



THE UNIVERSITY OF
TENNESSEE
HEALTH SCIENCE CENTER.

COMMON PAIN PROBLEMS IN PREGNANCY

S. Rauls, MD, FACOG

DISCLOSURE



No financial conflicts

GOALS

Common OB Triage/Clinic
Pain as Chief Complaint
Non-Labor/Non-Emergent

Diagnosis
New Approaches/Best Treatment
Fetal Safety
Maternal Satisfaction

Clinically Oriented

Lower Extremity
↓
Abdomen
Back
Head
Neck



6 REASONS I DON'T OCEAN SWIM



#1 Indecent Exposure

LOWER EXTREMITY

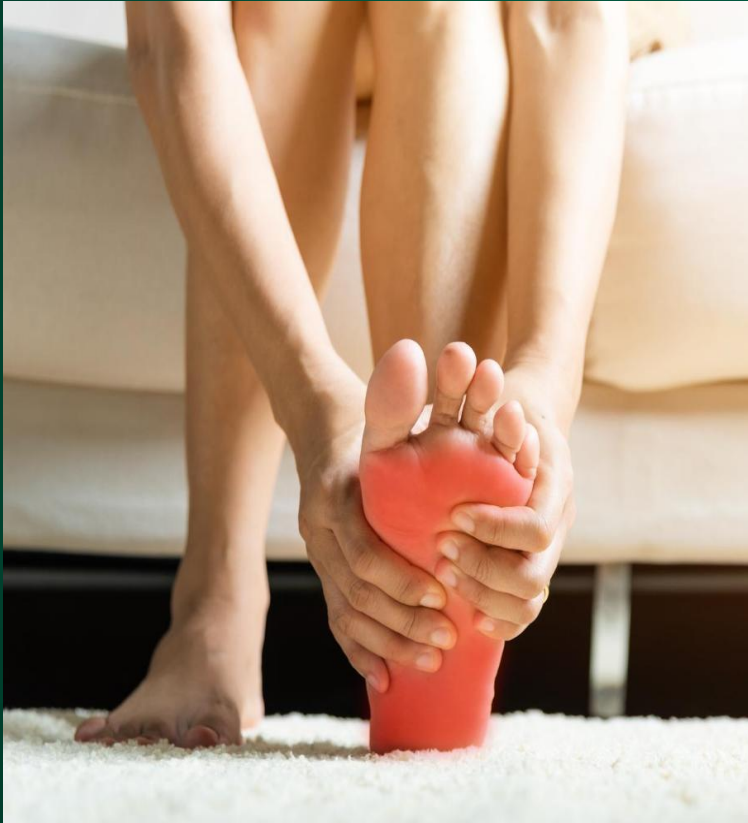
1. FOOT & LEG PAIN
2. PIRIFORMIS SYNDROME

LOWER EXTREMITY 1- SYMPTOMS

Sharp heel & arch pain
Worse in AM

Dull throb, Aching

Muscle Cramp



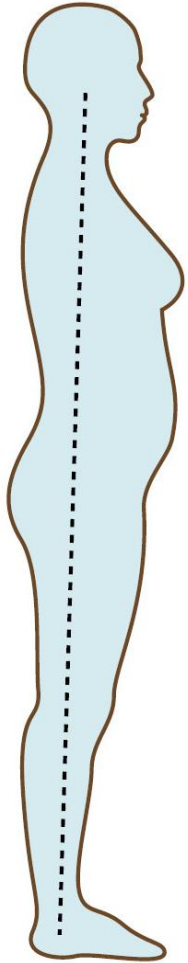
PLANTAR FASCIITIS

LEG ACHE

GASTROC & HAMSTRINGS

lower extremity – PATHOPHYSIOLOGY

Normal



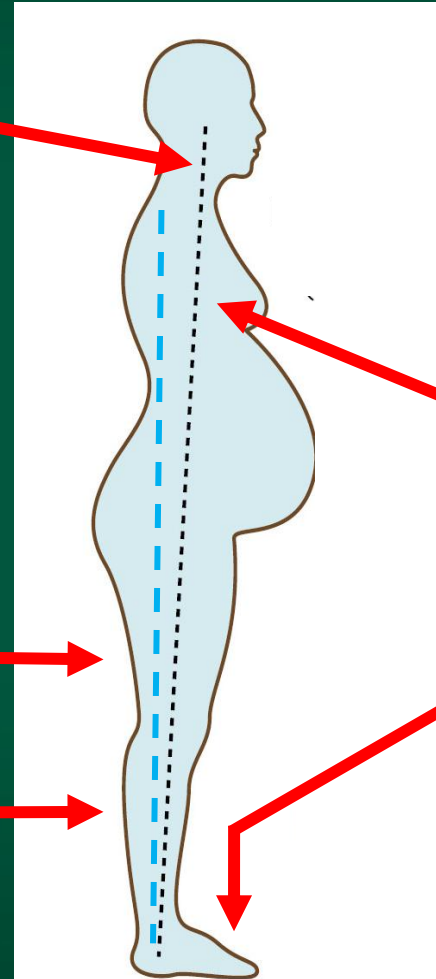
Normal centre of gravity

Pregnancy changes

Uterine wt. pushes COG Forward

Hamstrings assist

Gastroc "Tetany"



Centre of gravity shifts forward

Muscular effort (**plantar flexion**) tries to restore COG

lower extremity 1 - TREATMENT

Lifestyle Mods

Interrupted Activity
Rest
Muscle Stretches

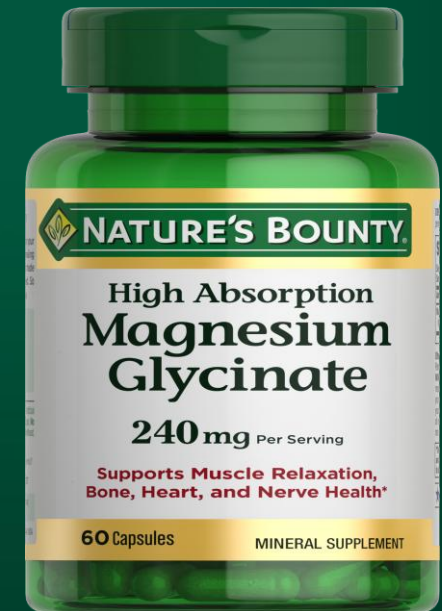
Orthotics

Shoe insert

Medical Therapy

Ca/K not causative*
no benefit*

Mg Helpful – not oxide
Bis/Glycinate (240 mg/d)



Foot Dorsiflexion

Gel Shoe Inserts

Lower extremity 1 - TREATMENT SUMMARY

TREATMENT 3

Physical Therapy
Podiatric Referral

TREATMENT 2

Mg Glycinate
Muscle stretches
Intermittent Rest

TREATMENT 1

Heel Cup*
Education

LOWER EXTREMITY 2 – SYMPTOMS

Sx:

Sharp Buttock pain

Radiates down posterior thigh

Worse: prolonged sitting, stairs, walking

Better: no response to Tylenol, heat



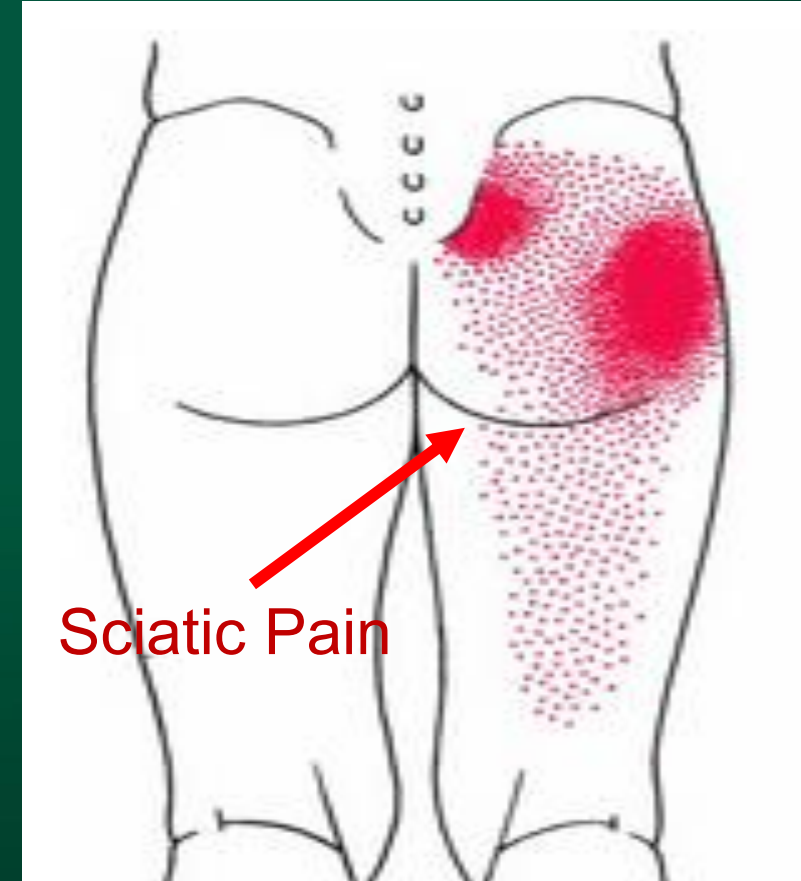
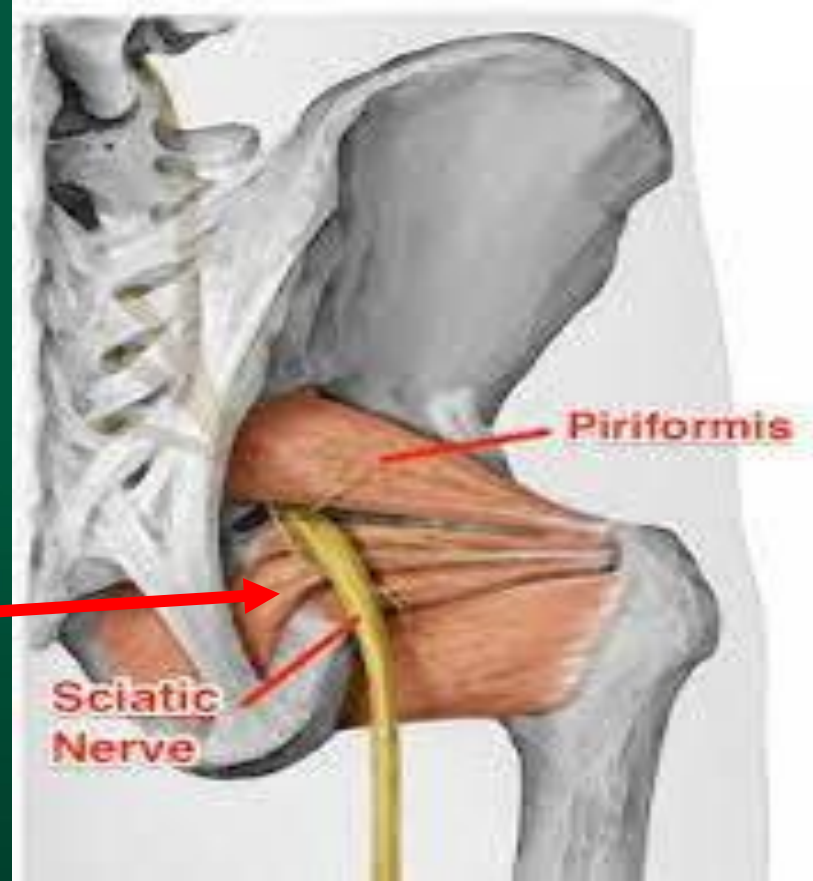
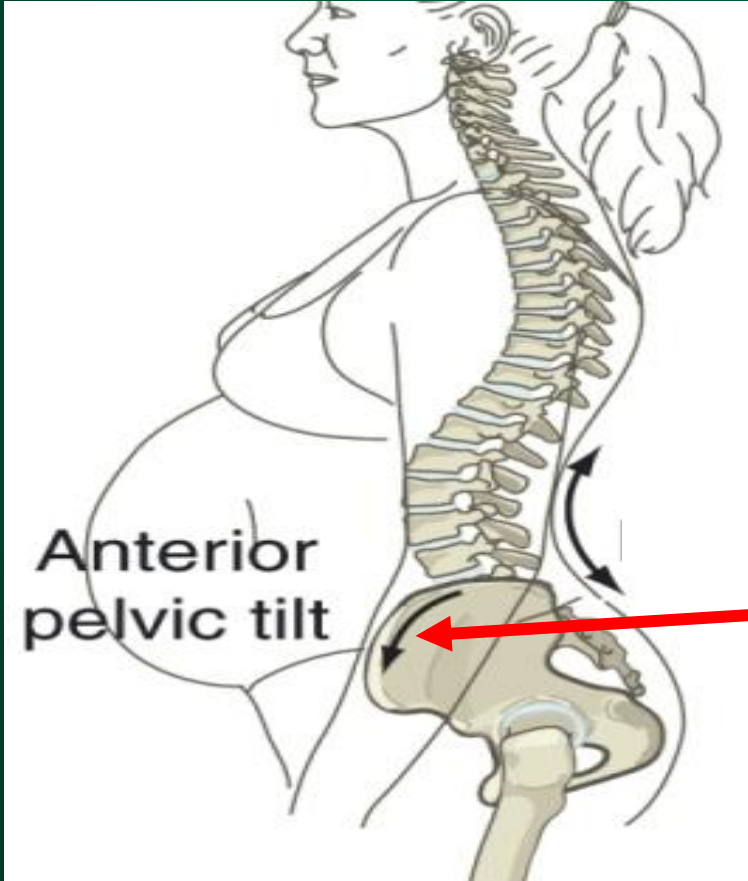
LE 2 – Piriformis Syndrome - PATHOPHYSIOLOGY

PIRIFORMIS SYNDROME

Sciatic Nerve Compression from the piriformis muscle

Cause:

Pelvic Tilt increases muscle tension that entraps Sciatic nerve passing through muscle.



LE 2 – DIAGNOSIS

Clinical Dx

PE: Resisted Thigh Abduction
(many variations) reproduces pain



LE 2 – PS - TREATMENT

TREATMENT:

Hard to Treat

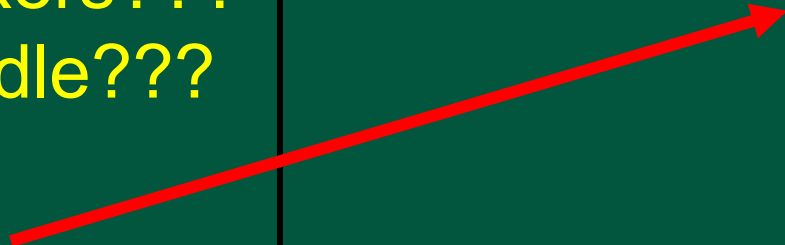
No "Pearls"

Muscle Relaxers???

Maternity Girdle???

PT Referral

Botox Injection



Mimics SIJ pain which DOES have provider treatment



6 REASONS I DON'T OCEAN SWIM



#2 Position in the Food Chain

ABDOMINAL PAIN

1. ACNES
2. HYPOGASTRIC NEURITIS
3. INTERCOSTAL NEURITIS

Very Common

All are Neuropathic pains

Commonly misdiagnosed as RLP

Abdominal pain 1 – SYMPTOMS

Sx:

Site: Most Often RMQ (Right/TA11)
Medial, to the Lat Rectus Border
Char: Focal, Sharp
Agg/Allev: Worse with motion; Rest?
Timing: Any but inc. with GA

Neg:

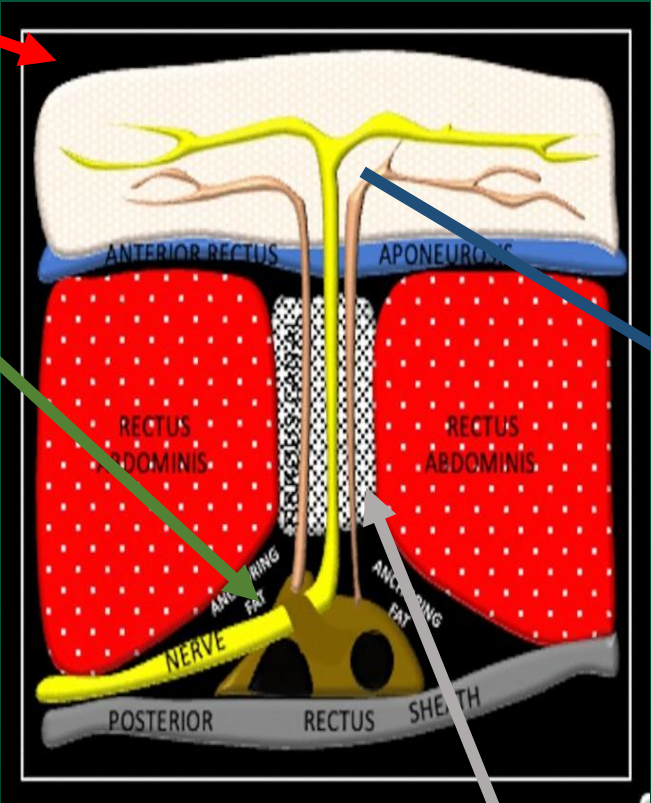
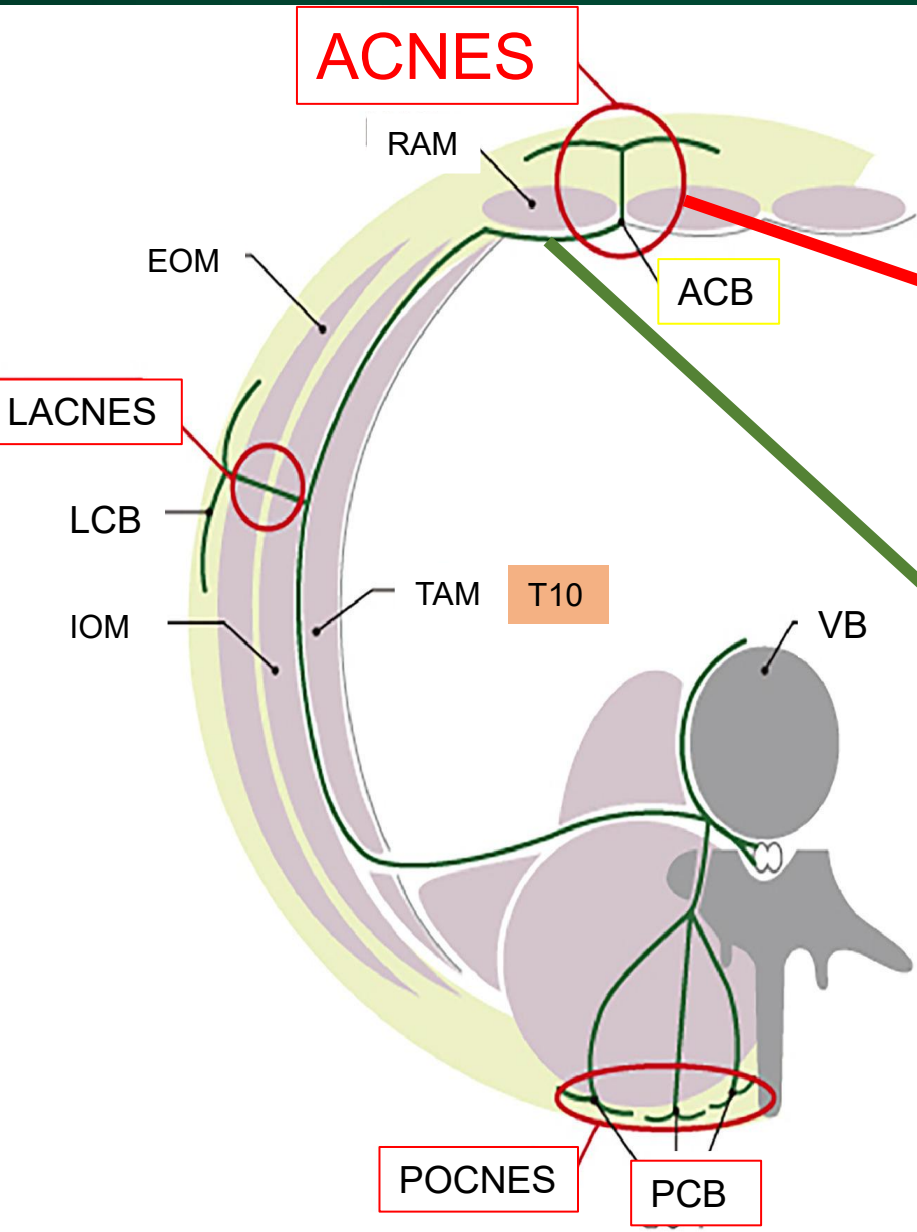
Afebrile
Neg GI/GU/GYN

