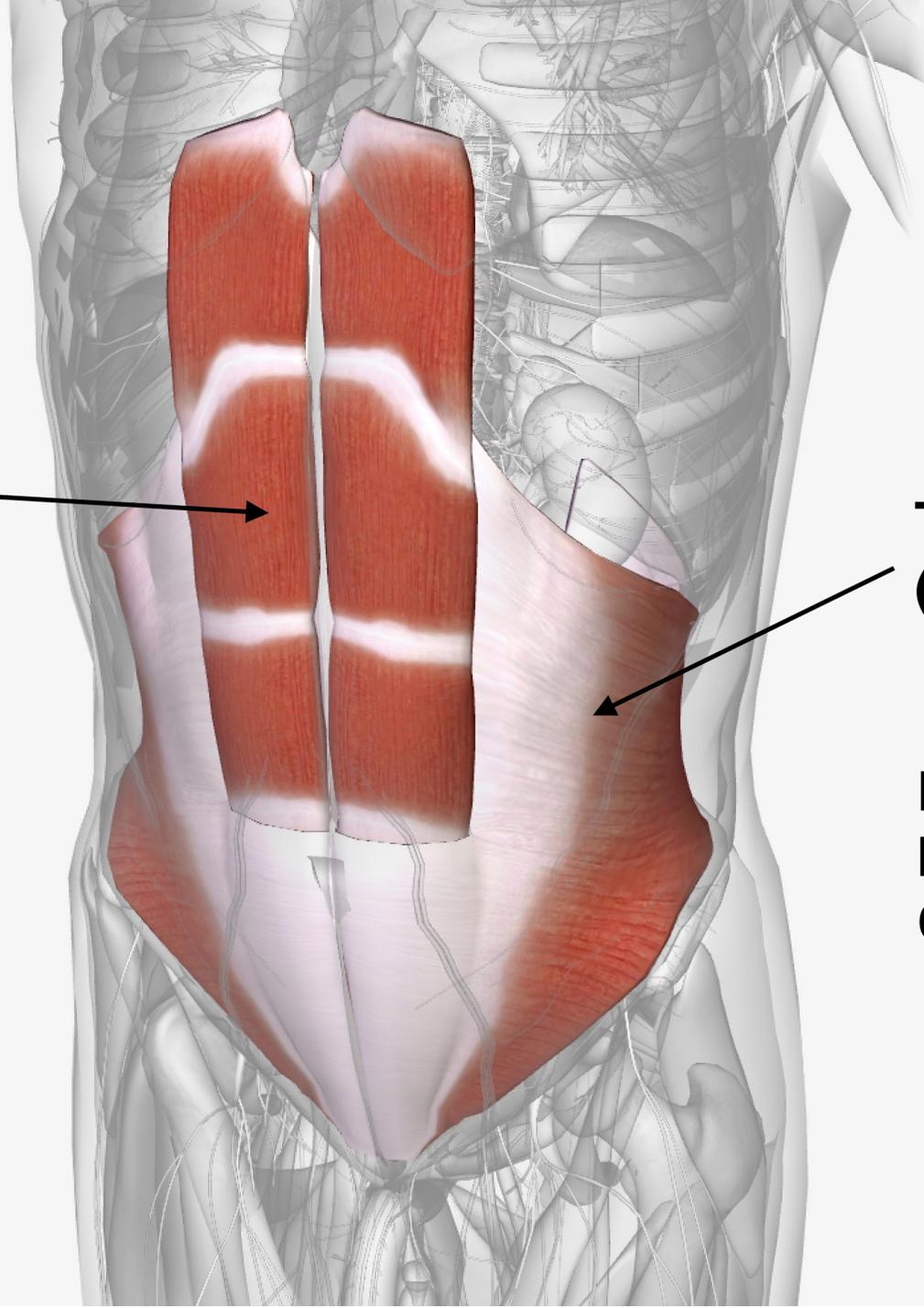
Rectus Abdominis

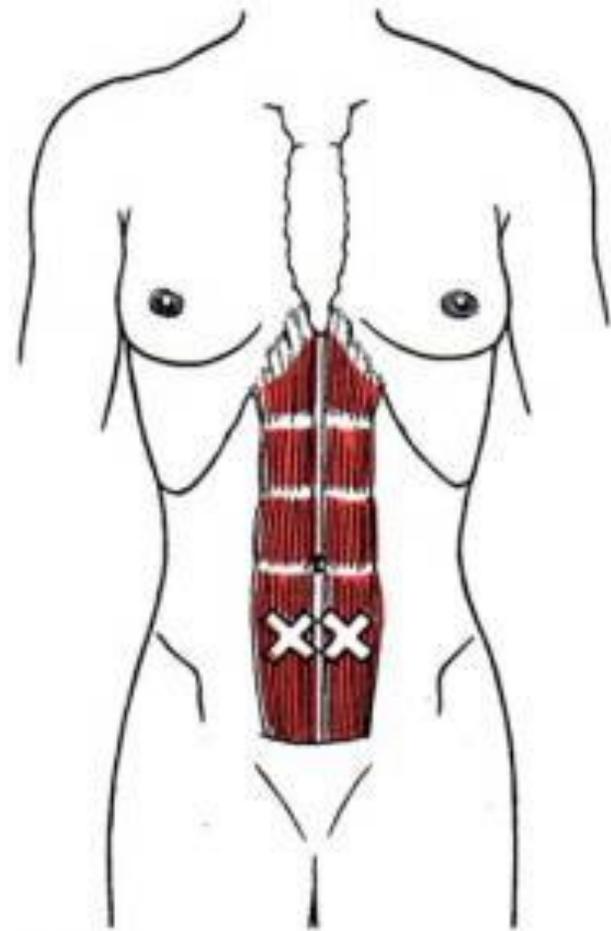
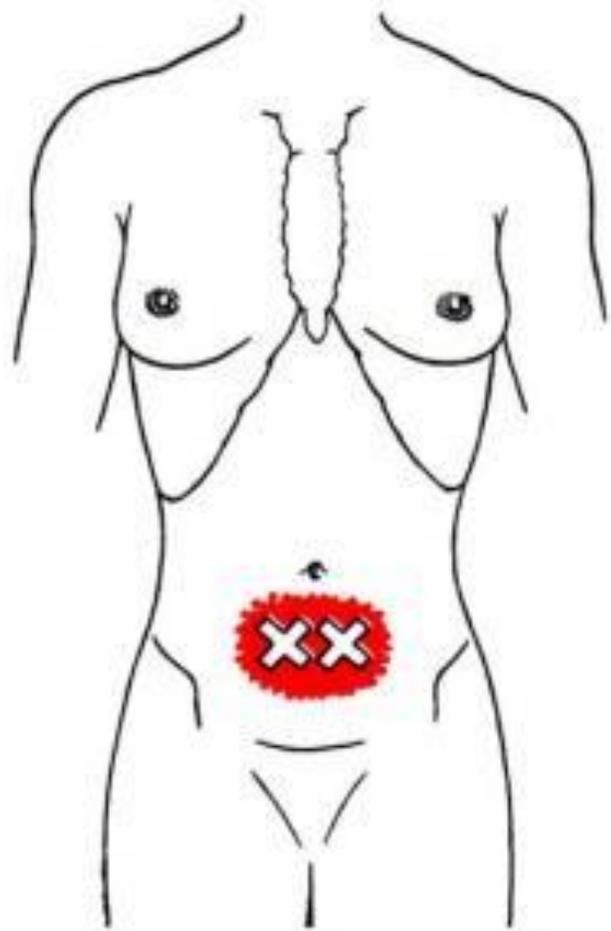


**Transversus Abdominis
(deepest)**



**Not shown: External or
Internal Abdominal
Obliques**





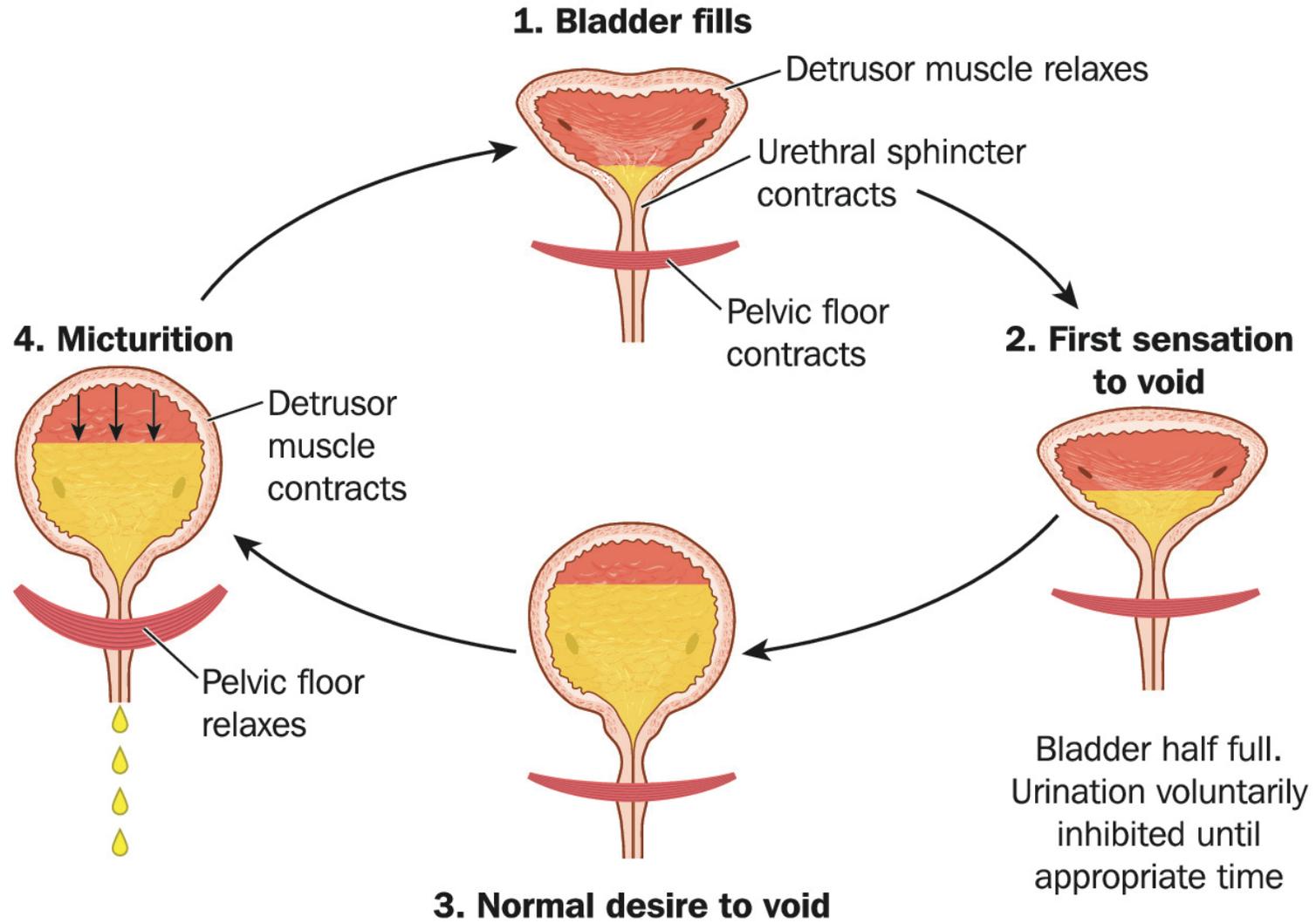
Dysmenorrhea

Rectus Abdominis

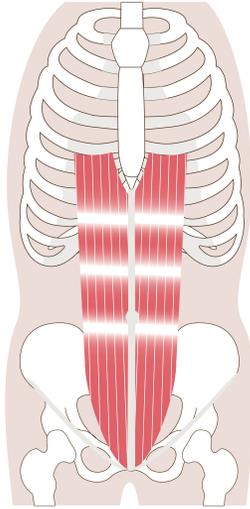
- The Rectus Abdominis makes up the top layer of your abdominal muscles, commonly referred to as your "six-pack."
- It is two flat and parallel muscles separated by linea alba (a connective tissue)
- It acts to flex the spinal column, tense the anterior wall of the [abdomen](#) and assist in compressing the contents of the abdomen.

Rectus Abdominis

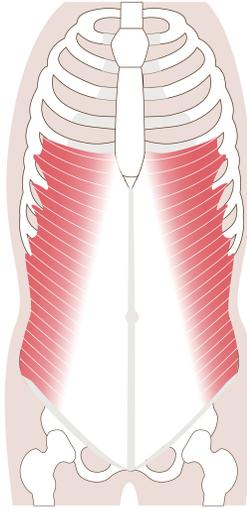
- The [Rectus Sheath](#) is a multilayered aponeurosis, being a durable, resilient, fibrous compartment that contains both the rectus abdominis muscle and the pyramidalis muscle
- Interesting tidbit: Spasms of the DETRUSOR and URINARY SPHINCTER muscles diarrhea and dysmenorrhea