ACNES : Anterior Cutaneous Nerve Entrapment Syndrome
Aka PRAWN: Pregnancy Related Abdominal Wall Neuropathy

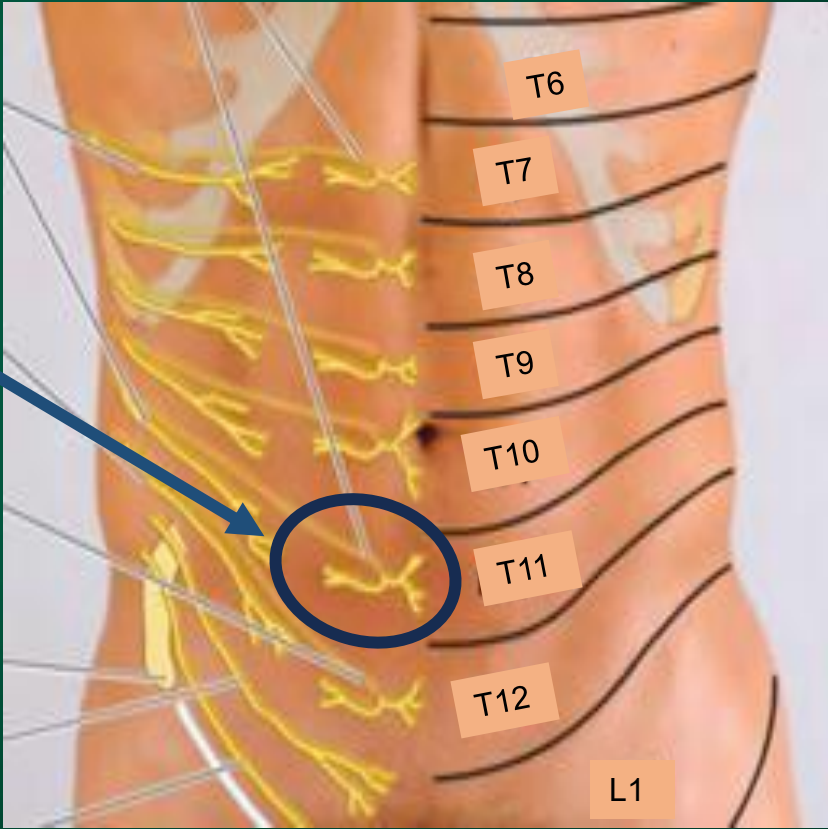
Nerve pain from the stretched abdominal wall causing localized sharp/burning/tingling (somatic) pain. Often Misdiagnosed as RLP



Abdomen 1 – ACNES - Pathophysiology

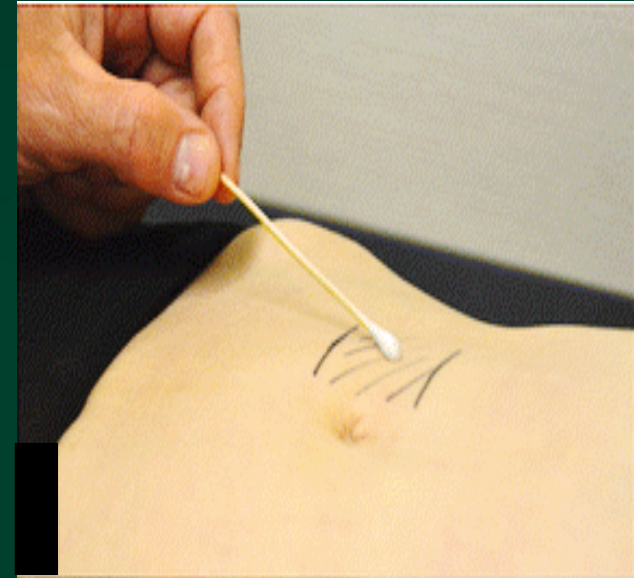


Fibrous Tunnel

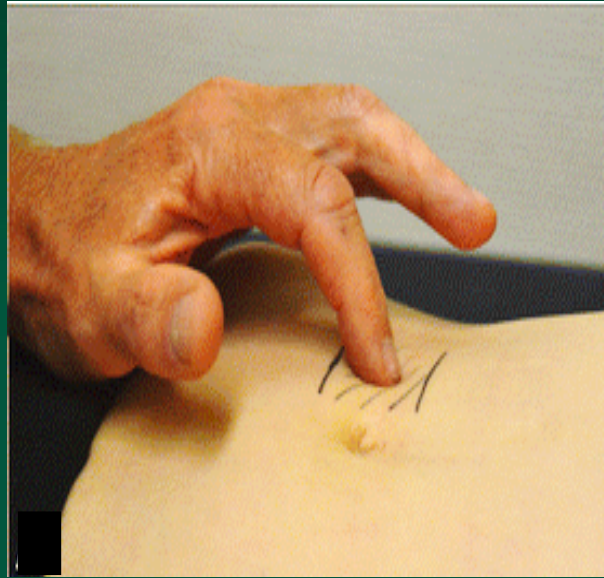


Right TA 11

abdomen 1 – ACNES - DIAGNOSIS



Swab Test:
Focal, "Quarter sized"
Sharp, Stabbing, Burning
Corresponds to ACB of TA
Usually Right T11



Carnette's Test:
Pos: Inc/same pain w
tensing of abd . muscles
= Abd not Visceral Pain



Pinch Test:
Pain > over other areas



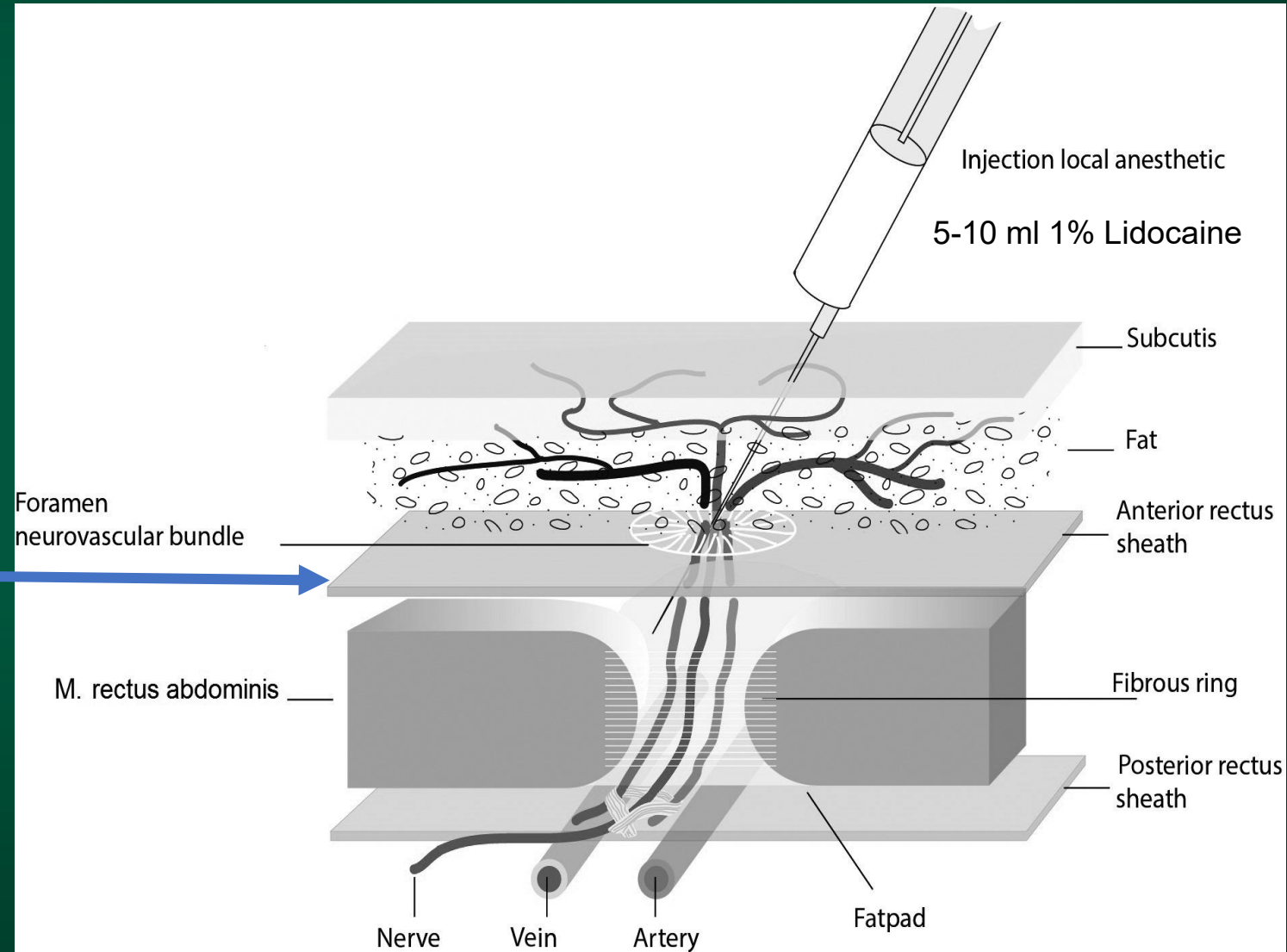
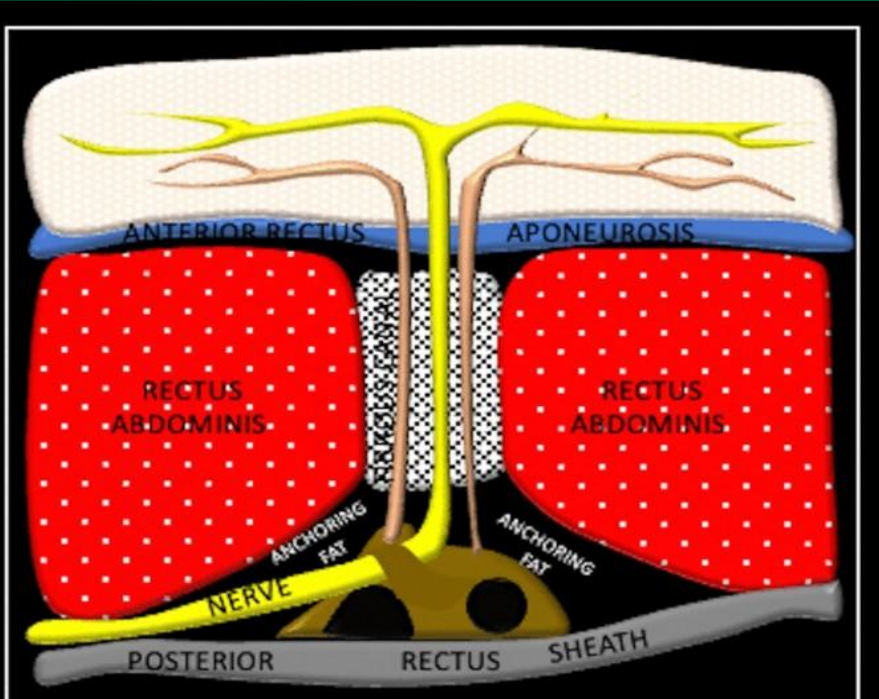
Temp Test:
Dec sensation to cold
(Alcohol pad)

Other:
No Rebound
No UC
No GI/Systemic Sx
Clinical Dx: No Lab/Imaging

abdomen 1 – ACNES - TREATMENT

NERVE BLOCK

Analgesics ?
Maternity Garment ?
Physical Therapy ?



abdomen – acnes – TREATMENT SUMMARY

TREATMENT 3

PT - Neuropathic pain

TREATMENT 2

*Nerve Block *
Simple/effective
Pain may recur

TREATMENT 1

Avoid Common (physical) Triggers
Trial Support Garments ?
Tylenol?

EDUCATION

Inadequately controlled
Benign Nature
Physiologic Explanation

Abdomen 2 – Symptoms

Sx: Pain

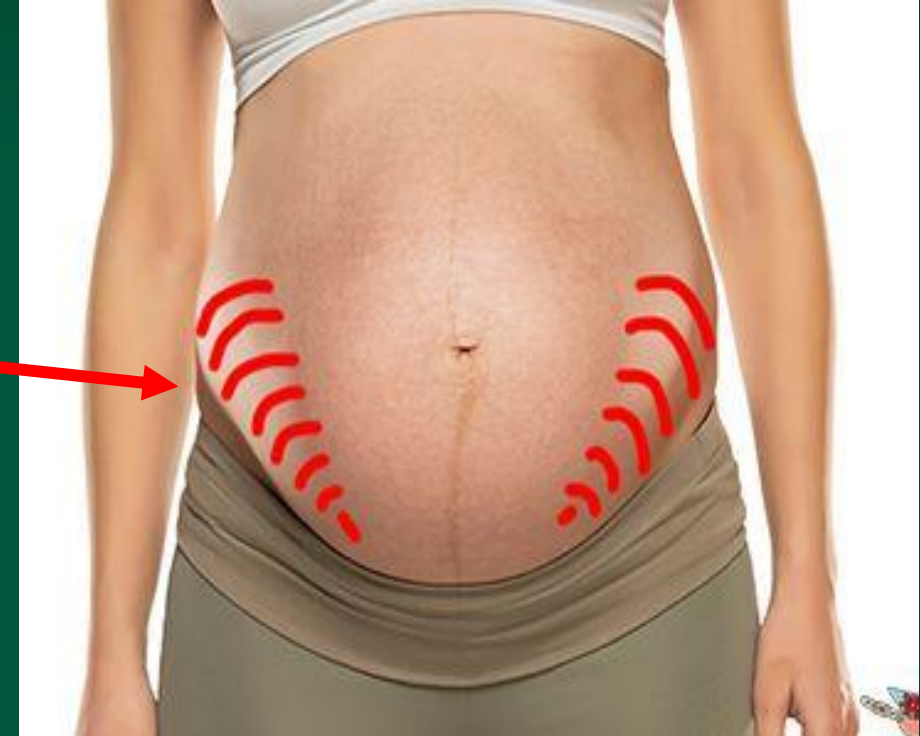
Site: Right > Left > Bilateral LQ

Char: Sharp, Stabbing, burning (somatic)

Agg/Allev: Worse with motion / Rest?

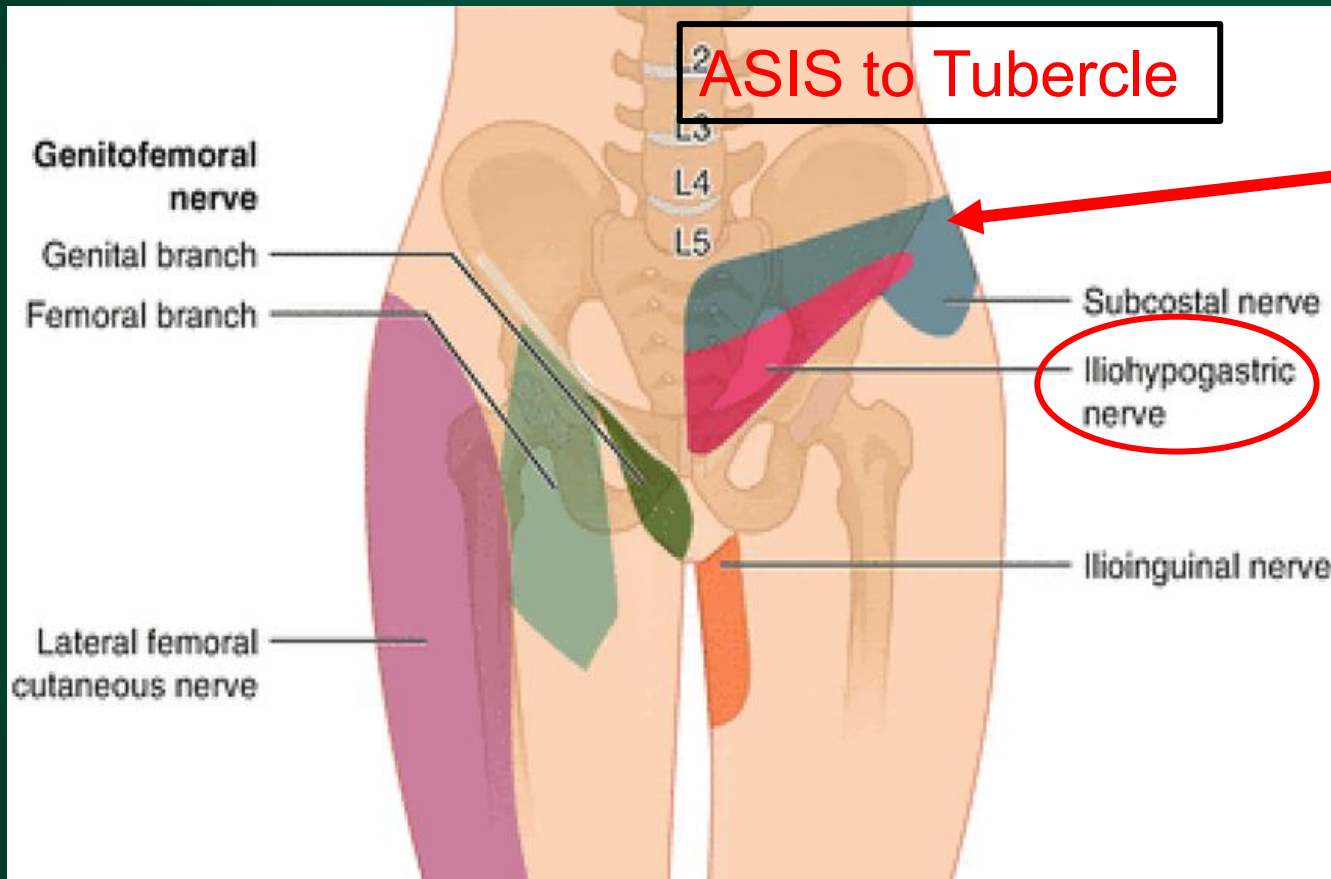
Timing: Intermittant to constant

Severity: varies



Abdomen 2 – DIAGNOSIS

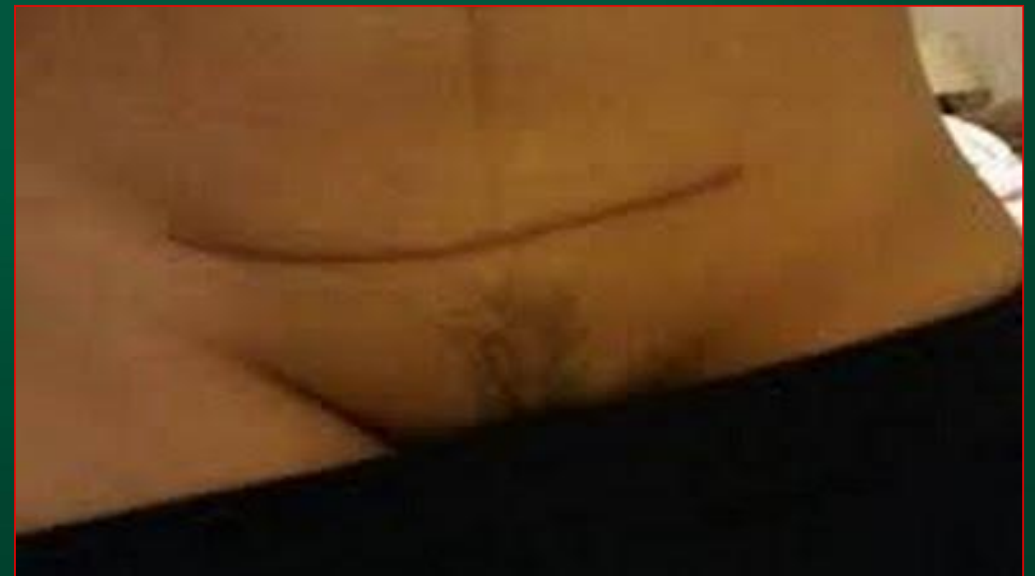
HYPOGASTRIC NEURITIS



PE:

- TTP in IH distribution
- No Rebound
- No UC
- More common w Pfannenstiel, Pannus

Clinical Diagnosis
Lab/Imaging: not needed/wnl



Abdomen 2 – IHN - TREATMENT

Limited Response to:
Analgesics
Maternity Garment
PT



Gabapentin
(variable response)



Nerve Block is diagnostic
Responsive to TAP Block
(may recur)



abdomen 2 – IH nerve – TREATMENT SUMMARY

TREATMENT 3

Tap Block

TREATMENT 2

Gabapentin

TREATMENT 1

Avoid Common Triggers
Trial Support Garment
Tylenol?