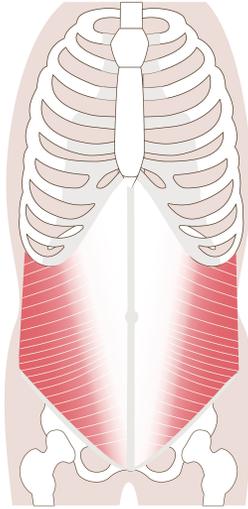
① Rectus Abdominis



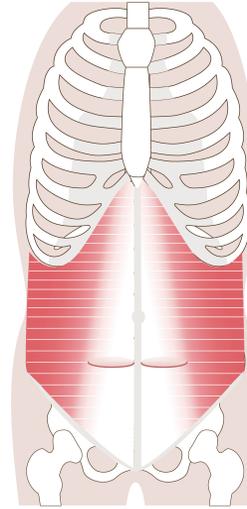
② External Oblique



③ Internal Oblique

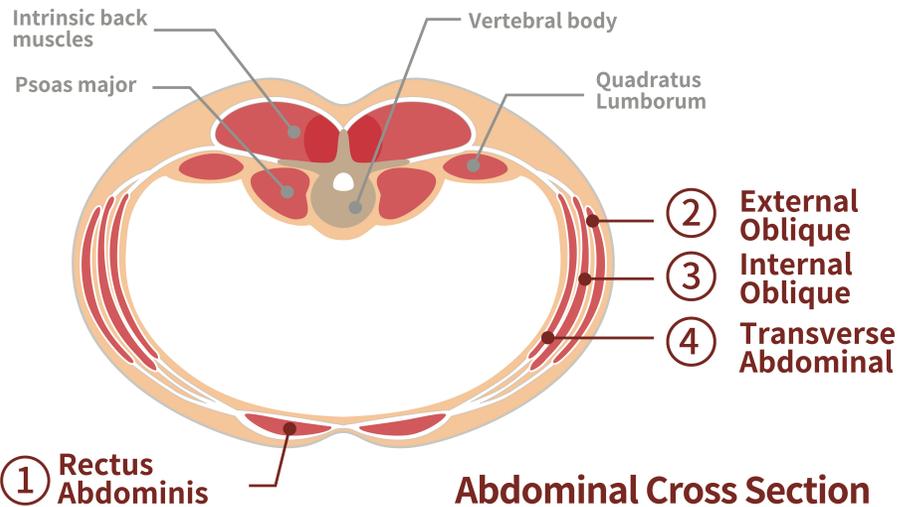


④ Transverse Abdominal



Superficial

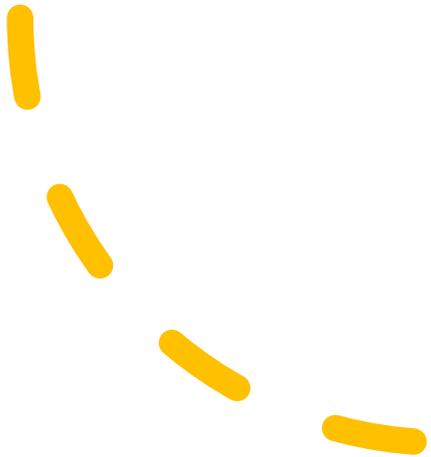
Deep



Rectus Abdominis

Needling:

- Supine position, contralaterally or ipsilateral needling

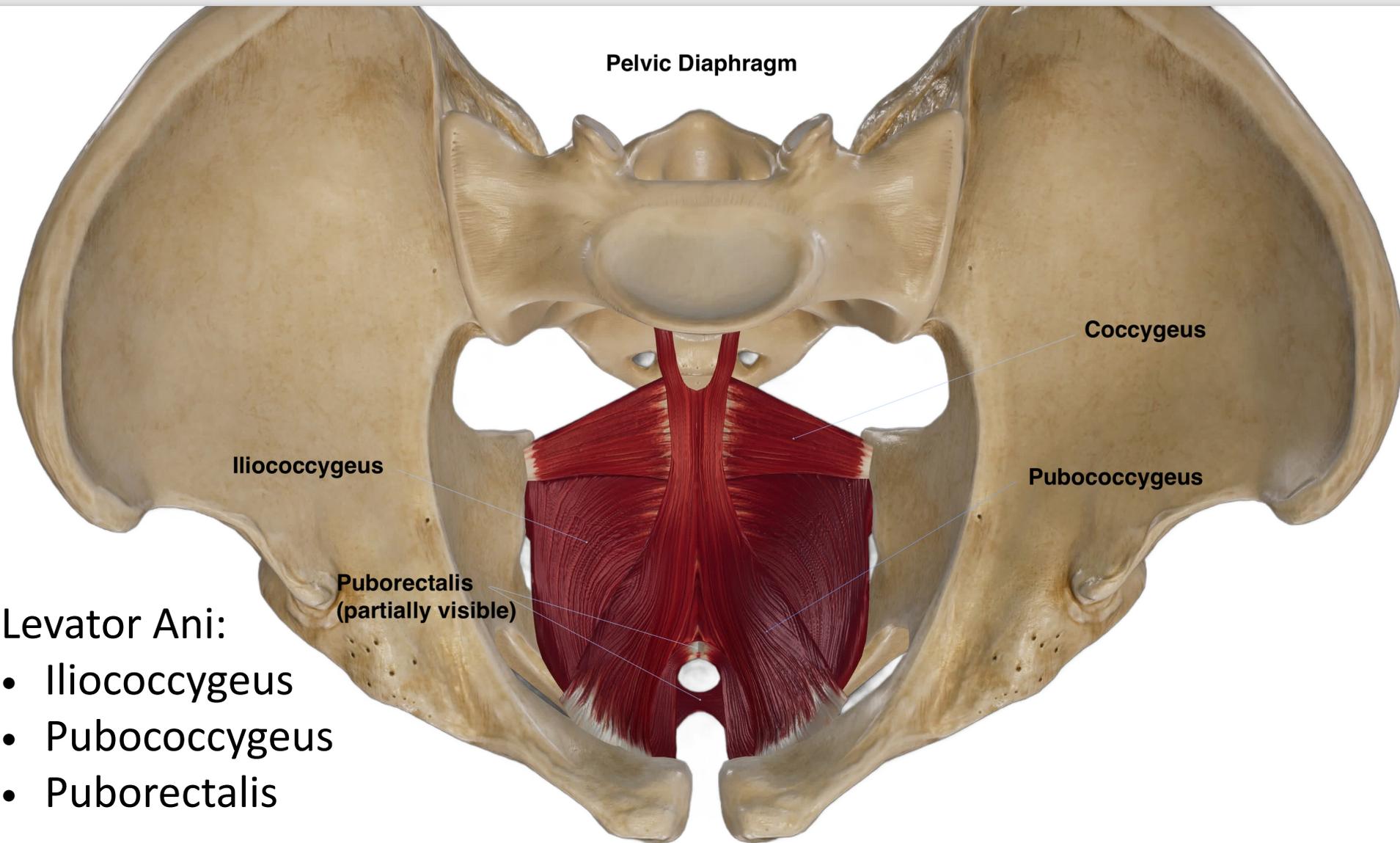


Demo & Hands-on Objectives

- Draping practice
- Locate Pubic Symphysis
- Palpate PS and PRACTICE NEEDLING INTO IT
- Locate URACHUS
- NEEDLE
- Locate Pyramidalis and NEEDLE
- Locate trigger points in ABS

Levator Ani Syndrome

- Sporadic long-term episodes of the pain and spasms in the rectum and anus.
- Pain associated WITHOUT Bowel Movement
- In men: pain may spread to the prostate, testicles, and tip of the penis and urethra.