EDUCATION

Inadequately controlled
Physiologic Explanation
Benign Nature

Abdomen 3 – SYMPTOMS

Sx: Pain

Site: RUQ >>> LUQ

Char: Sharp/burning

Afebrile, VS wnl

No anorexia/nausea/vomiting

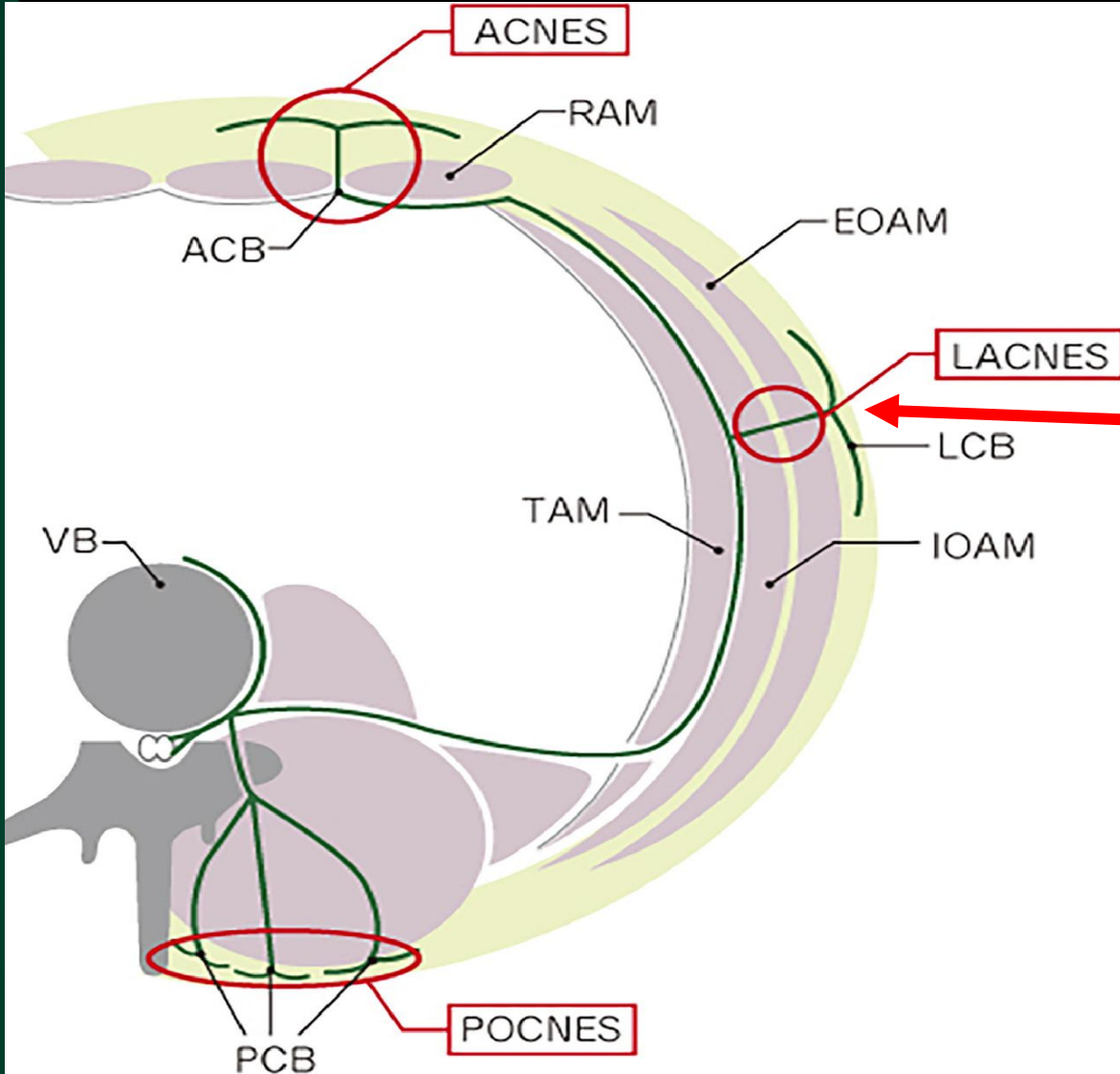
Pain not meal related

Agg/Allev: Worse with motion; Rest?

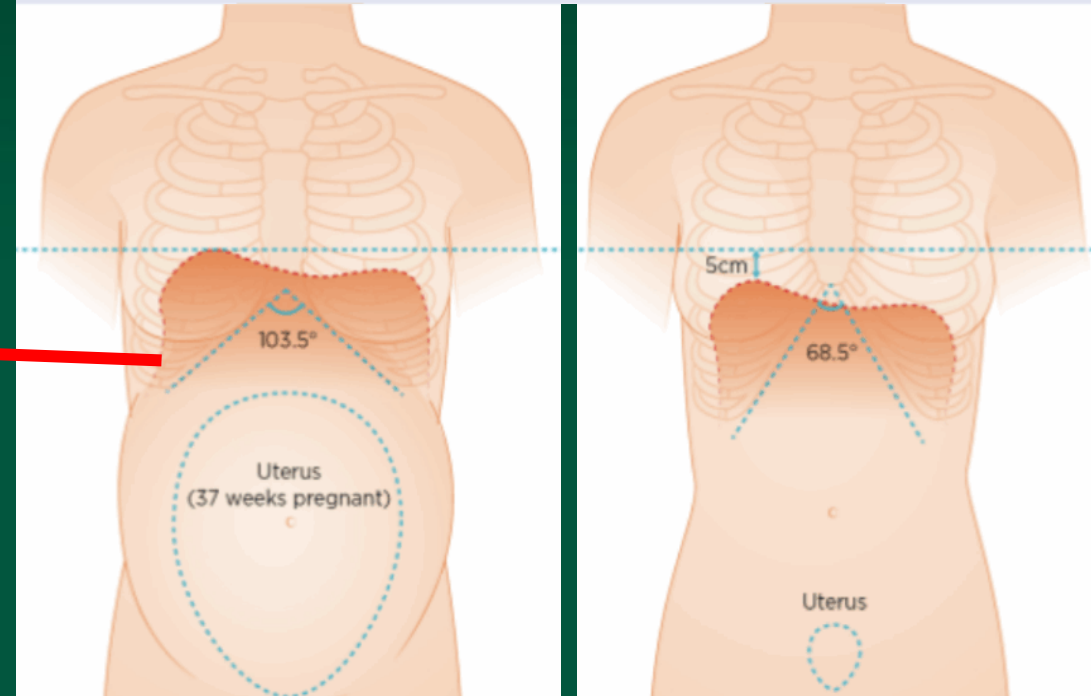
No Hx of prior similar pain



Abdomen 3 - ICN - PATHOPHYSIOLOGY



Changes to the thoracic wall and ribcage expansion during pregnancy



INTERCOSTAL NEURITIS: (thoraconeuralgia gravidarum)

Neuropathic pain produced by compression of the Lat. Cutaneous Branch of TA nerve from chest compression of the enlarging uterus AKA "LACNES"

Abdominal cavity enlarges and presses upward against the chest, ribs

Almost always Right T7,8,and/or 9
Confused with Cholelithiasis/cystitis

Abdomen 3 – ICN - DIAGNOSIS

Clinical & Imaging

PE:

Afebrile, B/p wnl

TTP RUQ

Pain in distrib of LCB TA 7-9

"Pos Murphy's" Sign

LAB: CBC, CMP, LFT, Bilirubin wnl
UA wnl

Imaging:

US RUQ: "Neg" for Cholelithiasis /cystitis



Almost always Right T7,8,and/or 9
Confused with Cholelithiasis/cystitis

ABDOMEN - ICN - TREATMENT

MEDICAL:

Tylenol
Gabapentin



SURGICAL: ICN Block
Persistent, severe cases



Gabapentin

Capsules USP 300 mg

300 mg

Oral Use

100 Capsules

Gabapentin response:
Usually Excellent

abdomen – TREATMENT

INTERCOSTAL NEURITIS

TREATMENT 2

Nerve Block
(rare)

TREATMENT 1

Capsaicin cream
* Gabapentin *
Tylenol

EDUCATION

Benign Nature
Physiologic Explanation

6 REASONS I DON'T OCEAN SWIM



#3 Red is not my color

BACK

Many Back problems
2 Very common
Often misdiagnosed/mistreated
Treatment simple and effective

1. Quadratus Lumborum Trigger Point
2. Sacroiliac Joint Pain



back 1 – SYMPTOMS

Hx:

"CVA" pain

Mostly Left sided

Afebrile

Absent Urinary Sx



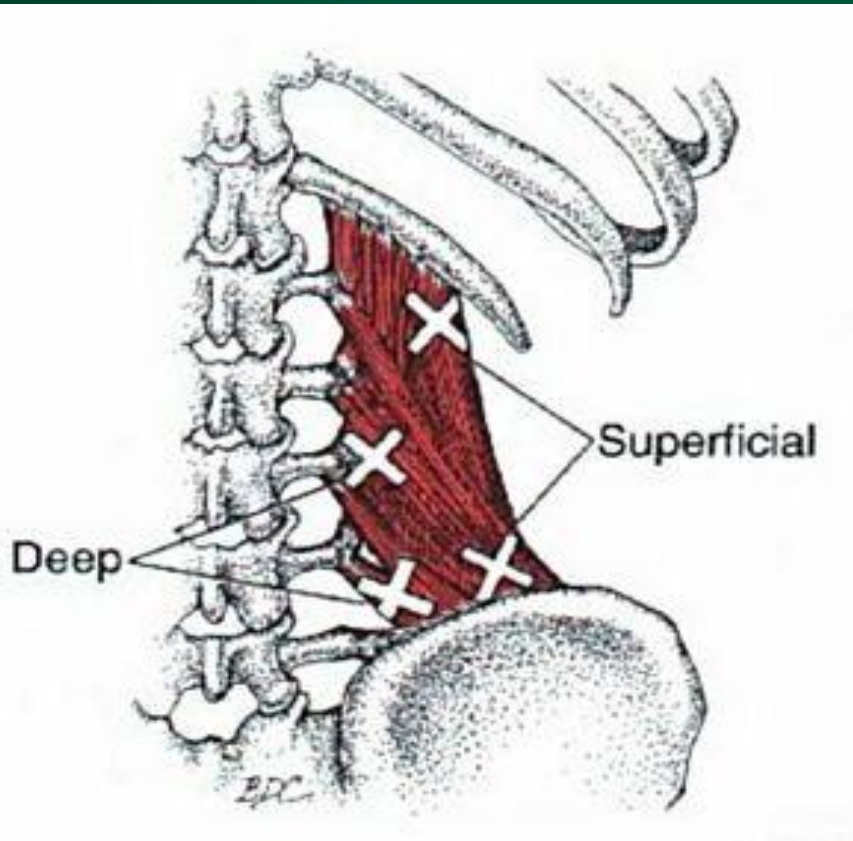
back 1 – DIAGNOSIS

PE:

"CVA" Pain (marked)
Palpable Trigger Point(s)
Taut Muscle Band

Lab:

Neg UA
CBC wnl
Imaging wnl



**QUADRATUS LUMBORUM
TRIGGER POINT**

Pyelonephritis mimic

back 1 - QL TP - TREATMENT

Ischemic Pressure

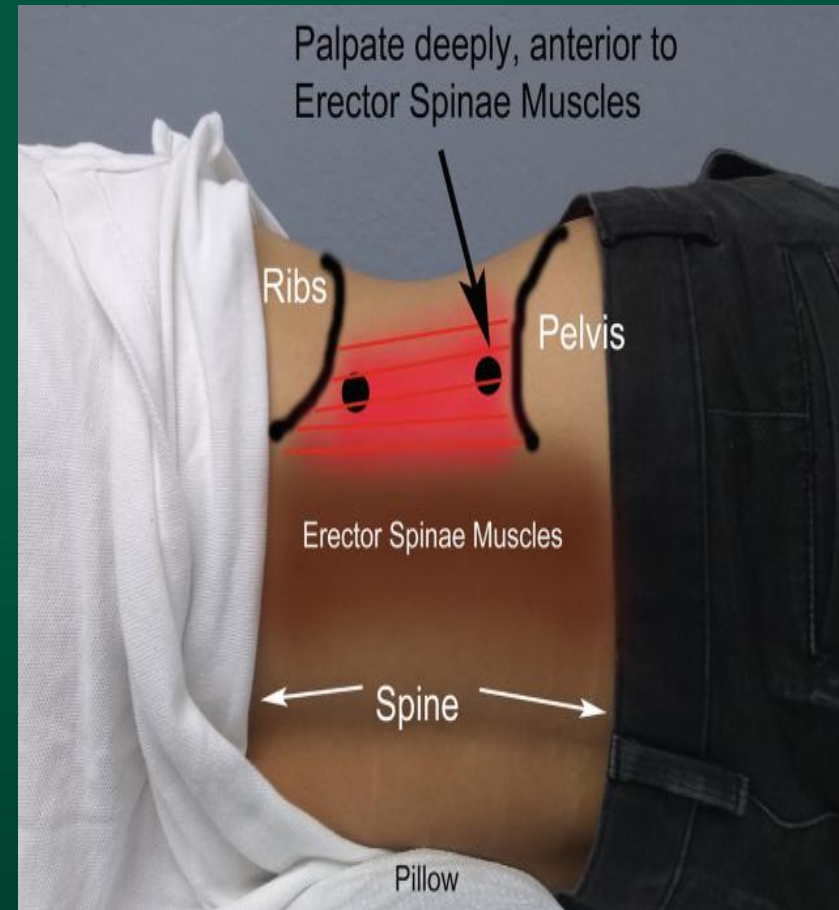
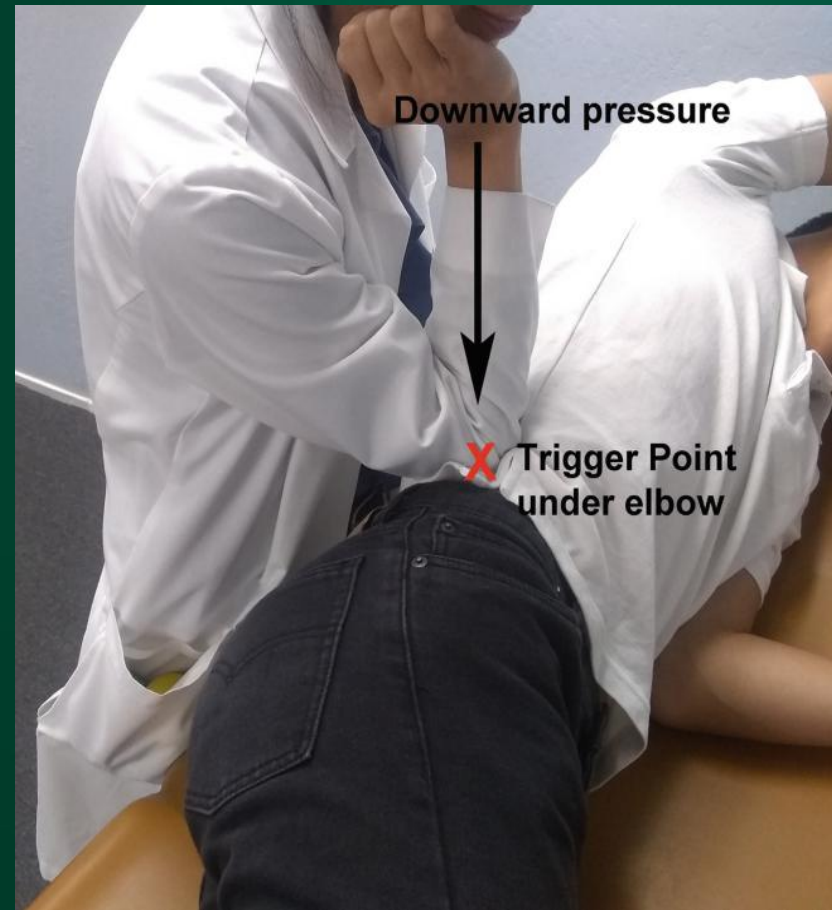
Press directly on TP 30 - 90 sec
Thumb, Fingers, Elbow

Passive Muscle Stretch

Apply lubricant
Start mid-muscle
Press/stretch toward both ends

Active Muscle Stretches

Various techniques



Methods are simple/helpful

Start slow: TP very tender

Patients often cry/"hurts good"

May recur

Home Therapy is key

Patients/Partner involvement

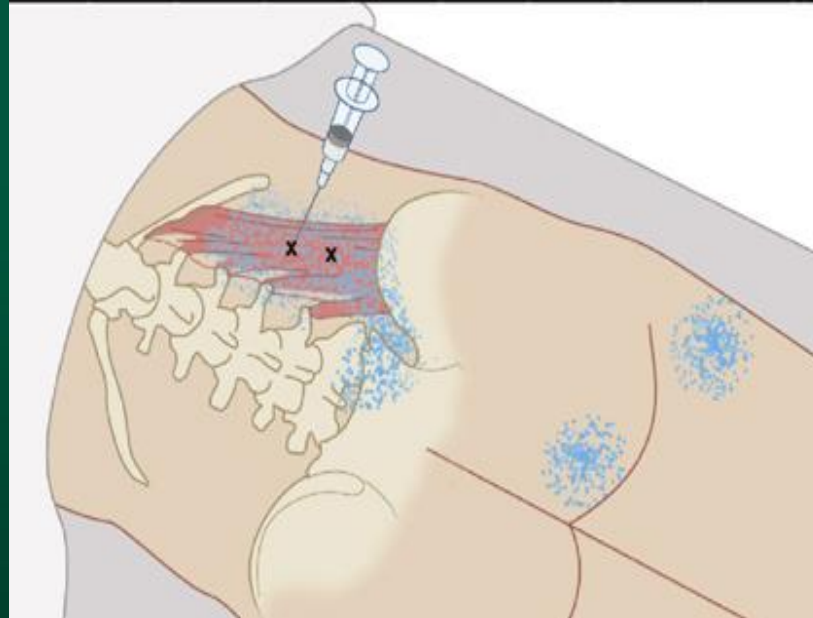
Physical Therapy responsive

back 1 - QL TP - TREATMENT

Dry Needling



Wet Needling
(Injection)



Physical Therapy

back 1 – TREATMENT SUMMARY

QL TRIGGER POINT

TREATMENT 2

Physical Therapy
Dry/Wet Needling

TREATMENT 1

"Home Therapy"
Passive/Active stretches
Ischemic Pressure

EDUCATION

Benign Nature
Physiologic Explanation

back 2 - SYMPTOMS

SX: Pain

site: Lower Back

Uni/Bilateral, +/-

Posterior Thigh

Ipsilateral Lower Abd

agg: standing/prolonged sitting

Other: Leg instability (buckling)

Disturbed sleep



SI Joint Pain Patterns

back 2 - SIJ Dysfunction - PATHOPHYSIOLOGY

Anterior Pelvic Tilt
(uterine weight)