Levator Ani:

- Iliococcygeus
- Pubococcygeus
- Puborectalis

Levator Ani Syndrome Symptoms

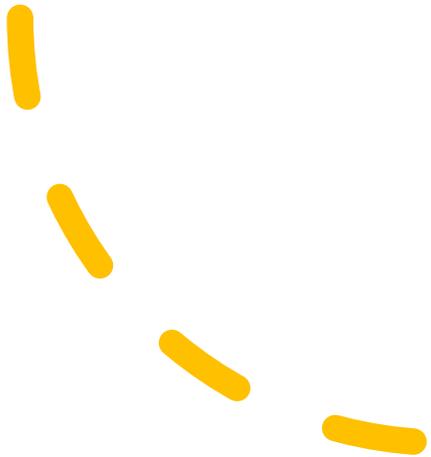
- irregular and spontaneous
- less than 20 minutes in duration
- specific or general
- a dull ache
- a sense of pressure in the rectum
- felt when sitting
- relieved when standing or lying down
- unrelated to bowel movements
- severe enough to interrupt sleep

Levator Ani Syndrome Symptoms

- bloating
- needing to urinate often, urgently, or without being able to start the flow
- bladder pain or pain with urination
- urinary incontinence

Levator Ani Syndrome

- Levator ani syndrome can also cause pain before, during, or after intercourse in women. In men, the condition can cause painful ejaculation, premature ejaculation, or [erectile dysfunction](#).
- Demo

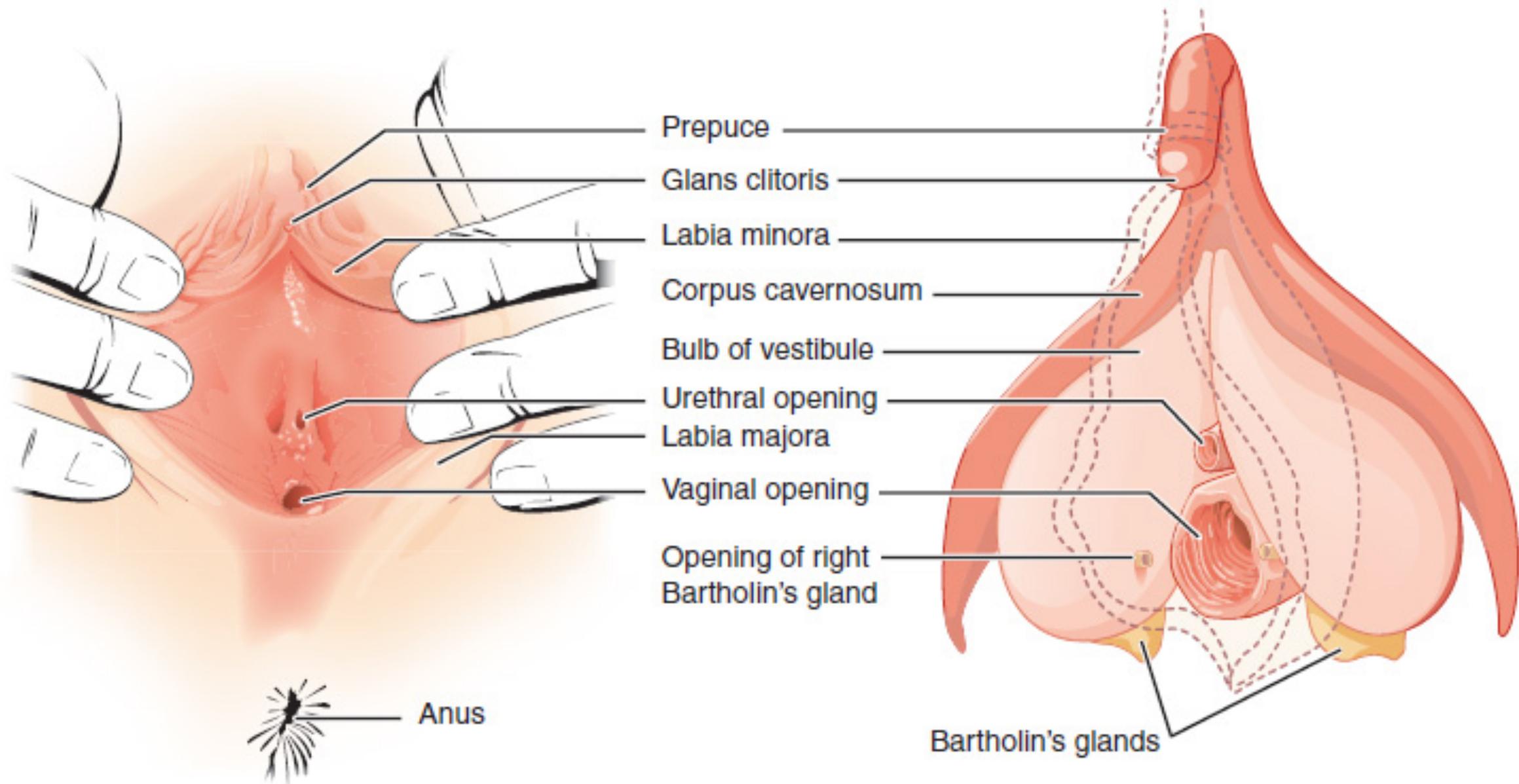


Levator Ani Needling

- Locate and PALPATE
- Anococcygeal ligament
- Coccyx
- Coccygeus
- Perineal Body (REN 1)
- External anal sphincter