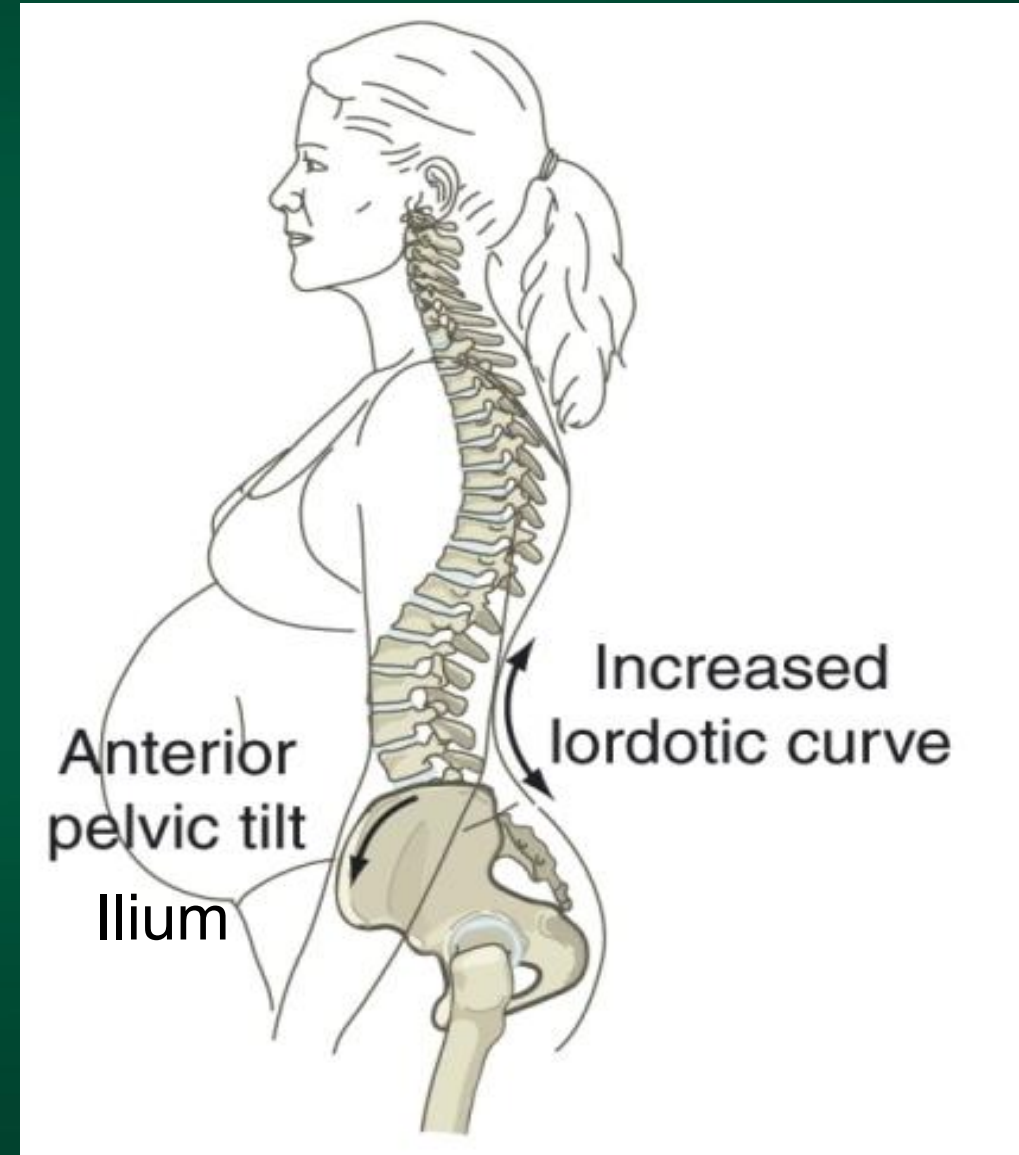


Increased Lordotic curvature
(forward ilium movement)



SIJ Stress/Subluxation
(posterior movement)

Often misdiagnosed as Sciatica
Often Unilateral
If Bilateral; 1 side >>> other side



back 2 - SIJ pain - DIAGNOSIS

FORTIN FINGER TEST

1 cm inferior/medial to PSIS x2
Pain at SIJ

FABER TEST

Flexion Abduction Ext Rotation
Increased SIJ pain

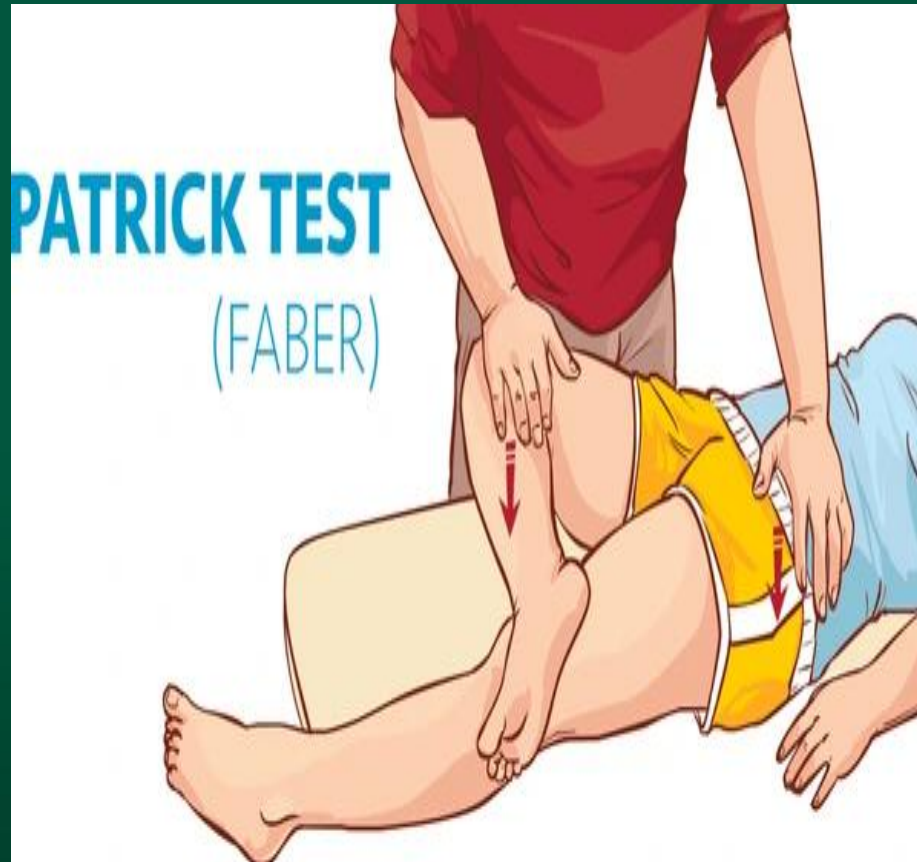
Clinical Dx

MRI (rarely needed)

FORTIN FINGER TEST IT HURTS HERE



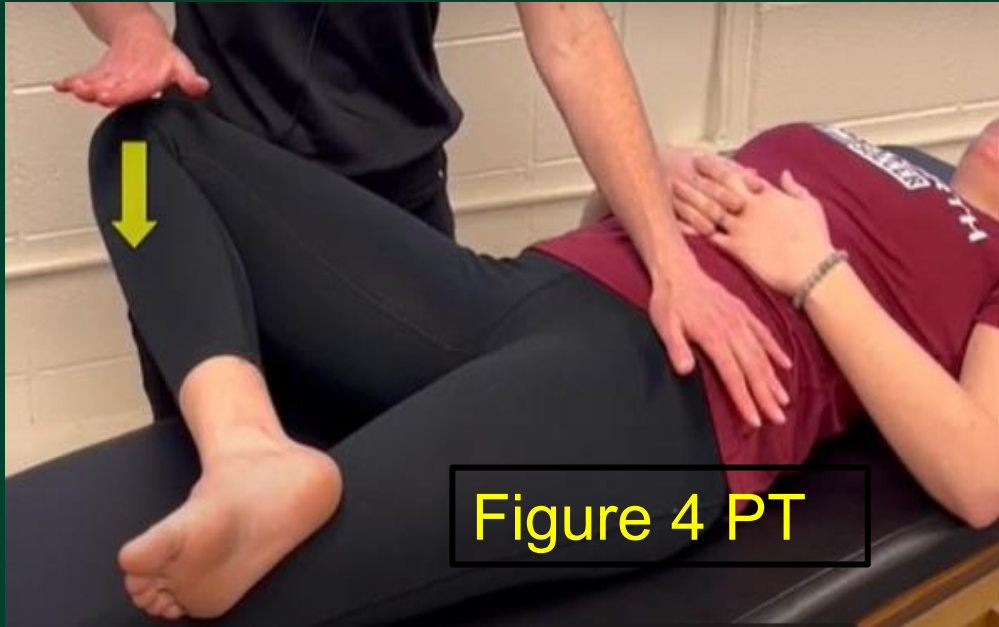
PATRICK TEST (FABER)



CLOSED MRI



back 2 – SIJ pain - TREATMENT



~ ¼ "pop" = Instant relief
"Sore back"
Home Therapy
Partner Therapy

back – TREATMENT SUMMARY

SIJ PAIN

TREATMENT 2

SIJ Injection
Professional PT

TREATMENT 1

Home PT
In Office PT

EDUCATION

Recurrent Tendency
Benign Nature
Physiologic Explanation

6 REASONS I DON'T OCEAN SWIM



#4 More Important Duties

HEAD



IHS Classification ICHD-3

The International Classification of
Headache Disorders 3rd edition

Over 200 diagnoses for HA



PREGNANCY RELATED HEADACHE

head – PREGNANCY RELATED HEADACHE

SYMPTOMS

Onset: ~14 – 28 w GA

Site: Frontal

Uni/Bilateral

Char: Dull, Pulsating

Duration: Hours/days

Minimal/Absent

N/V

Photophobia

Prodrome/Aura

Migraine Hx

Scotoma

B/P wnl

No Pre-E



Causation

Inc. Blood Volume ?

Hormones ?

head - PRH - TREATMENT

Headaches in Pregnancy and Postpartum

ACOG Clinical Practice Guideline No. 3

Author Information

Obstetrics & Gynecology 139(5):p 944-972, May 2022. | DOI: 10.1097/AOG.000000000000047

primary headache: migraine/tension/cluster

ACOG Recs: Quality: Low/Mod

Tylenol

NSAIDS (2 T/No Full ASA)

Caffeine

MAD

ACOG against:

Opioids

Ergots

Butalbital

Does not meet criteria/rare

Single Study? Codeine comparison
Metoclopramide & Diphenhydramine
(MAD Headache Study)

Not >Tylenol

experience ???

Cardiac malformations ???

Limited study/dose limits/not in 2T

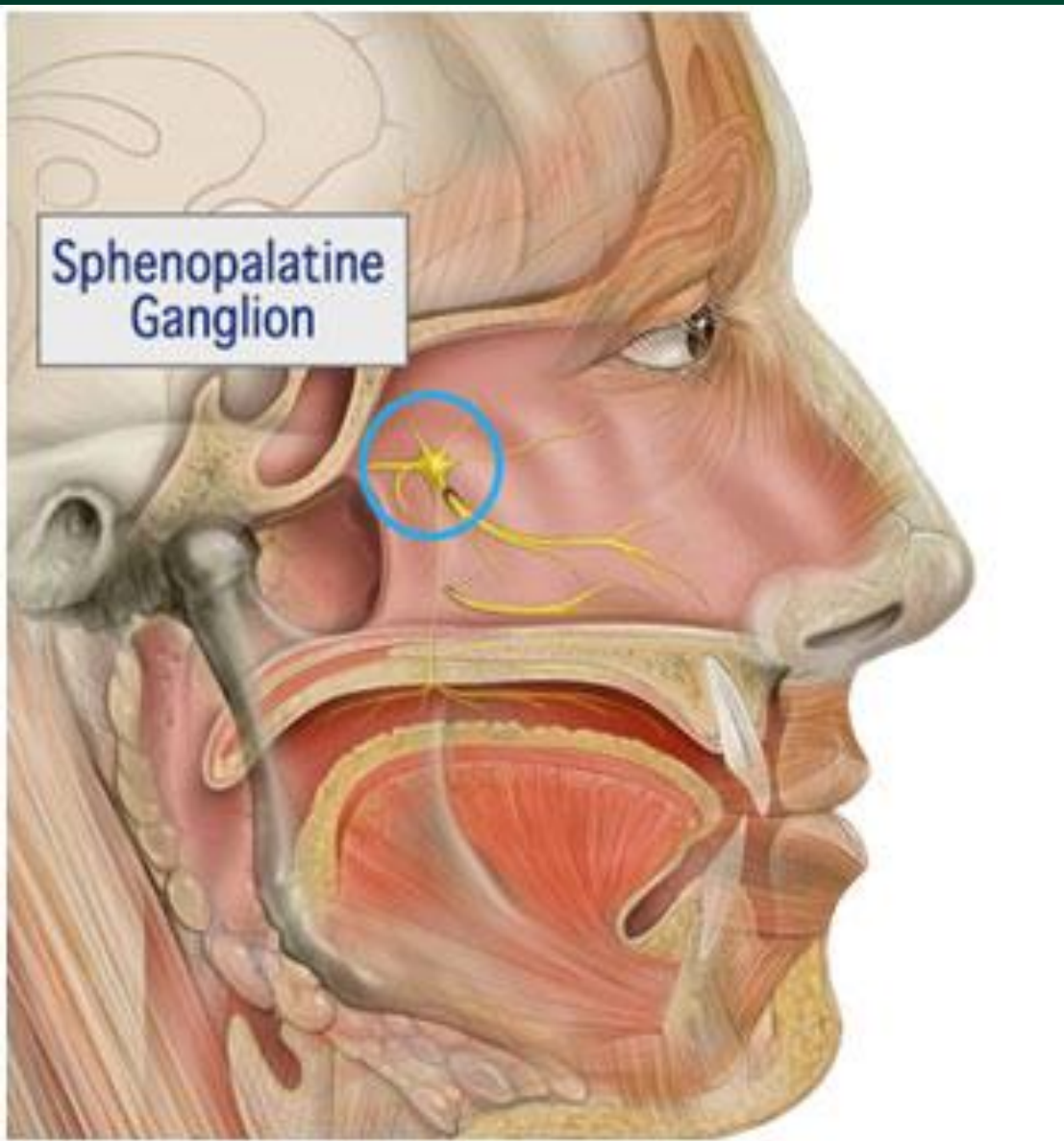
Habituation ???

Rare, not with limited dose

Rebound HA

Not with limited doses

Head - PRH - SPHENOPALATINE GANGLION ANATOMY

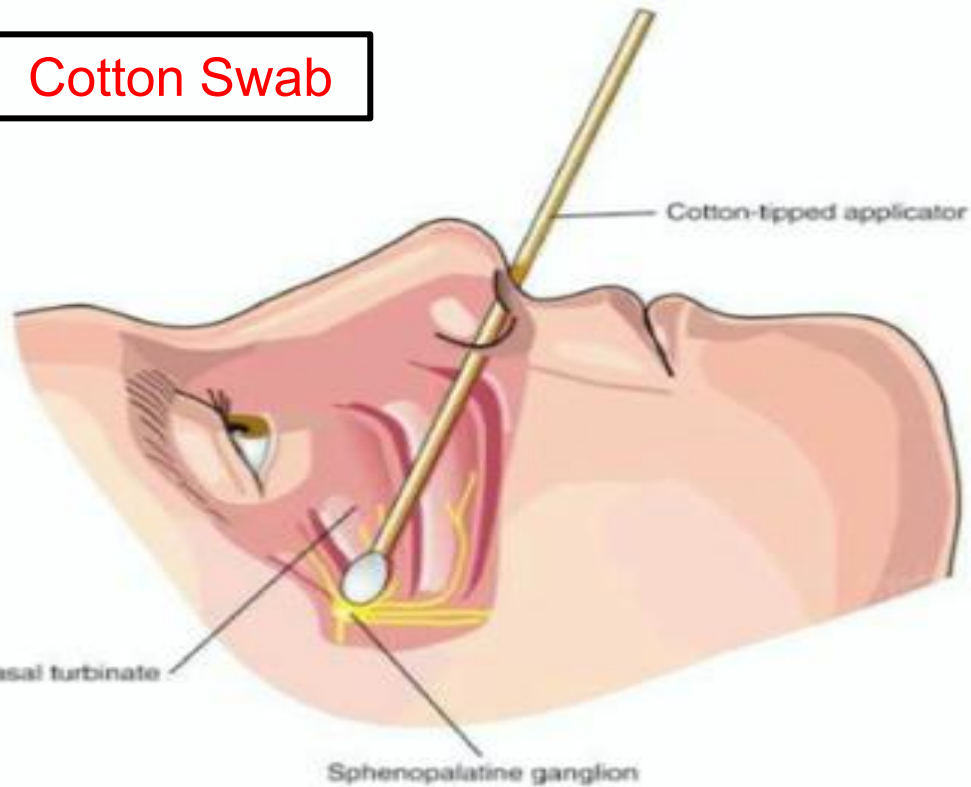


The SPG is a collection of nerve cells located in a space behind the maxilla.

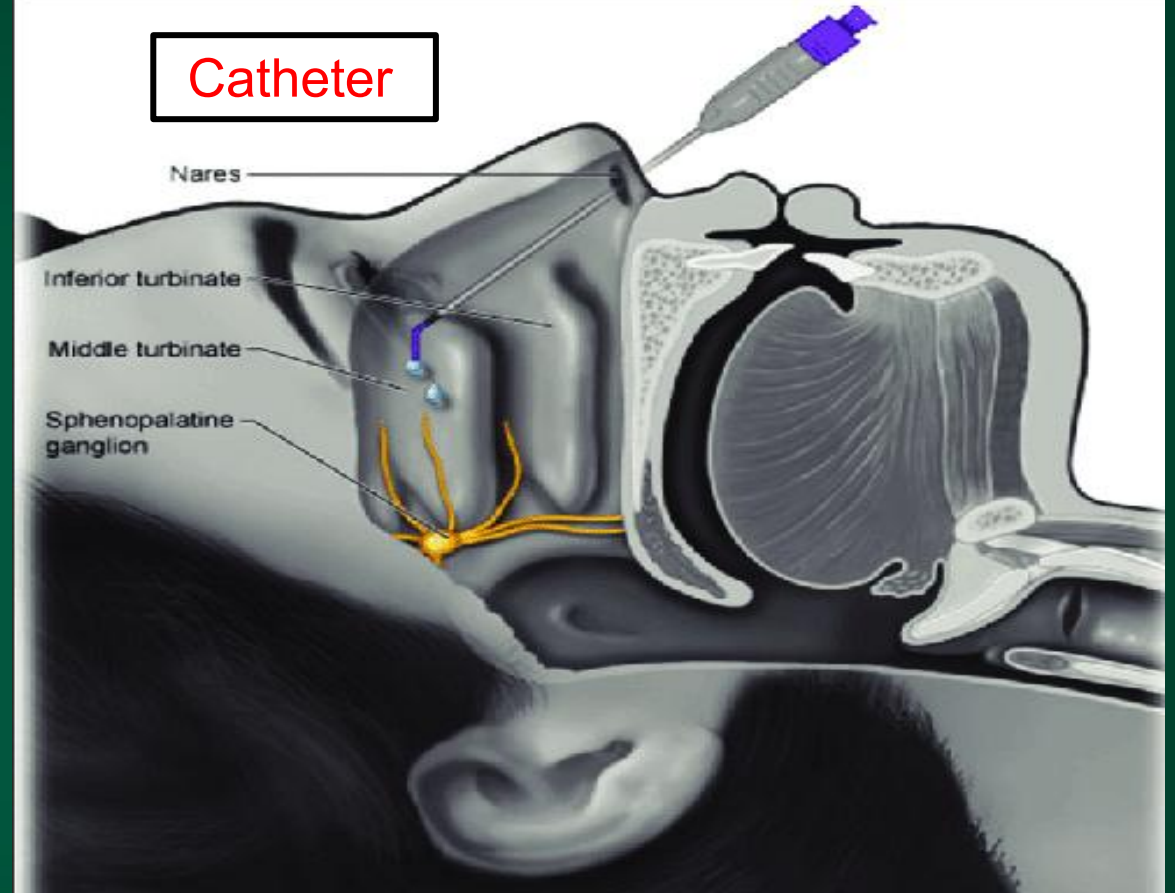
It is involved in headaches and facial pain. Blockade can be used to relieve pain.

Head – PRH – Treatment – SPG Block

Cotton Swab



Catheter



Local anesthetic (~2 ml 2-4% lidocaine or 0.5% bupivacaine) is delivered to the posterior nasal cavity

Head – PRH – Treatment – SPG Block

Simple

Minimal Discomfort

Minimally Invasive

>50% effective

(≥ 50% reduction)

"Home runs" common

Fetal safety (<2 ml anesthetic)

Home Therapy possible

Headache – TREATMENT SUMMARY

TREATMENT 3

Referral
Sumatriptan
Compazine, etc

TREATMENT 2

TN SPG Block
Fioricet??/MAD

TREATMENT 1

Tylenol

6 REASONS I DON'T OCEAN SWIM

RIP CURRENT SAFETY

"THE WILLIS WAY"

**To Escape a Rip Current
Stay Calm, Swim Toward The Nearest Waves**



**Ocean waves are nature's escalator of energy
moving towards the shore.**

#5 I Don't Speak Spanish

NECK

POSTPARTUM NECK/HEADACHE



NECK – PP NECK STRAIN PATHOPHYSIOLOGY



Over Stressing

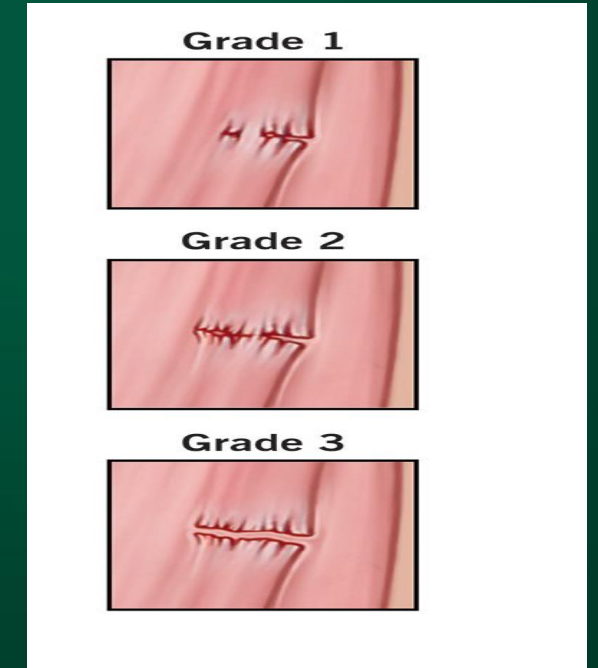
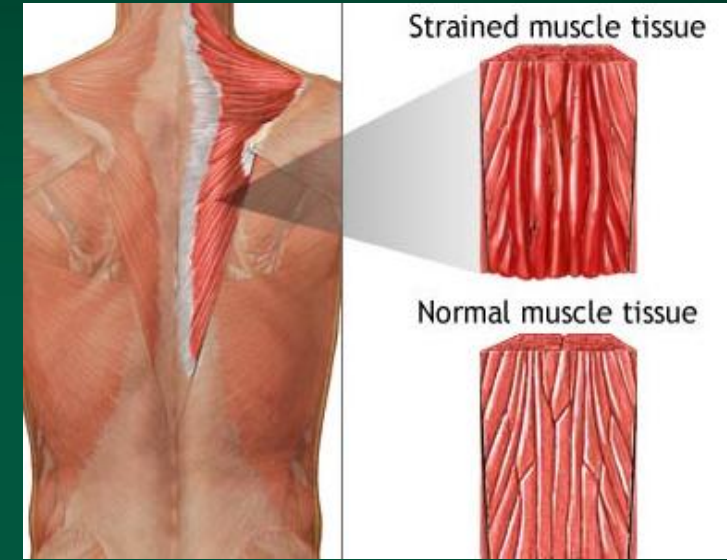


Sustained Contraction

Peri-partum Muscle Damage

Micro Tears
Tears

Acute Pain
Chronic Pain



Neck pain - SYMPTOMS

Sx:

Neck pain upper trapezius to occiput
Severe, unilateral headache
Poor response to Tylenol/NSAIDS

PE:

Nuchal rigidity, pain with motion
Palpable tender knots
Tight Band
Severe pain to palpation
Muscle Twitch with palpation

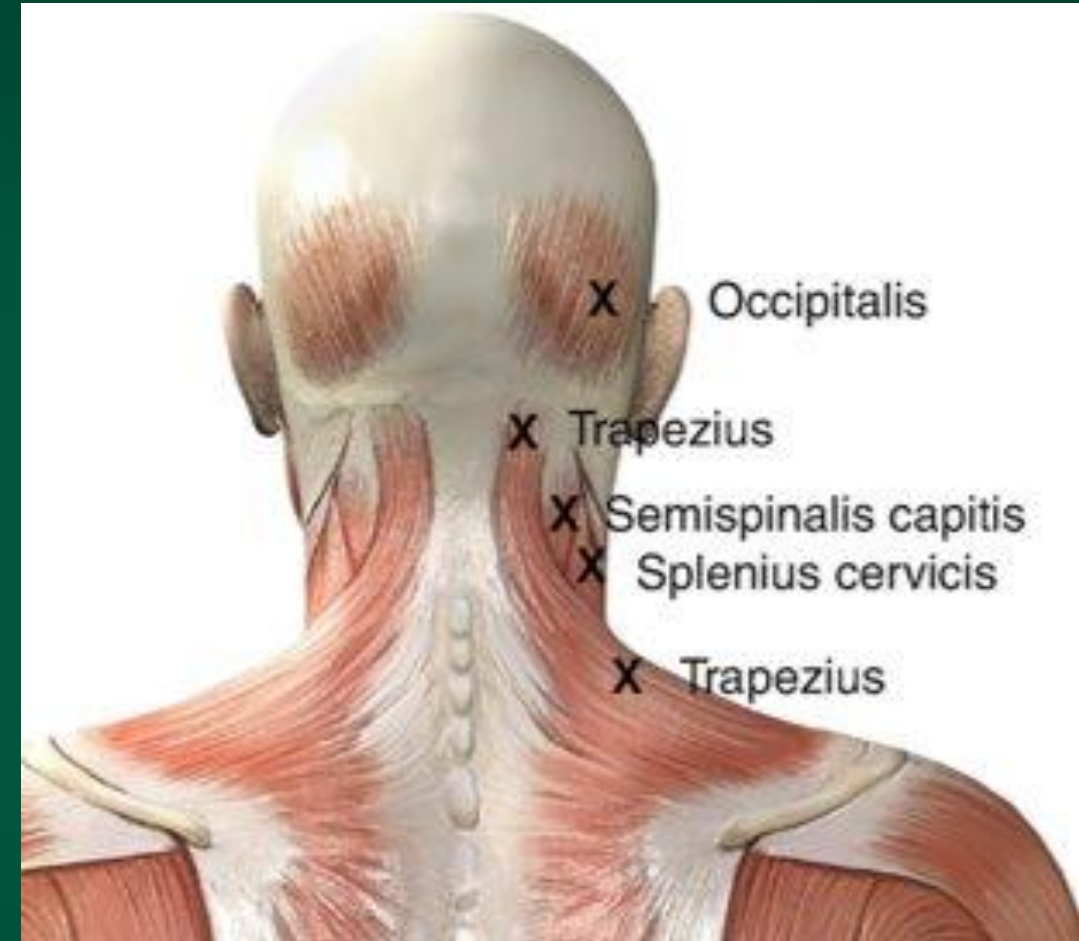


Neck – NUCHAL TRIGGER POINT DIAGNOSIS

Main Diagnostic Criteria for Myofascial Trigger Points

PE:

Nuchal rigidity, pain with motion
Palpable tender knots
Tight Band
SEVERE TTP
Muscle Twitch with palpation



Often has Chronic phase following
Acute Phase

postpartum neck/headache - TREATMENT SUMMARY

TREATMENT 3

Chronic Phase

Wet Needling
Physical Therapy

TREATMENT 2

Acute Phase

Muscle Relaxers
Valium*

*Information regarding benzodiazepines and breastfeeding is limited
Likely no effect w few doses

TREATMENT 1

Acute Phase

Tylenol/NSAIDS
Heat, Massage
Education

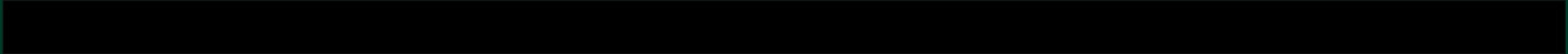
6 REASONS I DON'T OCEAN SWIM

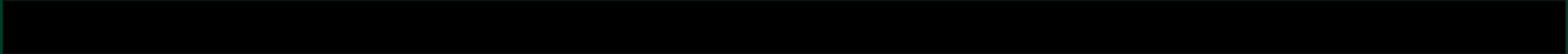


#6 Wedgies



QUESTIONS ?



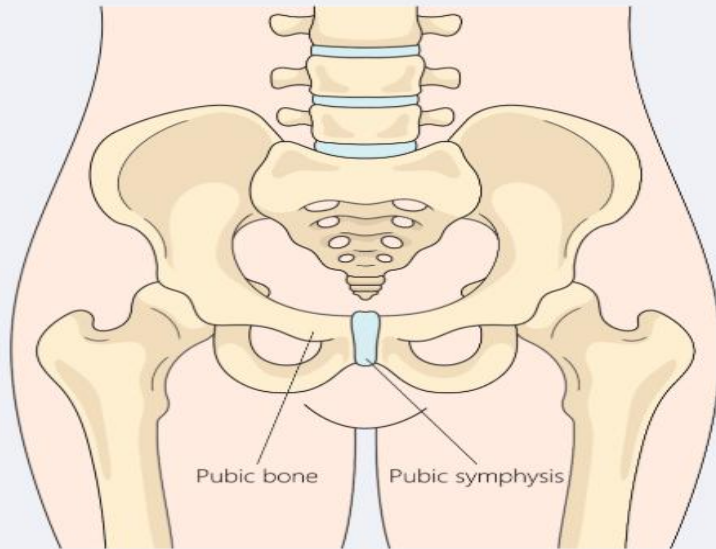


the **BUMP**

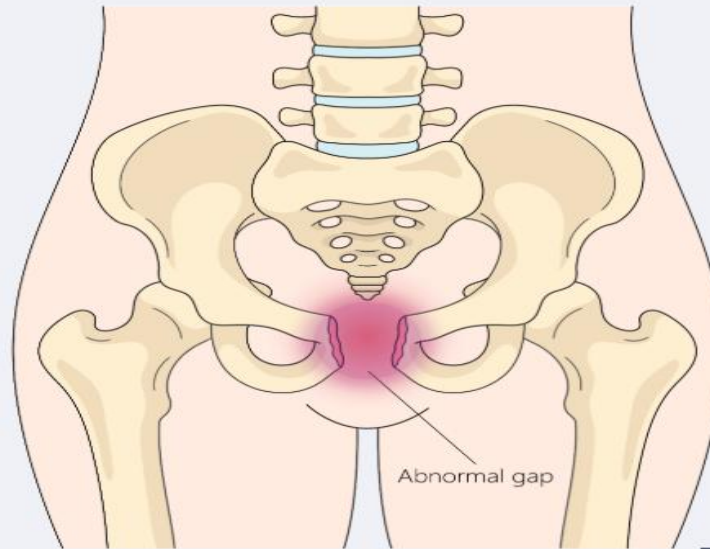
Symphysis Pubis Dysfunction Pain

Symphysis pubis dysfunction (SPD) is a common pregnancy condition when the normally firm pubic symphysis joint loosens, causing instability. This leads to pain in the front of the pubic bone that can radiate to the hips and other areas of the pelvis.

Normal Pelvis



SPD



Interrogating 'Round Ligament Pain' and introducing 'Pregnancy-Related Abdominal Wall Neuropathy': a cohort study.

Conclusion

No medical evidence for RLP

Nerve block response

Should stop referring to RLP.



Unexplained Abdominal Pain in Pregnancy and the use of the Term "Round

Te Whatu Ora

Health New Zealand

Waikato

Ligament Pain": A Single Centre New Zealand Pilot Cohort Study

Dr Hannah Louise Price, Dr Shannon Halpin, Dr Hashilah Husaimee Ahmad, Dr Emily Katherine Twisdale: Obstetrics Department, Waikato Hospital, Te Whatu Ora, Hamilton, New Zealand, 3200



BASKOC
Annual Scientific
Meeting 2022
GOLD COAST

Transforming. Making Waves

Introduction

Unexplained abdominal pain (UAP) in pregnancy is common, can be severe/ prolonged and can provoke iatrogenic preterm delivery. Anecdotally, round ligament pain (RLP) is a suggested diagnosis for UAP in pregnancy (1), however, we have found no scientific reference for the so-called condition.

Anterior Cutaneous Nerve Entrapment Syndrome (ACNES) is easily diagnosed and treated (2). It is thought to account for 10% of chronic abdominal pain in outpatients (3). The nerves perforate the abdominal wall fascia to provide cutaneous sensation to the abdomen (See figure 1). Irritation/entrapment causes a typical type of pain (4).

The diagnostic features of ACNES are severe abdominal pain of a stabbing/burning nature that is aggravated by physical activity and is always in the same location. On examination, patients have increased pain upon tensing the abdominal muscles. They also often have hypo/hypaesthesia, dysaesthesia to ice and a positive **pinch** test (4).

A point of care transabdominal plane (**TAP**) block with local anaesthetic offers an immediate diagnosis and often long-term treatment (4).

The growing gravid uterus displaces the abdominal wall anteriorly, putting pregnant people at risk of ACNES (4).

Could we be falsely labelling ACNES in pregnant patients as Round Ligament Pain? Are we missing diagnostic and therapeutic opportunities?

Objectives

- ✦ To demonstrate that UAP is common and that without evidence medical carers continue to cite RLP.
- ✦ To show that pregnant people with UAP frequently use ACNES descriptors

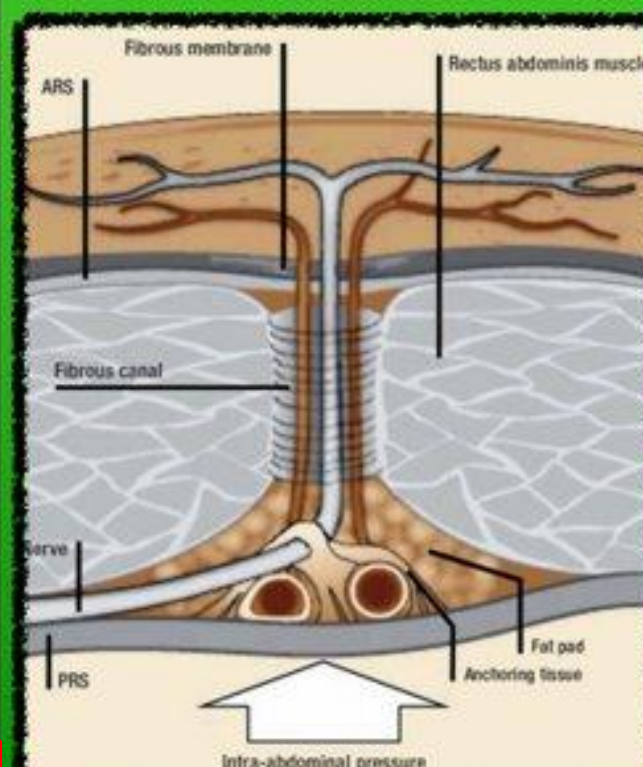


FIGURE 1. Double right-angle nerve course in anterior abdominal wall at edge of rectus abdominis muscle. ARS = anterior rectus sheath; PRS = posterior rectus sheath. From Surg Gynecol Obstet.¹¹

Methodology

A prospective observational pilot cohort study of an antenatal clinic in NZ. 203 patients > 20 weeks' gestation completed a written **questionnaire**. Data included the proportion of patients who reported UAP, recognised the term RLP, the source of their RLP information, and whether their UAP fit any of the 14 descriptors provided; 11 of which were suggestive of ACNES.

Results

- ✦ 69% of participants had UAP in pregnancy
- ✦ 54% of participants recognised the term RLP
- ✦ Participants with pain were more likely to report medical carers as their RLP information source than those without pain with an odds ratio of 9.23 (95% CI 3.5-24.4).
- ✦ 99% of those with UAP used descriptors shared by ACNES
- ✦ Commonest ACNES descriptor was pain that was "worsened by walking/bending/moving to sit" - 57% of participants

Discussion and Conclusion

UAP in pregnancy is common and our participants report that medical carers continue to cite RLP. 99% of our participants used descriptors for ACNES. We believe that this is the first attempt to propose an anatomically rational explanation for what is currently labelled RLP. The value of this finding lies in the therapeutic potential for these patients.

References

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ABDOMEN - "RPL"

PRAWN: Pregnancy Related Abdominal Wall Neuropathy

Nerve pain from the stretched abdominal wall from the growing uterus causing localized sharp, burning or tingling pain that is often mistaken for other causes.

ACNES : Called Anterior Cutaneous Nerve Entrapment Syndrome (ACNES) in non-pregnant patients.

"RPL HAVE NOTS"

- No original description
- No scientific basis for dx
- No somatic innervation
- Not anatomically correct
- Same pain exists outside pregnancy

"PRAWN HAVES"

- Reproducible Description
- Evidence based diagnosis
- Anatomic nerve distribution
- Relief with nerve block



ABDOMEN – Scenario 1

PRAWN: Pregnancy Related Abdominal Wall Neuropathy

Nerve pain from the stretched abdominal wall from the growing uterus causing localized sharp, burning or tingling pain that is often mistaken for other causes.

ACNES : Called Anterior Cutaneous Nerve Entrapment Syndrome in non-pregnant patients.



2021 RANZCOG
Virtual Annual Scientific Meeting
15-18 February

Introduction

- The anterior cutaneous nerves communicate sensation from the skin of the abdomen and pelvis.
- Their neuropathy causes abdominal pain which is simple to diagnose clinically.
- A therapeutic transabdominal plane/transverse abdominus (TAP) local anaesthetic block confirms the diagnosis.
- Pregnancy displaces the abdominal wall ventrally, this can provoke neuropathy.
- While case reports of anterior cutaneous nerve entrapment in pregnancy exist, the prevalence is unknown.
- We introduce PRAWN as a subgroup of Anterior Cutaneous Neuropathy, an under-appreciated cause for antenatal abdominal pain.

Pregnancy-Related Abdominal Wall Neuropathy (PRAWN). A common and treatable cause of pain in pregnancy. A case series. S.Halpin, I.Camano, E.Twidale

Materials & Methods

- A prospective, quality improvement study of pregnant women presenting to Waikato Hospital with abdominal pain.
- Patients were recruited once they were found to have history and exam findings of anterior cutaneous nerve entrapment.
- Visual Analogue Scales for pain were taken before and after TAP blocks with ropivacaine. We also measured patient-reported acceptability of the block via a 5-point Likert Scale.
- We later contacted patients to report on their pain-free intervals.

Results

- All women who received blocks had a significant reduction in their pain Visual Analogue Scales.
- 9/10 patients had >50% reduction in their pain. The length of effectiveness of the block ranged from 12 hours to 10 days.
- When asked whether they would recommend a repeat block in the same situation again, 8/10 marked 'definitely yes'.
- Apart from the discomfort of the procedure, there were no reported side effects or complications from the blocks.

Patient Details	Gestation	Pain Score Before Block	Pain Score After Block
Patient 1	35/40	6	2
Patient 2	34+5	8	0
Patient 3	35+5	7	0
Patient 4	28	9	1
Patient 5	29	8	0
Patient 6	21 +4	5	1
Patient 7	37	8	2
Patient 8	33+6	9	5
Patient 9	24+5	8	1
Patient 10	27	8	0

Conclusion

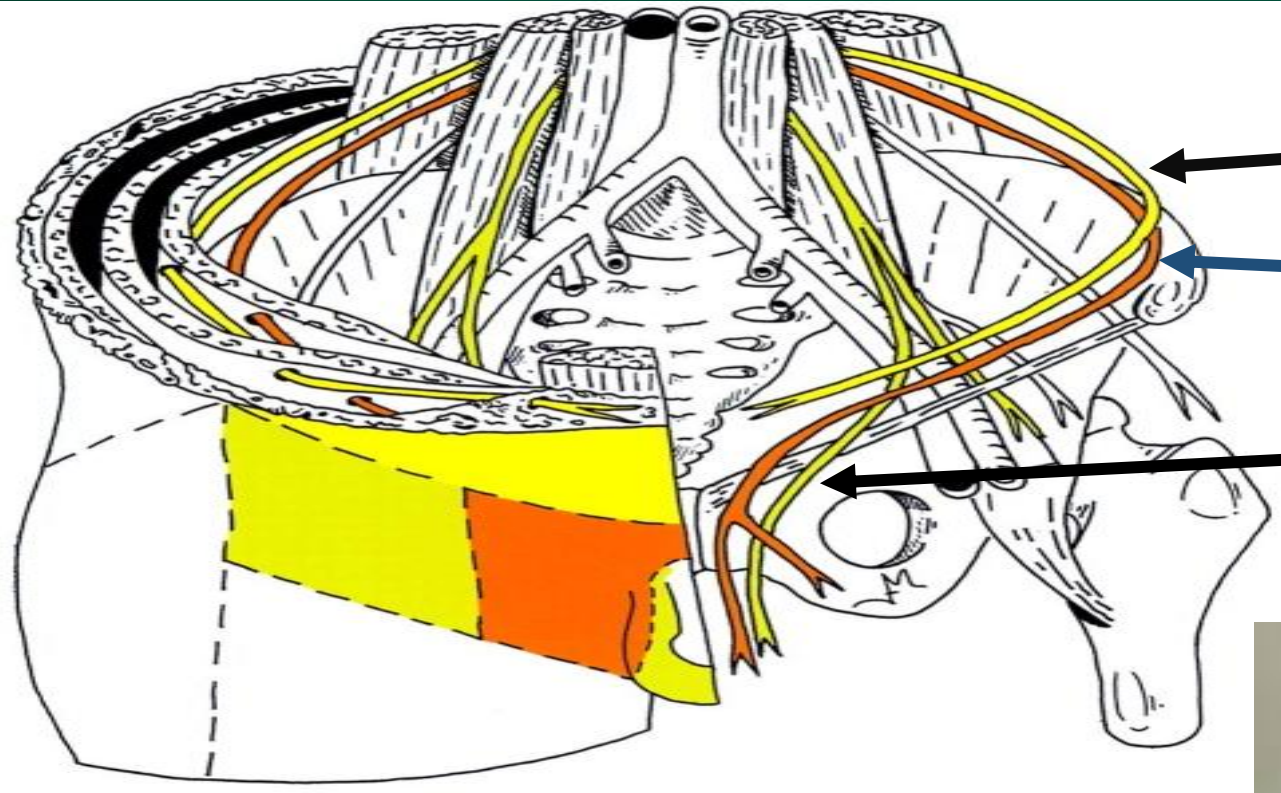
- PRAWN is a hitherto unrecognised and under-treated cause of abdominal pain in pregnancy.
- In the four months since the subgroup was proposed, we have collected the largest case series of abdominal wall neuropathy in pregnancy in the existing literature.
- We propose that PRAWN exists, is easily diagnosed and can be treated in the short term with a simple nerve block.
- The ultimate pharmacological treatment to give the longest lasting pain relief is yet to be determined.
- Our long term hypothesis is that the so called 'Round Ligament Pain' is actually PRAWN.