Vulvodynia

- Vulvar discomfort occurring in the absence of relevant visible findings or a specific, clinically-identifiable, neurological disorder.
- Most of your patients that come to you with Vulvodynia have been seen by at least 4 medical professionals and will have had a work up to rule out the above.



Vulva: External anterior view

Vulva: Internal anteriolateral view

VULVA

- **Vulva:** the external female genitalia that surround the opening to the [vagina](#)
- Collectively these consist of the: labia majora, the labia minora, clitoris, vestibule of the vagina, bulb of the vestibule, and the glands of Bartholin.
- All of these organs are located in front of the [anus](#) and below the [mons pubis](#) (the pad of [fatty tissue](#) at the forward junction of the pelvic bones).

Common symptoms of Vulvodynia

- Burning
- Stabbing
- Stinging
- Itching
- Allodynia (light touch perceived as pain)
- Hyperalgesia (mildly noxious stimulus perceived as severely noxious)
- Functional limitation (e.g. pain during intercourse, using tampons, sitting)

Vulvodynia Differential Diagnosis: Rule out...

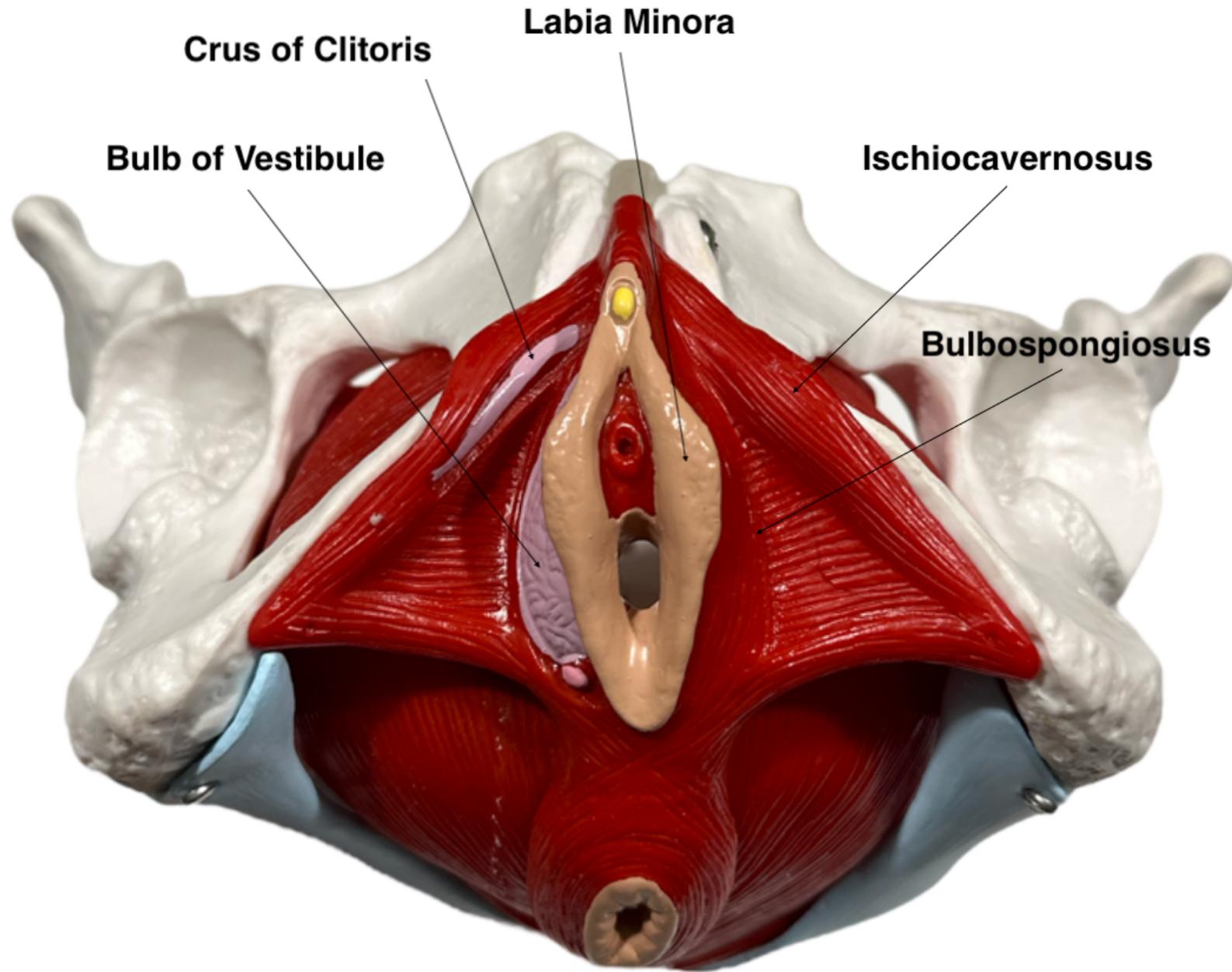
- Dermatological conditions
- Infections (bac/trichomoniasis/viral vaginal etc.)
- Neuropathic viruses/HPV
- Lichens
- Discogenic issues and nerve roots (PN)
- Neurological Disease
- malignancies

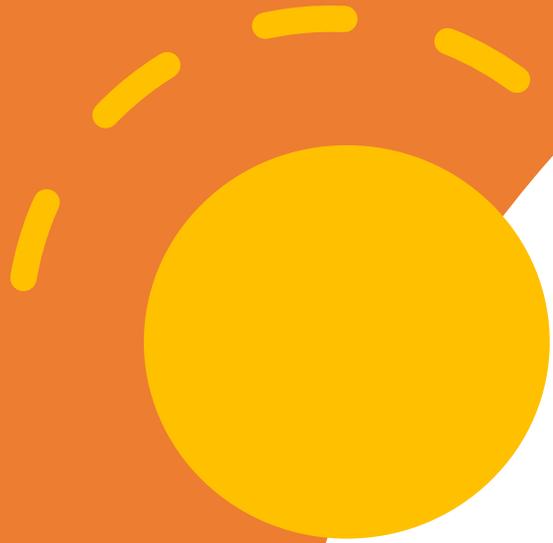
Things to consider

- Here with tolerance we will explore superficial external labial needling IN ADDITION to sacral needling S2-S3, ischial rami, etc.
- Patient will most likely have an extreme sensitivity to even the lightest touch, including using wipes to clean area.
- Get an idea of the “pathway in which they feel the sensation”. And this usually is pretty telling if a nerve is activated.

Labial needling

- In the years I have been treating PF (since 2009) I have never encountered any information on this, so this is based on MY CLINICAL experience.
- We will discuss and demonstrate techniques that I have used including:
 - Parallel Fascial Needling and skin rolling.
 - Patient very rarely tolerates thicker gauge needles here.
 - Adductor indirect involvement as well as fascia along ischial rami.
 - Among other things





Demo & Supervised Practice

Vulva and external labial needling

SCARS

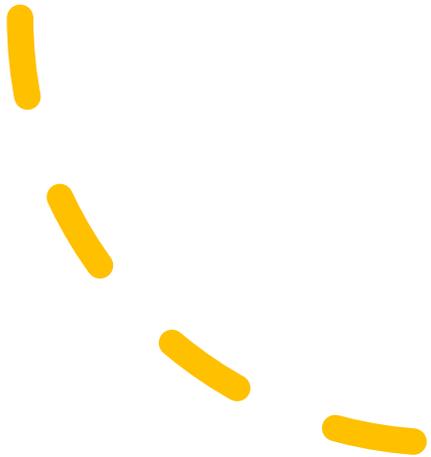
- Superficial (cutaneous) or deep/internal (adhesions)
- Any scar that can be contributing to patient's pain
 - Episiotomy scars
 - Surgical scars (cesarean, radical prostatectomies, fissures, hemorrhoids etc.)
 - Elective surgeries (labial revisions, gender reassignment surgeries, etc.)

Scars

- Scars are the normal and unavoidable outcomes of tissue healing where the fibrous tissue replaces normal tissue as a part of the remodeling phase of wound healing.
- The collagen synthesized initially is random and constituting bulky fibers, which eventually remodels along the lines of tension. As this normal process occurs there is a risk of adhesions in the adjacent tissues.
- Eventually, these collagen fibers are replaced with stronger and more organized collagen, representing a smoother and flat scar which is paler in appearance.

Hypertrophic Scars

- Prolonged inflammation causes excessive collagen deposition with an increased adhesiveness and contractility of the scar. The resulting scar is red, vascular, immobile and raised. This can adversely affect range of motion and cause functional limitations when present around a joint.