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NEURAL PROBLEMS in OB/GYN → Clinical Scenario 3

Dx: "ROUND LIGAMENT" SYNDROME



HYPOGASTRIC

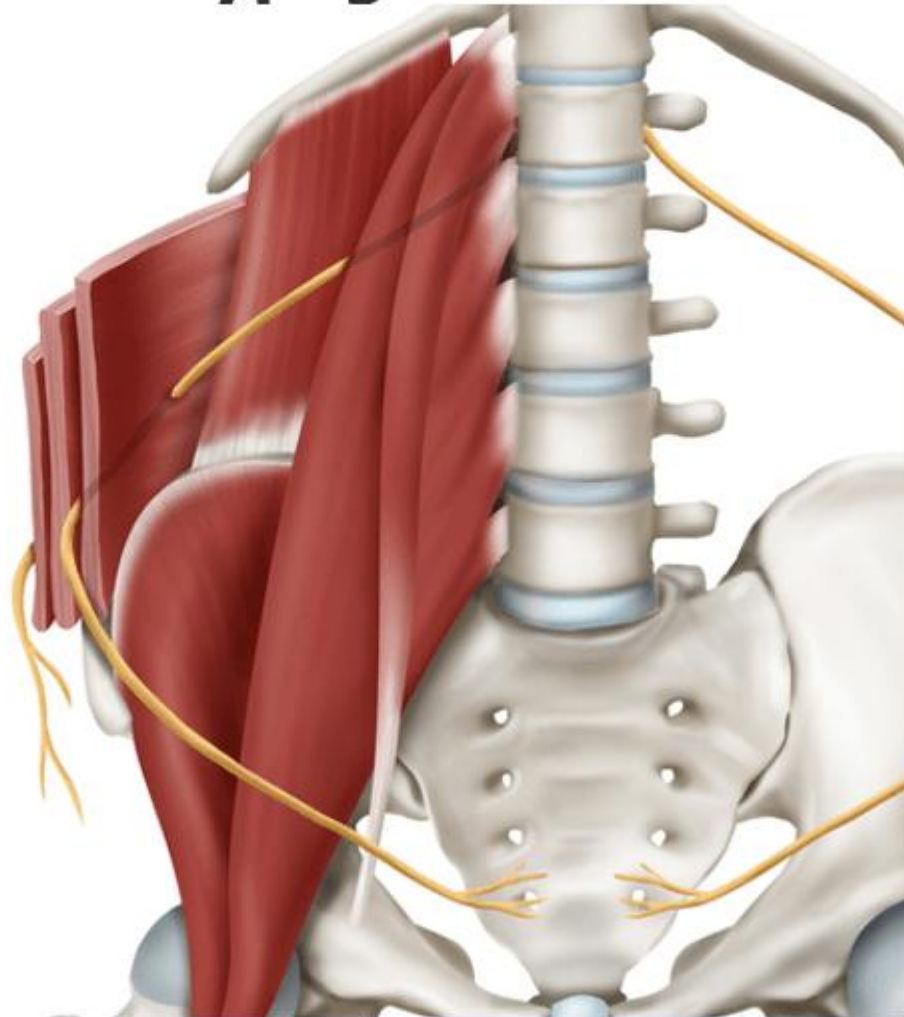
ILIOINGUINAL

GENITOFEMORAL





The Iliohypogastric Nerve



NEURAL PROBLEMS in OB/GYN → Clinical Scenario 6

Diagnosis: Hypogastric Nerve path; Distal

Intraabdominal

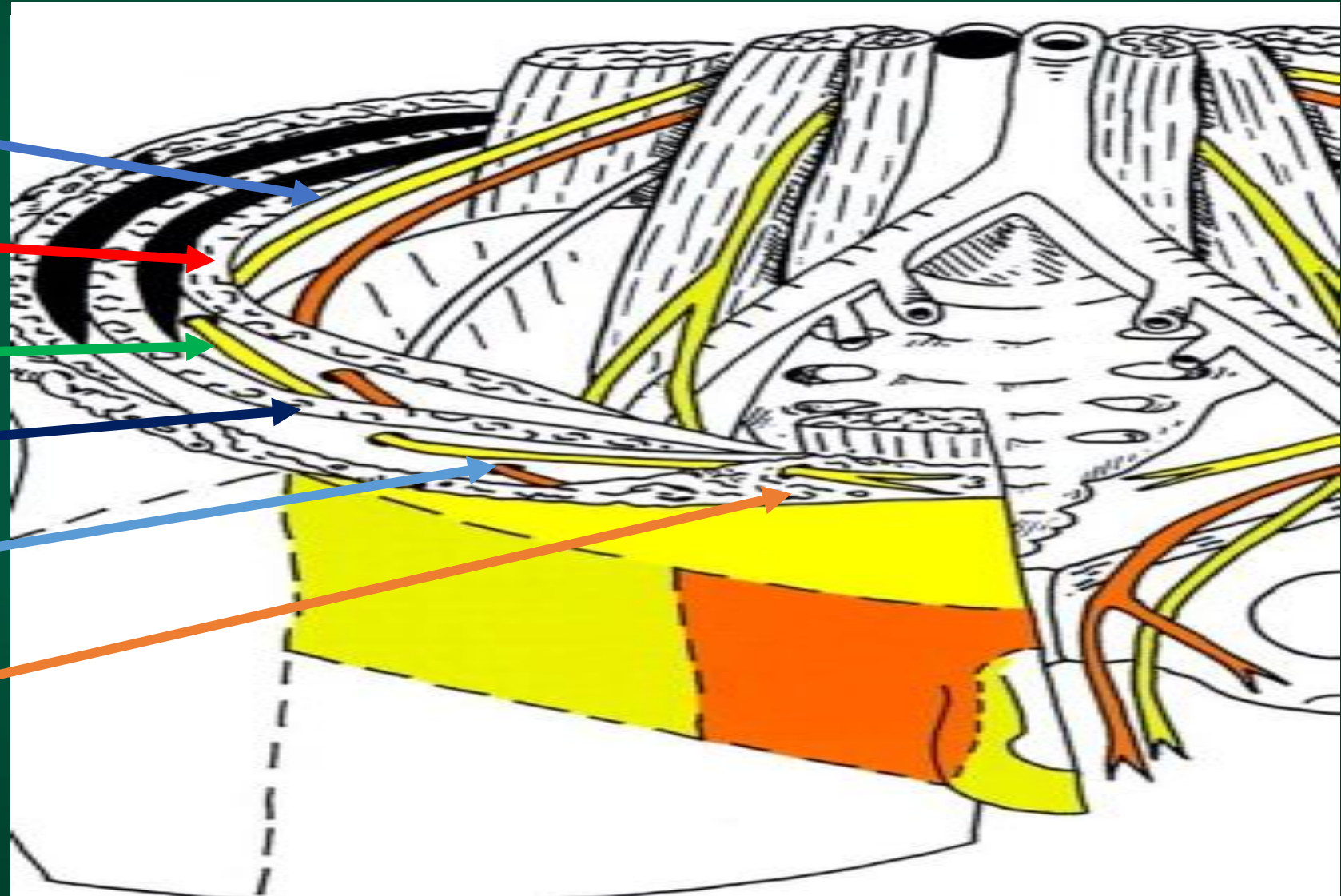
Internal Oblique

Intermuscular course

External Oblique

Superficial Course

Subcutaneous Course



NEURAL PROBLEMS in OB/GYN → Clinical Scenario 6

TAP BLOCK

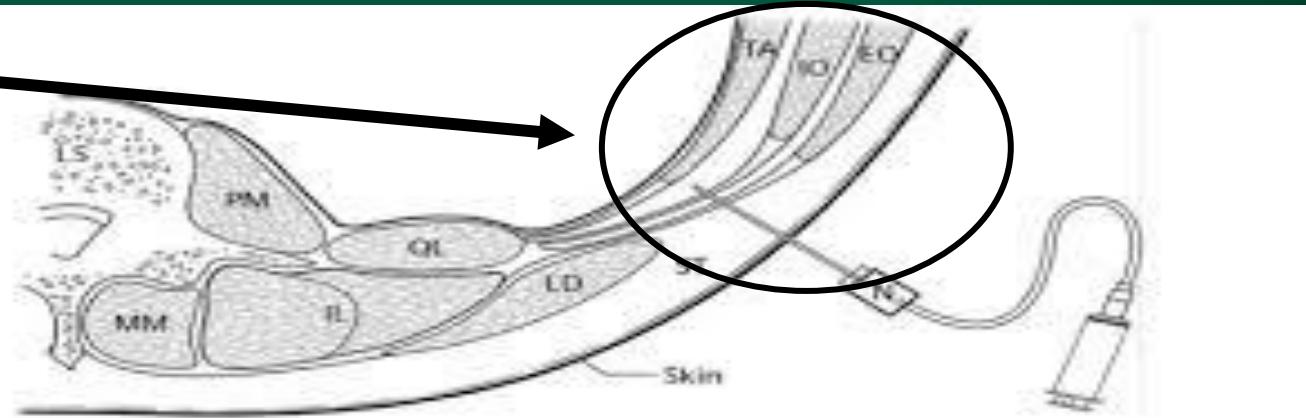
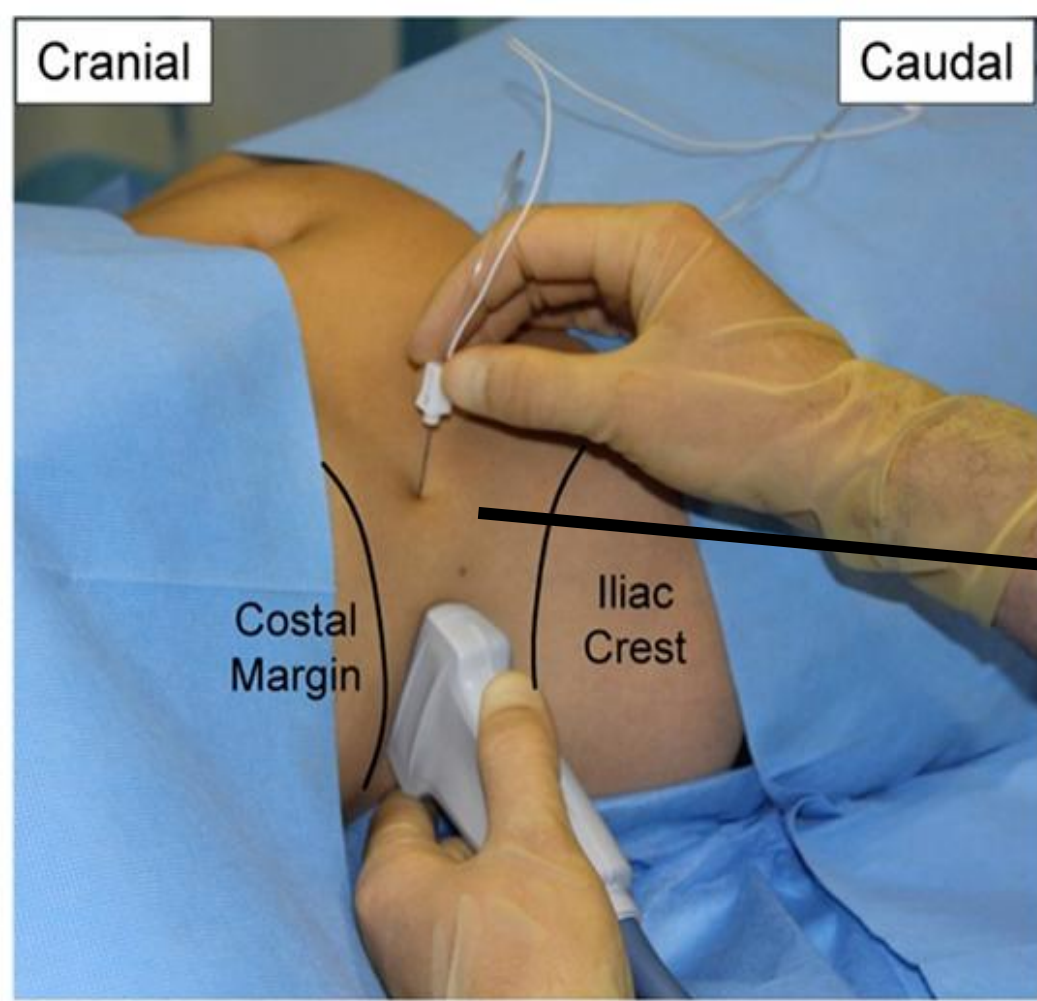
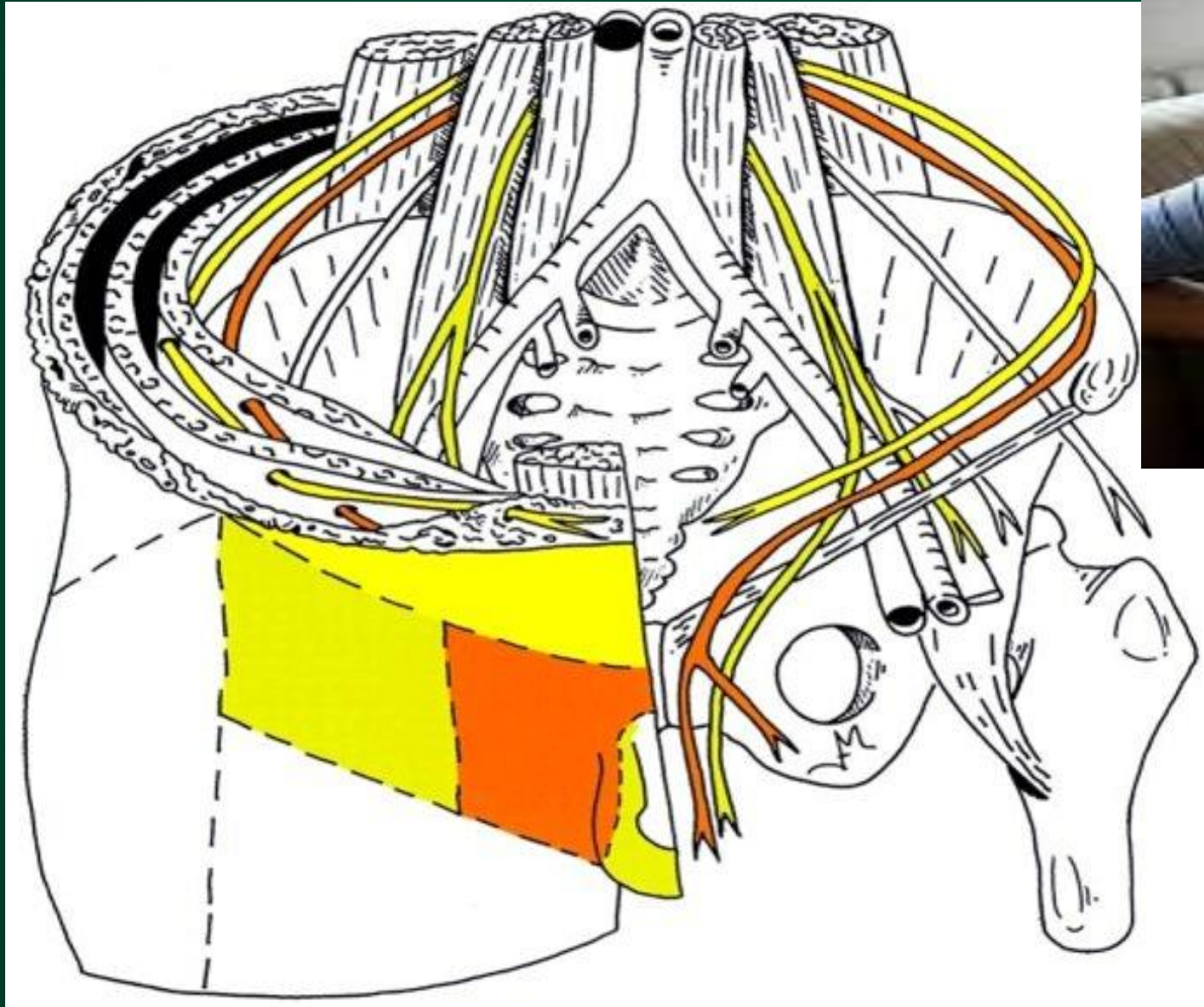


Figure 4: Diagram of transverse section of abdominal wall during landmark TAP block performance (N, needle; ST, subcutaneous tissue; EO, external oblique muscle; IO, internal oblique; TA, transversus abdominis; LD latissimus dorsi; QL, quadratus lumborum)

LOWER ABDOMINAL WALL NERVES

ANATOMY & SENSORY



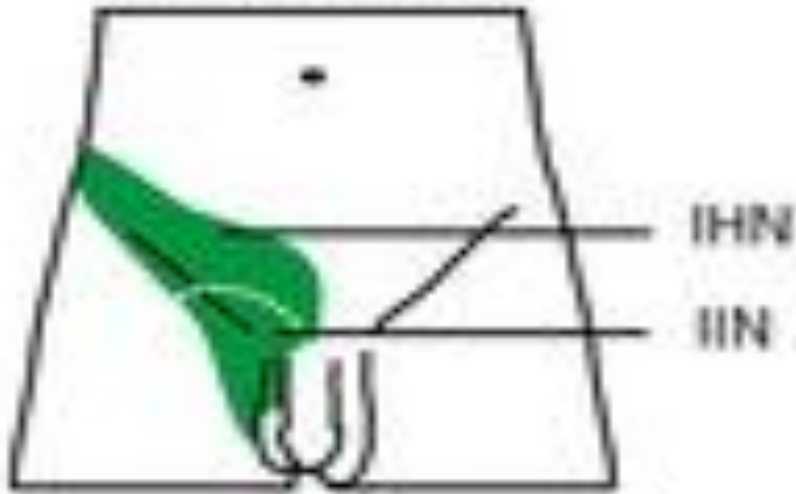
Enters Abd Wall

~3 cm medial

~1 cm inferior to ASIS

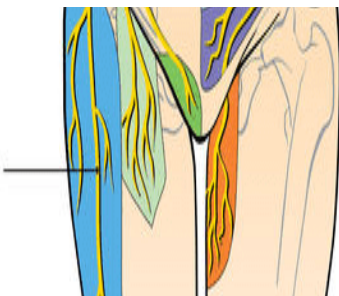


Cutaneous distribution of IIN and IHN

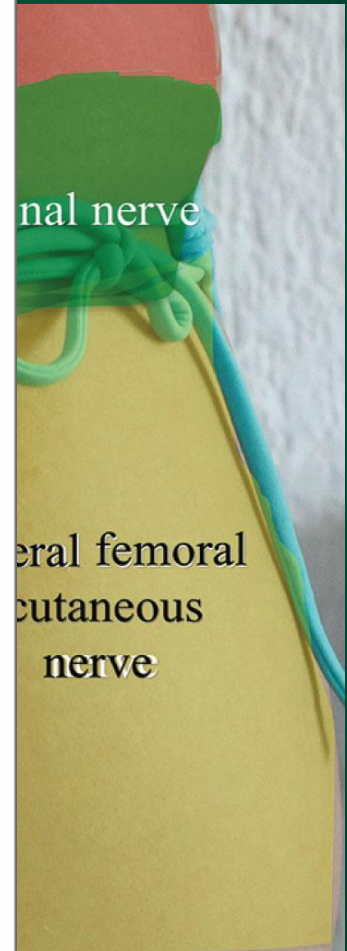
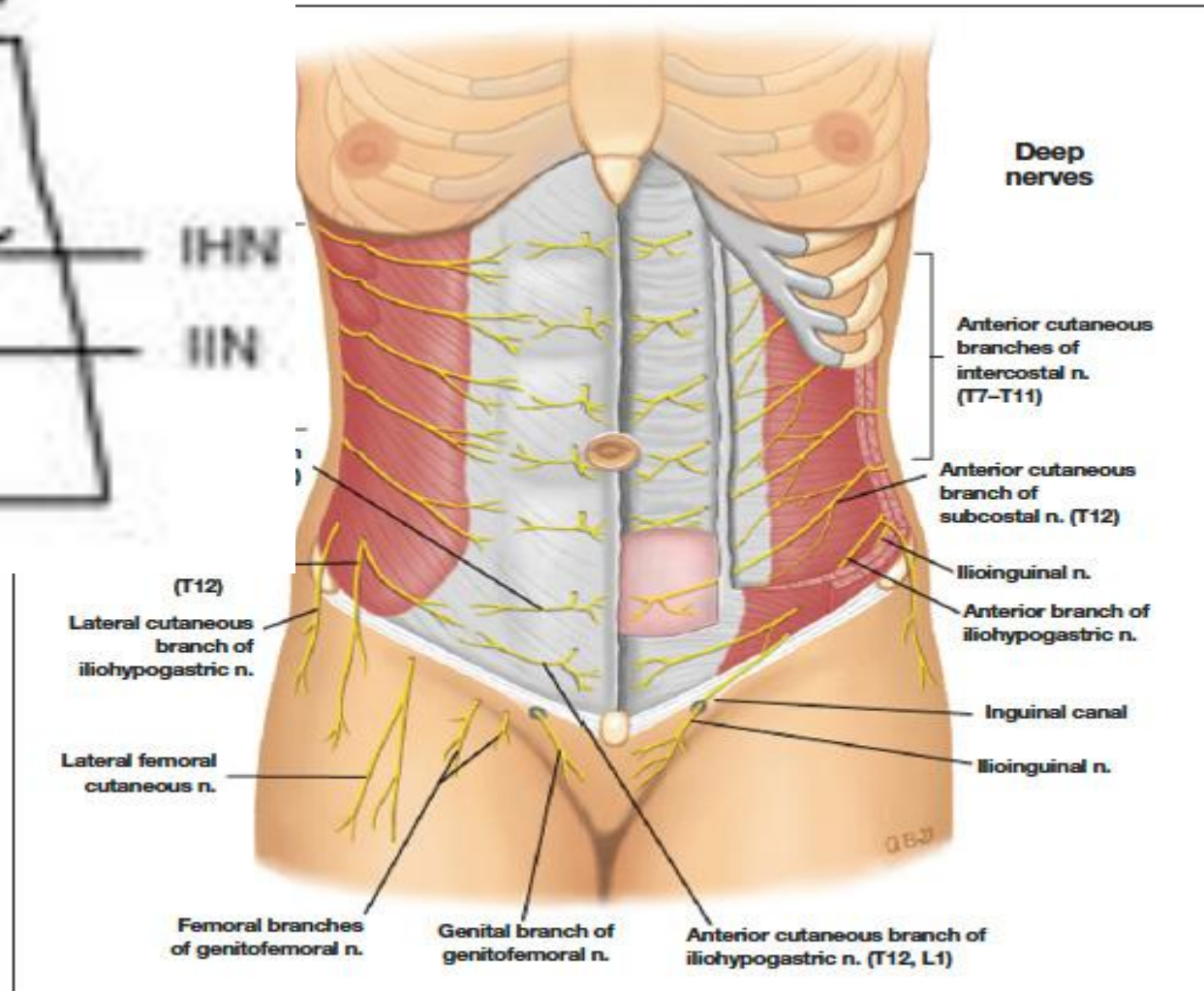


- Genitofemoral
 - Genital Branch
 - Femoral Branch

Lateral femoral cutaneous nerve

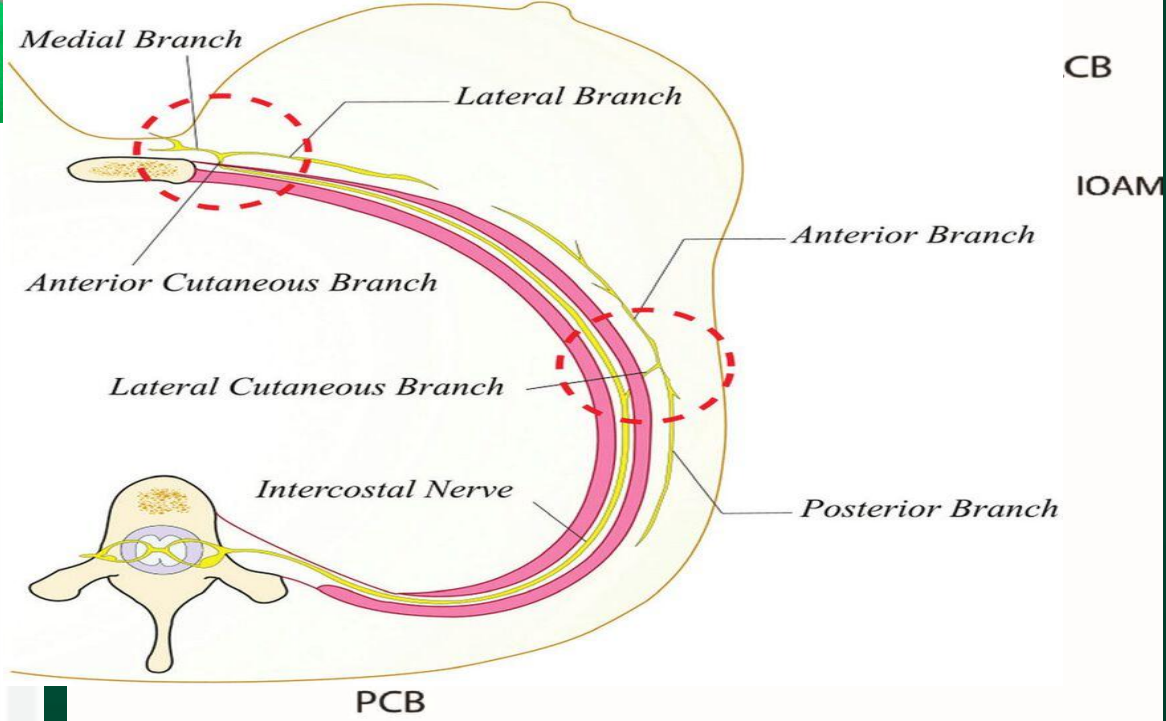
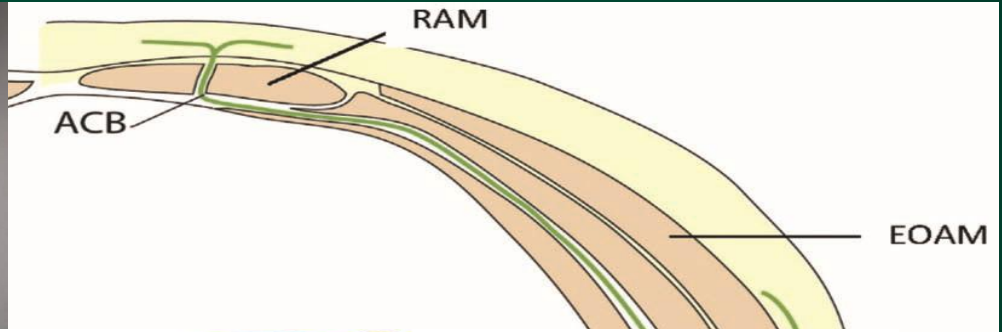
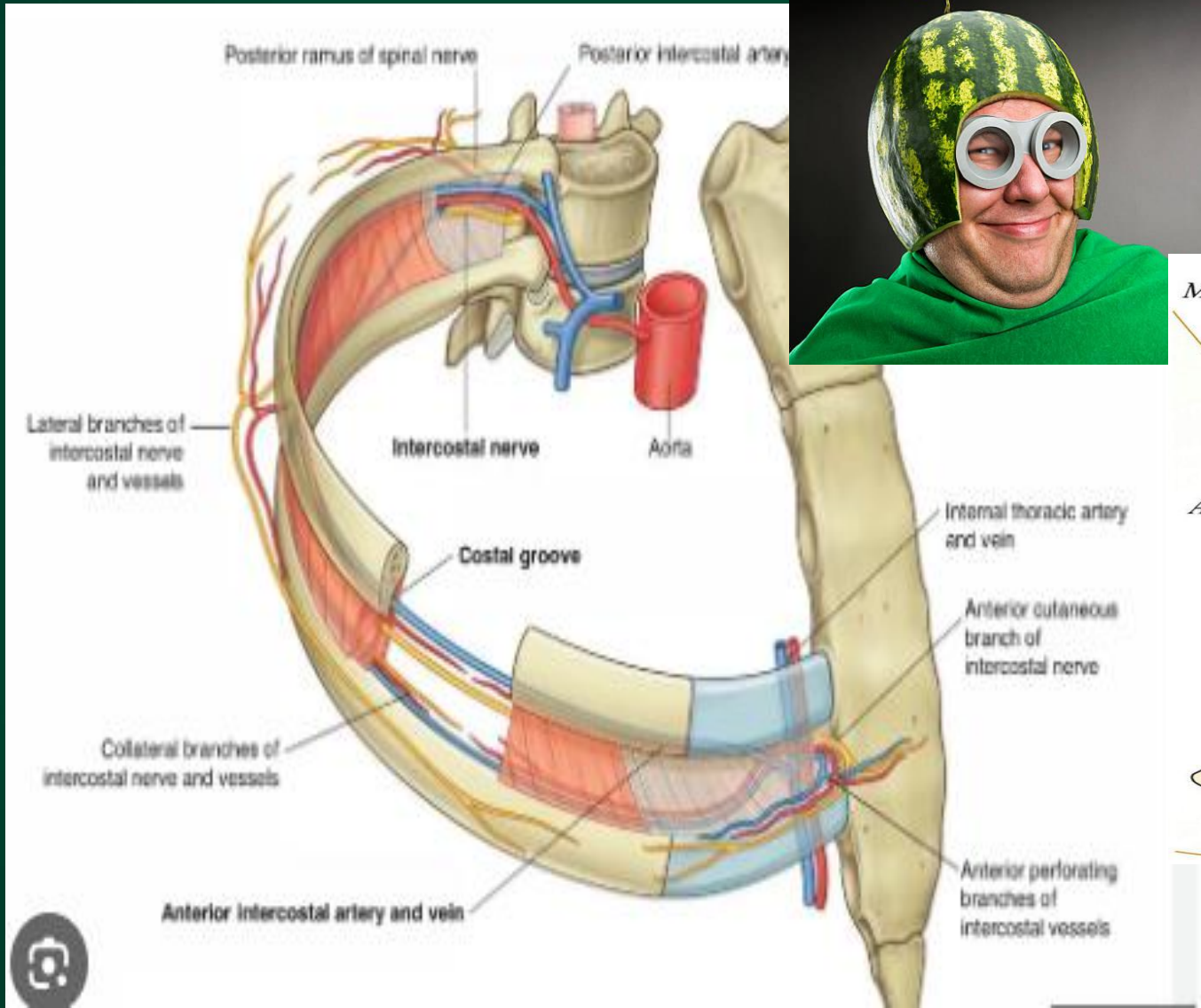


Anterior nerves of the anterior abdominal wall



Source: Reproduced with permission from: Gray JE. Nerve injury associated with pelvic surgery. In: UpToDate, Post TW (Ed), UpToDate, Waltham, MA. (Accessed on March 18, 2014.) Copyright © 2014 UpToDate, Inc. For more information visit www.uptodate.com

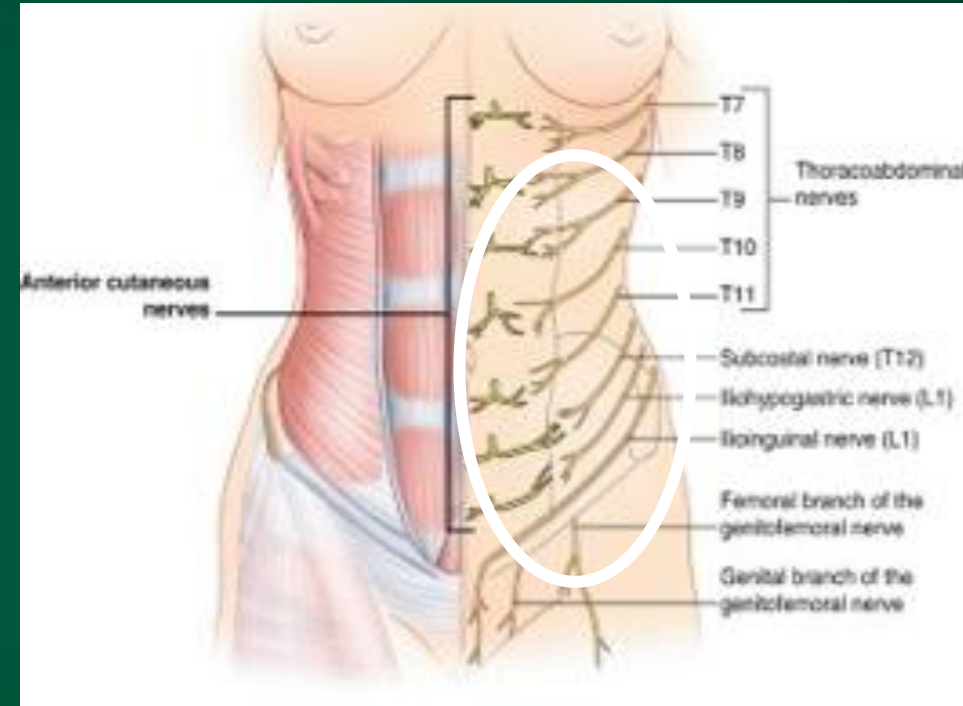
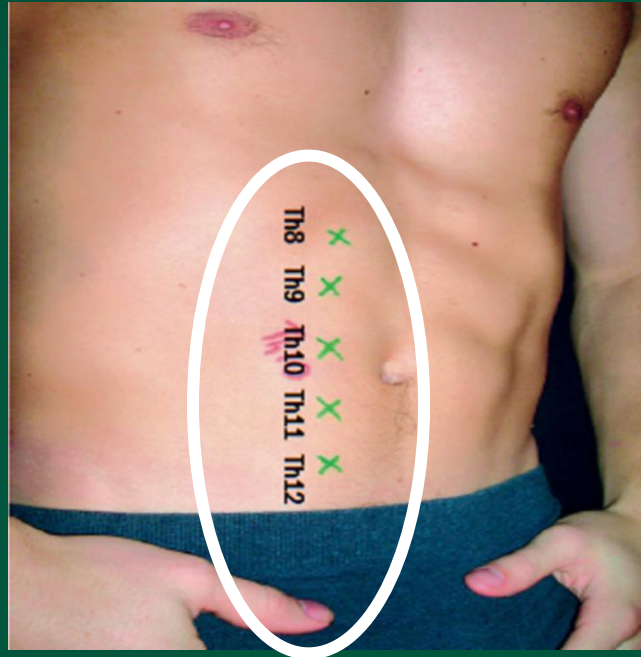
V



NEURAL PROBLEMS IN OB/GYN → Clinical Scenario 1

PHYSICAL EXAMINATION

PRESSURE ON POINT OF
MAXIMUM PAIN



LLQ Pain
Sharp, Focal, well defined
Carnett's sign Positive
+/- Dysphoria

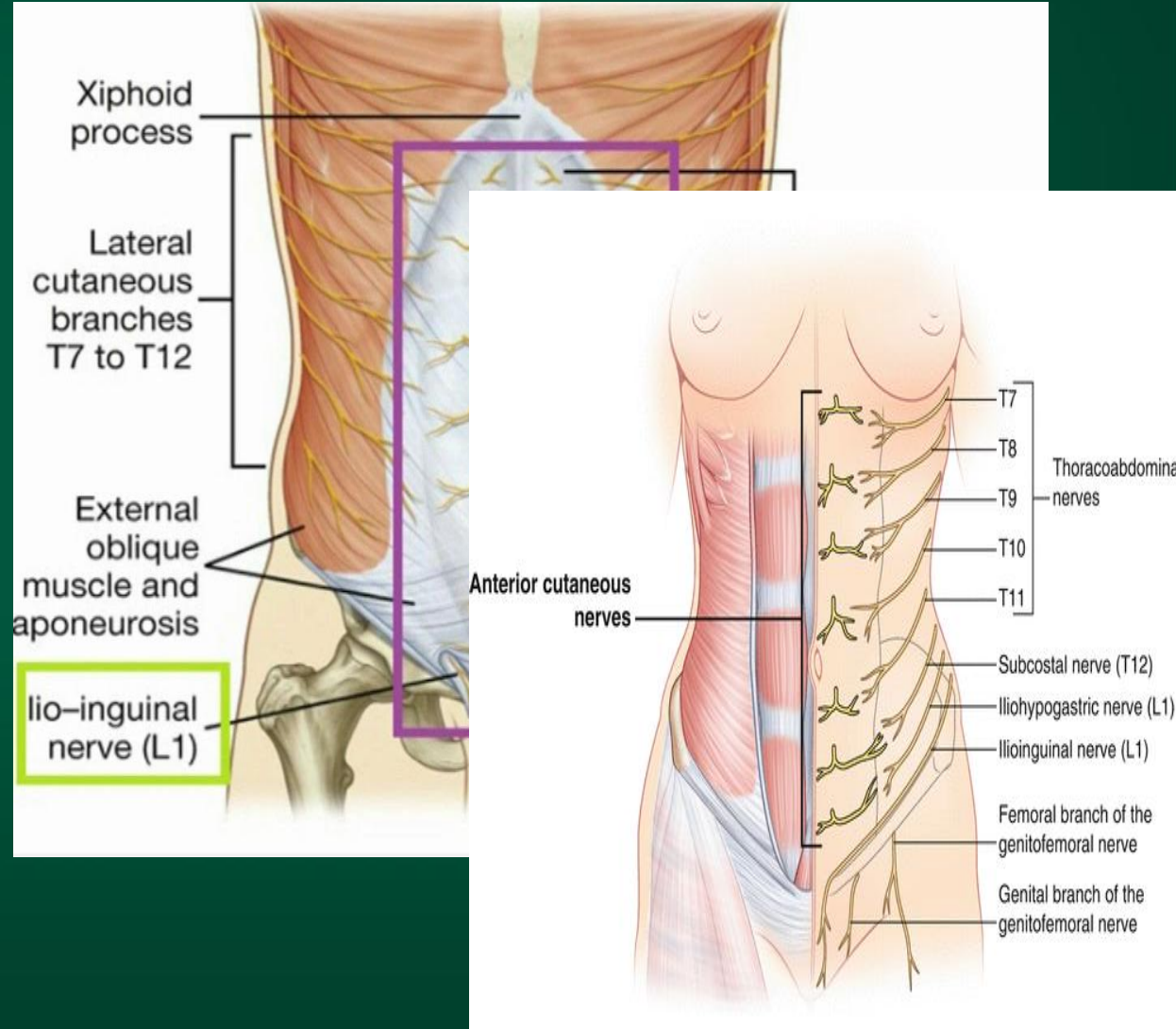
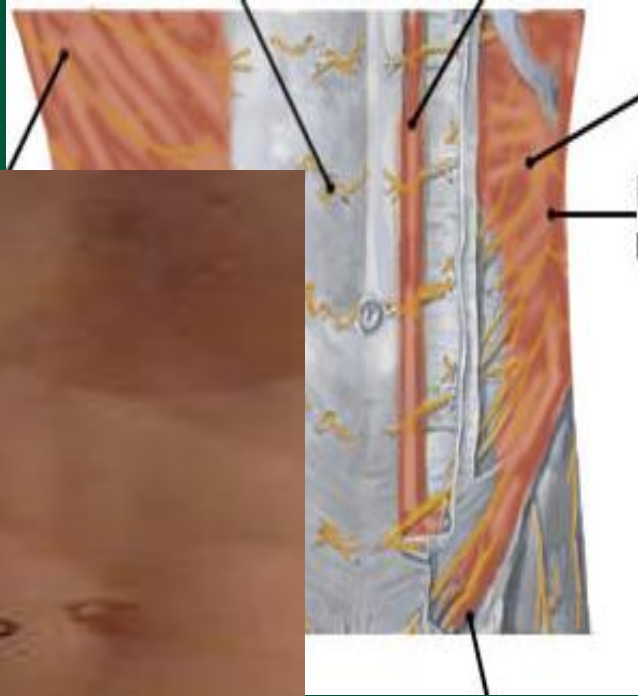
Athletic Abdomen