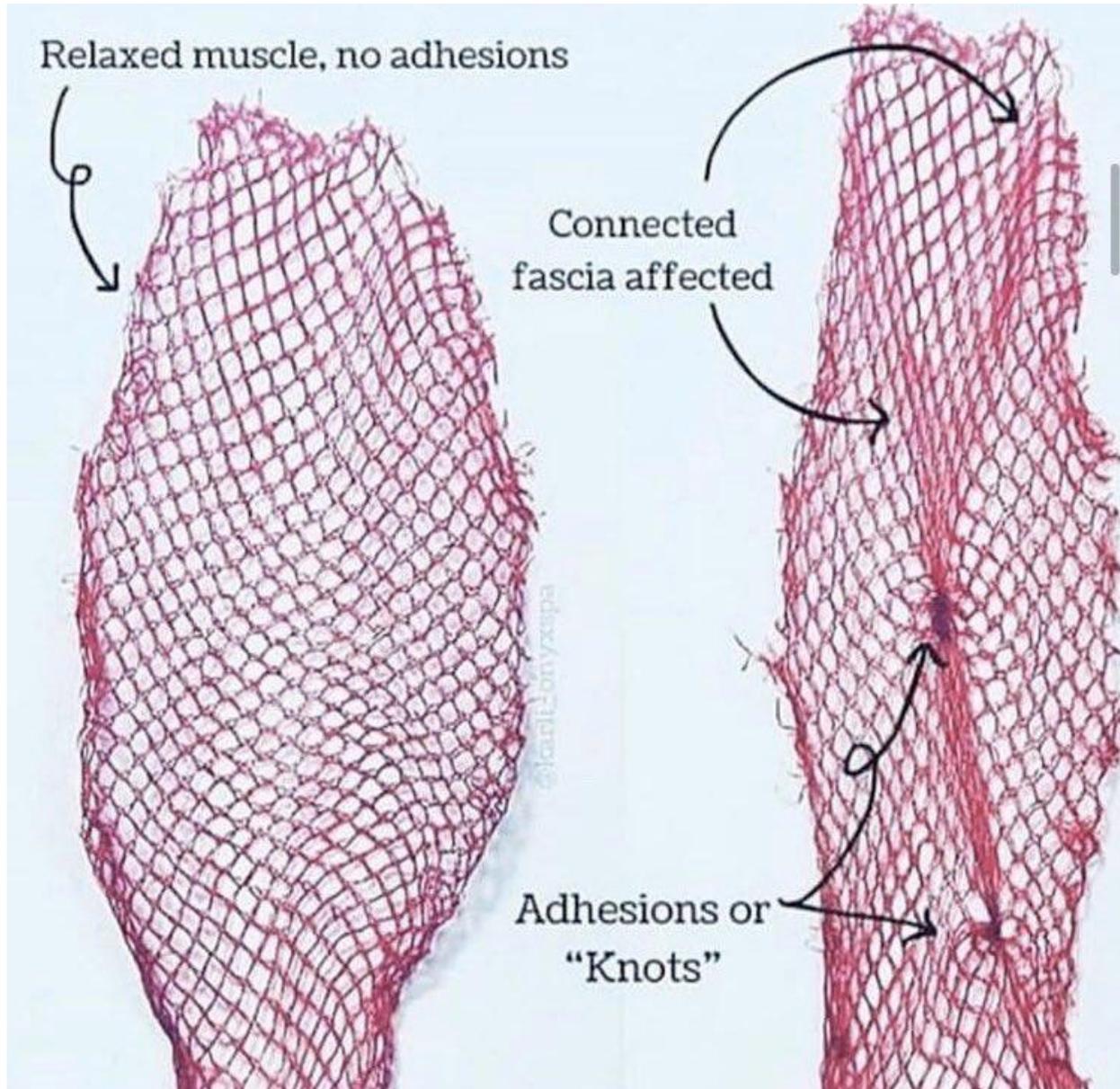
Scars

- Direct stressor to the Autonomic Nervous System
- About 80% of the fibers of the sympathetic nervous system go to the layers of the skin. There is a coordinated flow of electrical nerve energy along the surface of the body via the peripheral sympathetic fibers of the skin. Scars are considered to be a major stressor to the body because of their effect upon the energy flow through these peripheral nerve fibers and upon acupuncture meridians

Fascia

- Healthy





Fascia

- Scar

Scars

- I actually love treating scars. Over the years we are taught SO MANY different approaches:
 - Surround the dragon, subcutaneous needling, moxa etc.
- I have found (make sure the patient is NOT PRONE TO KELOIDS) that the best plan for scar therapy is direct and aggressive to loosen the fibrous attachments to their underlying structures

Scars

- The scar tissue must be palpated on all planes. Feeling with your sensitive palpating hand, find the area of LEAST movement and with pressure feel depth of the scar tissue.
- You most likely will need a thicker needle gauger here as well, so be aware of the area in which you will be needling.
- i.e. Episiotomy scars

Needling Scars

- Assess the location of the scar to be needled, and how it interacts with the surrounding tissue. Ask your patient if they feel better or worse when you are moving it around.
- Needle gauge dependent on location.
- Needle directly under (threading) directly in to “stuck” and “tacked down” regions
- Needle surrounding tissue as well to provide perfusion of intercellular fluids to help lubricate and move out cytokines and bring oxygenation to the tissue in order to aide in healing and movement

Scars Needling continued...

- Sometimes when using a thicker gauge needle you will hear and feel popping and cracking sensation on the needle. This is you physically changes the scar.
- Inform the patient they will be tender in the area, and if they are comfortable with you needling the scar.
- You do need to be a bit more aggressive with your needling technique here.

Practice Objectives

- Locate scar tissue, and sit with it for a moment or two while asking your patients questions about the injury. You can feel the different planes here and depths
- Clean the area (if this is an episiotomy scar use gentle sensitive skin wipes)
- Needle the POLES (entry and exits of the scar if it is linear) if it is a Laparoscopy scar work the perimeter as well as the nucleus. Pick the scar up and roll it between your fingers. Does it change colors? Does it cause pain? How does it respond to the surrounding tissue/movement/restrictions?



Q&A

Thank you ALL SO MUCH!

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