Lateral Rectus border
No Rebound
"Hover Sign" Present

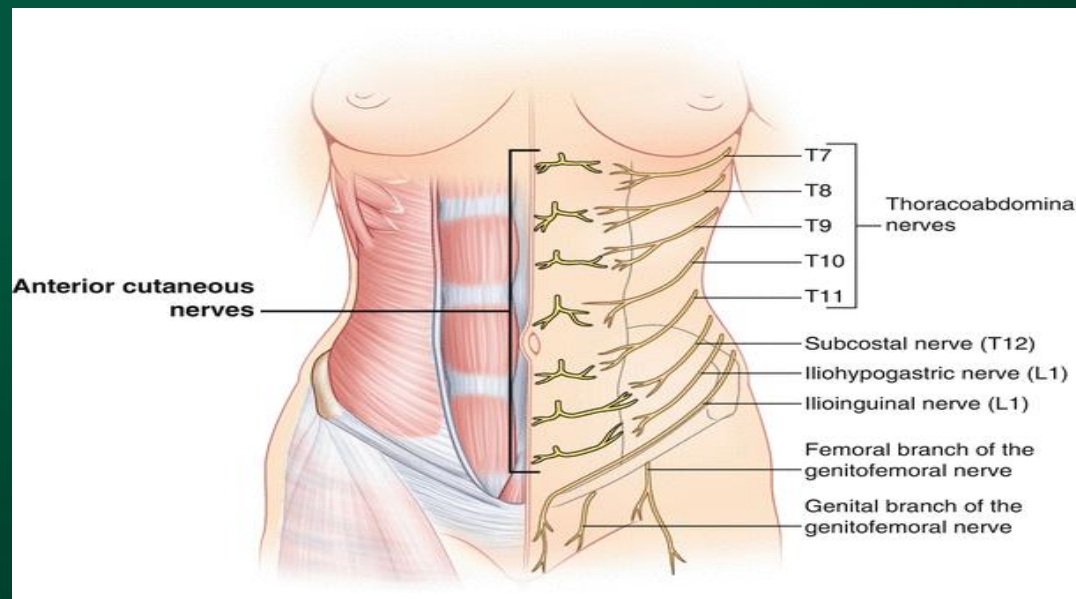
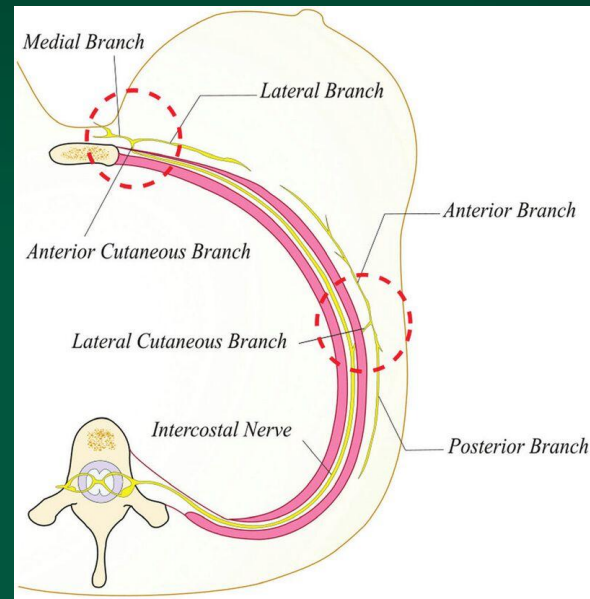
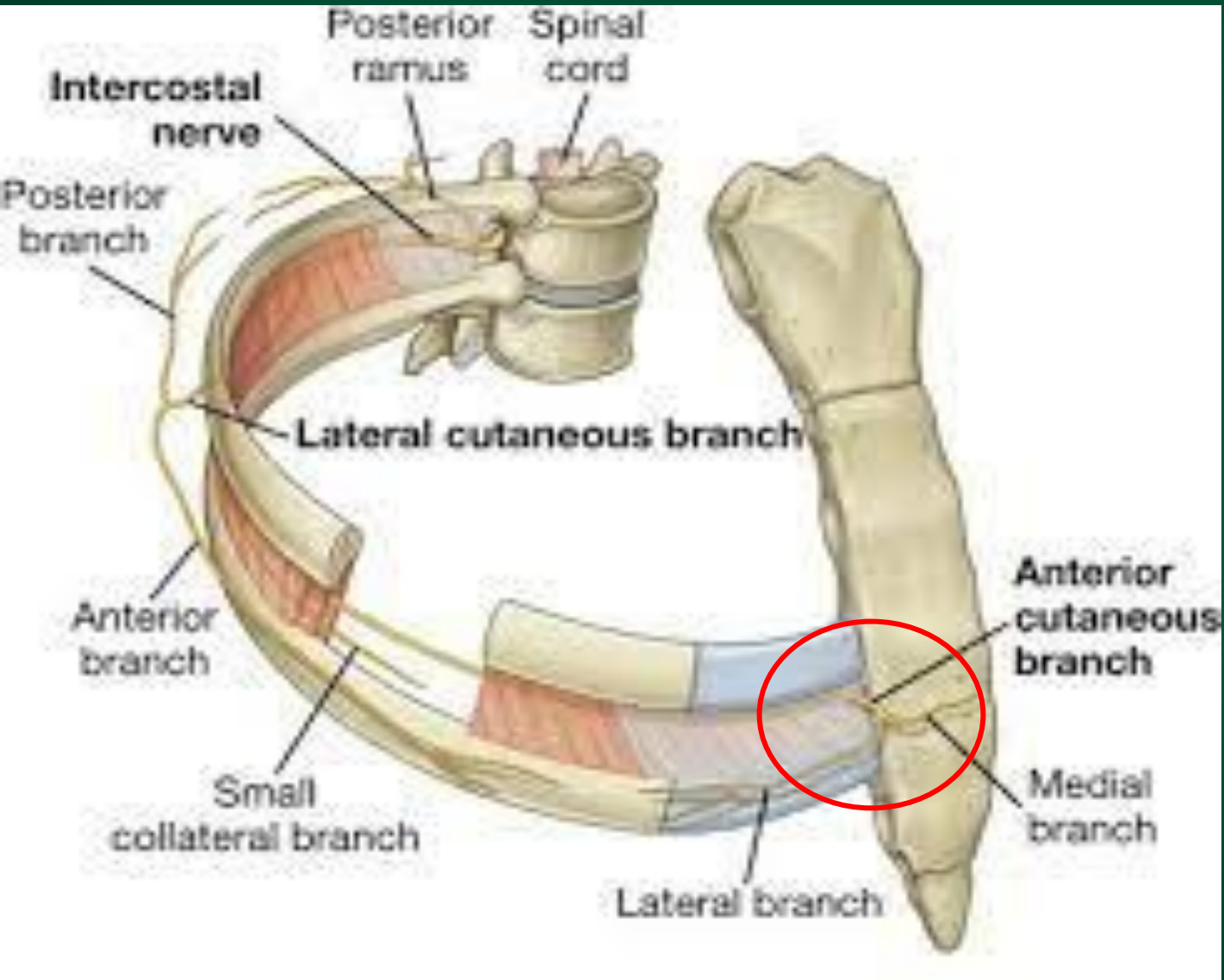


Carnett's Sign





ABDOMEN – PRAWN Anatomy



Musculoskelet Surg

. 2023 Jun 20;108(2):133–138. doi: [10.1007/s12306-023-00786-x](https://doi.org/10.1007/s12306-023-00786-x)

Diagnosis and treatment of acute inflammatory sacroiliitis in pregnant or postpartum: a systematic review of the current literature

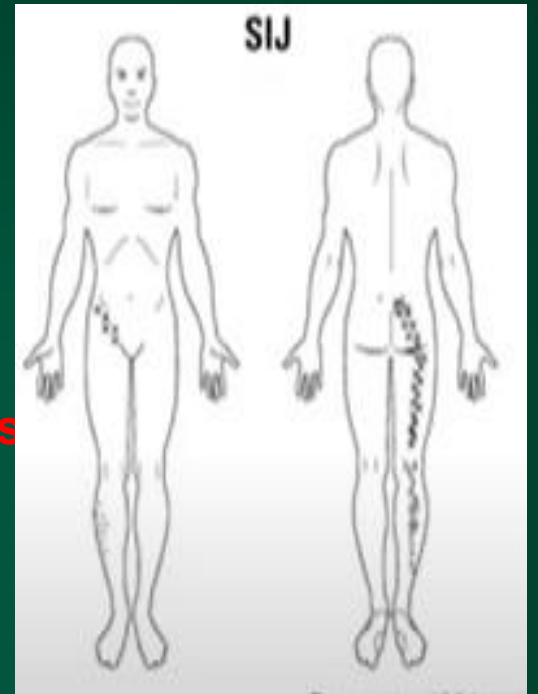
[G Viroli](#)¹, [T Cerasoli](#)^{1,✉}, [F Barile](#)¹, [M Modeo](#)¹, [M Manzetti](#)¹, [M Traversari](#)¹, [A Ruffilli](#)¹, [C Faldini](#)¹

[Author information](#)

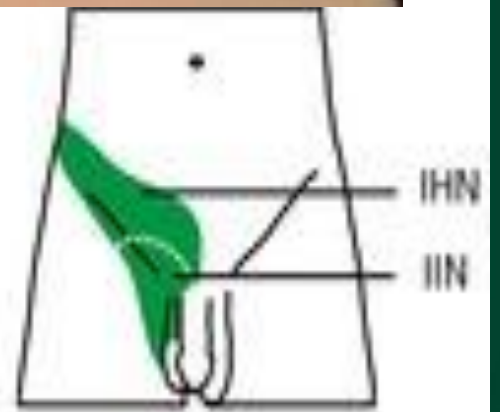
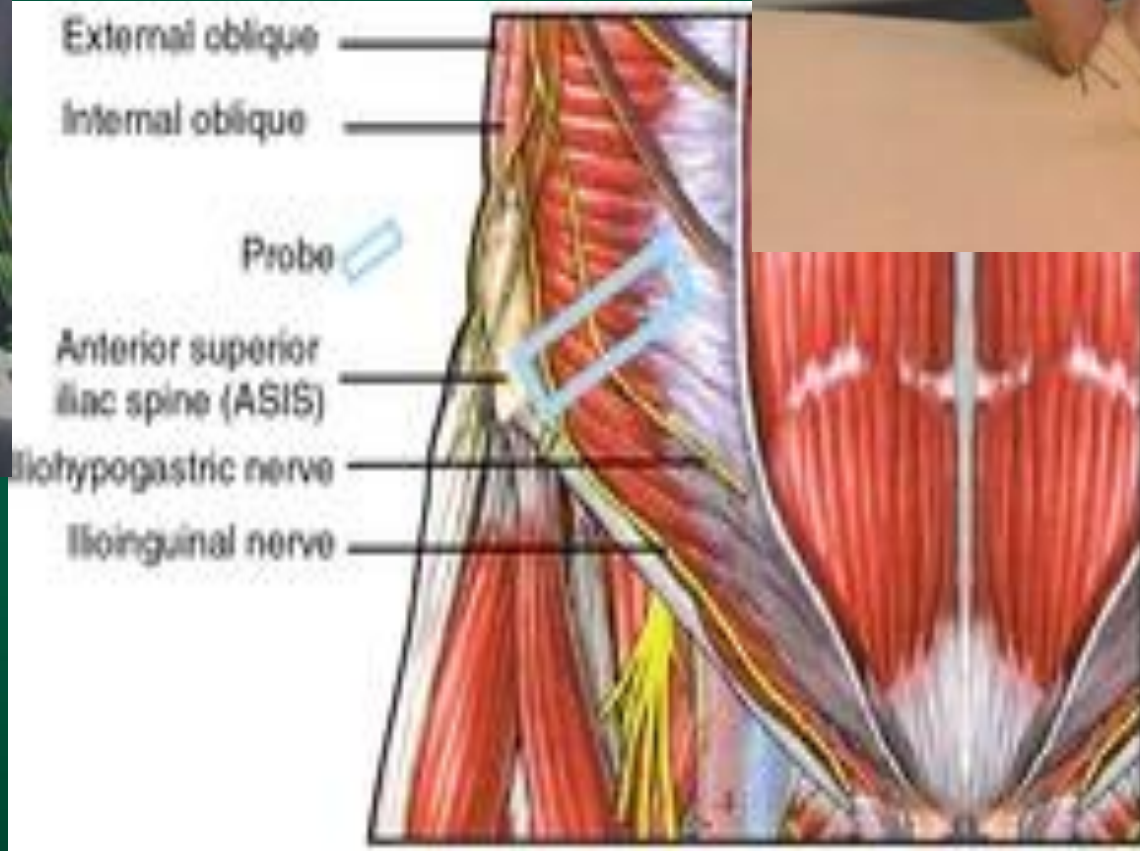
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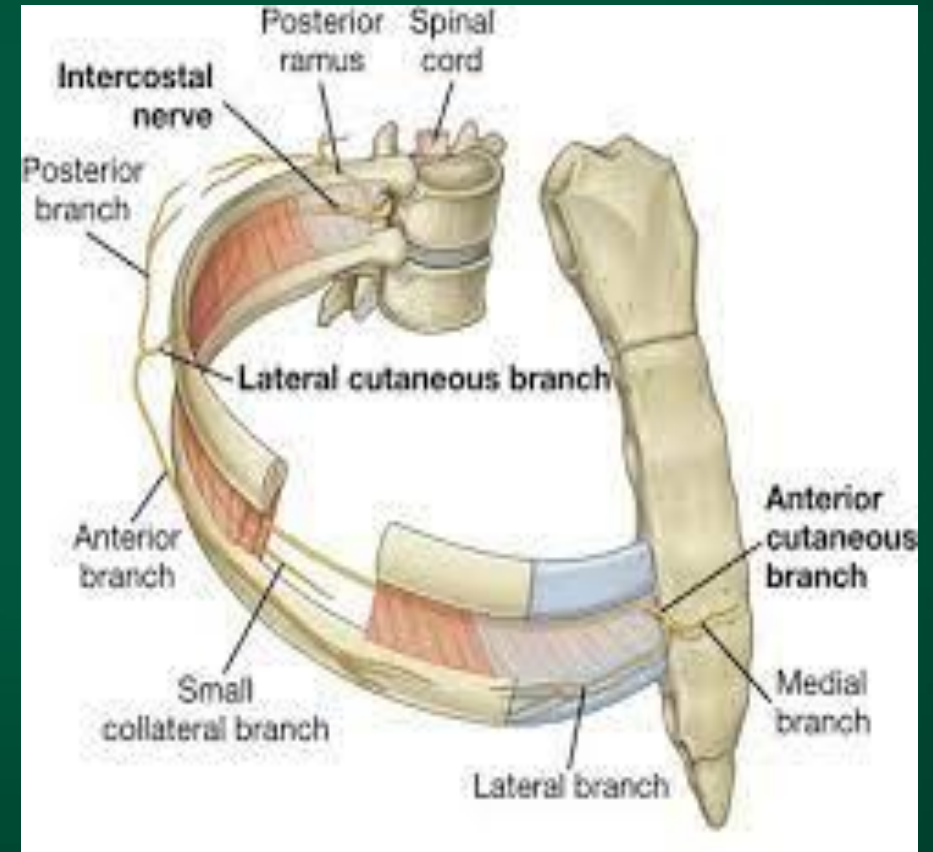
. Headache 2021 Jan;61(1):11-43.

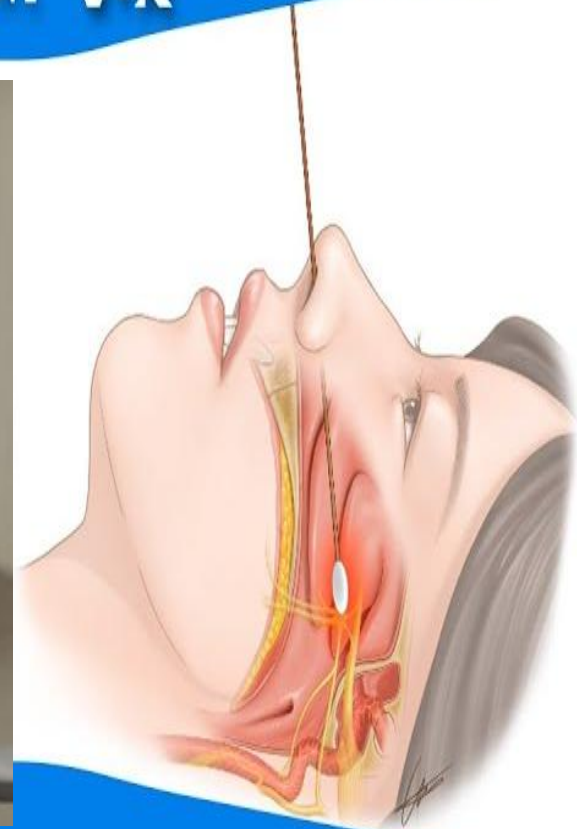
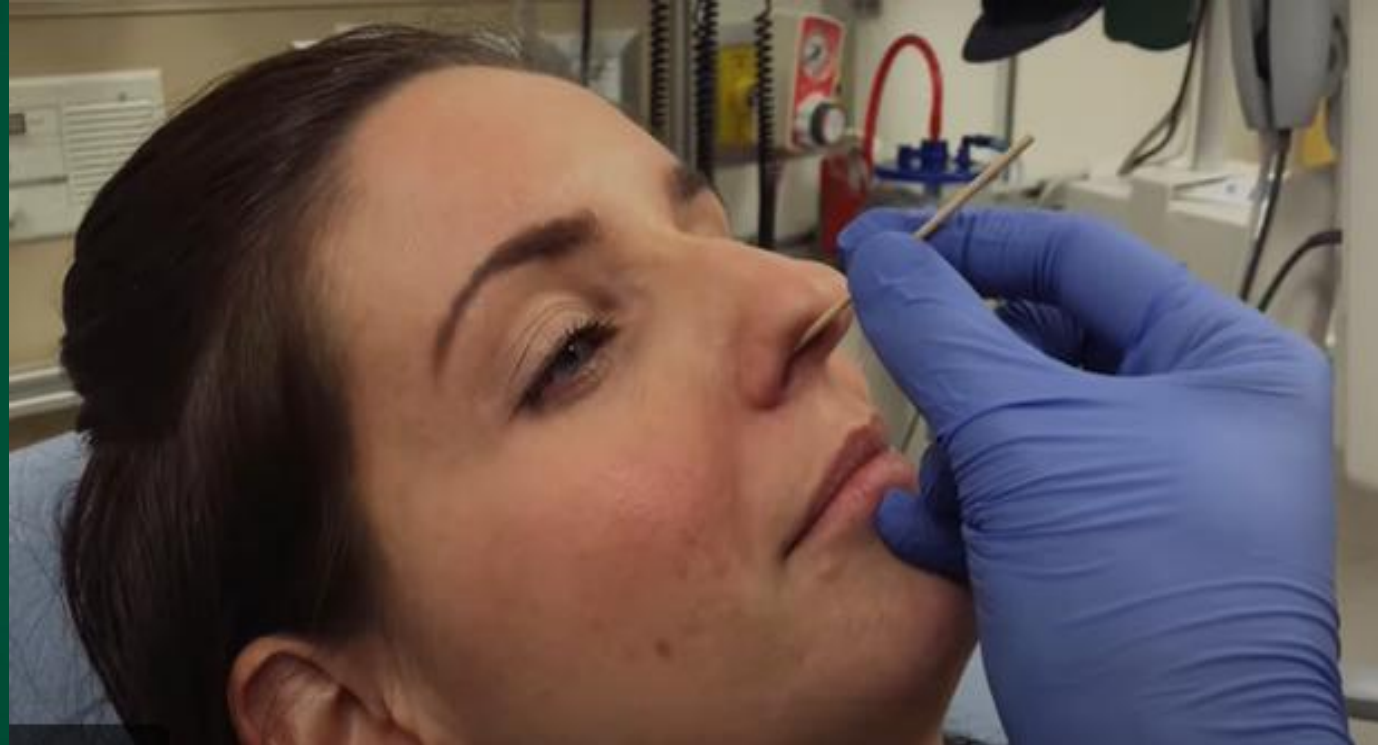
Management of primary headaches during pregnancy, postpartum, and breastfeeding: A systematic review

POSTER SESSION IV | OPERATIVE OBSTETRICS, CLINICAL OBSTETRICS, INTRAPARTUM, MEDICAL-SURGICAL: ABSTRACTS

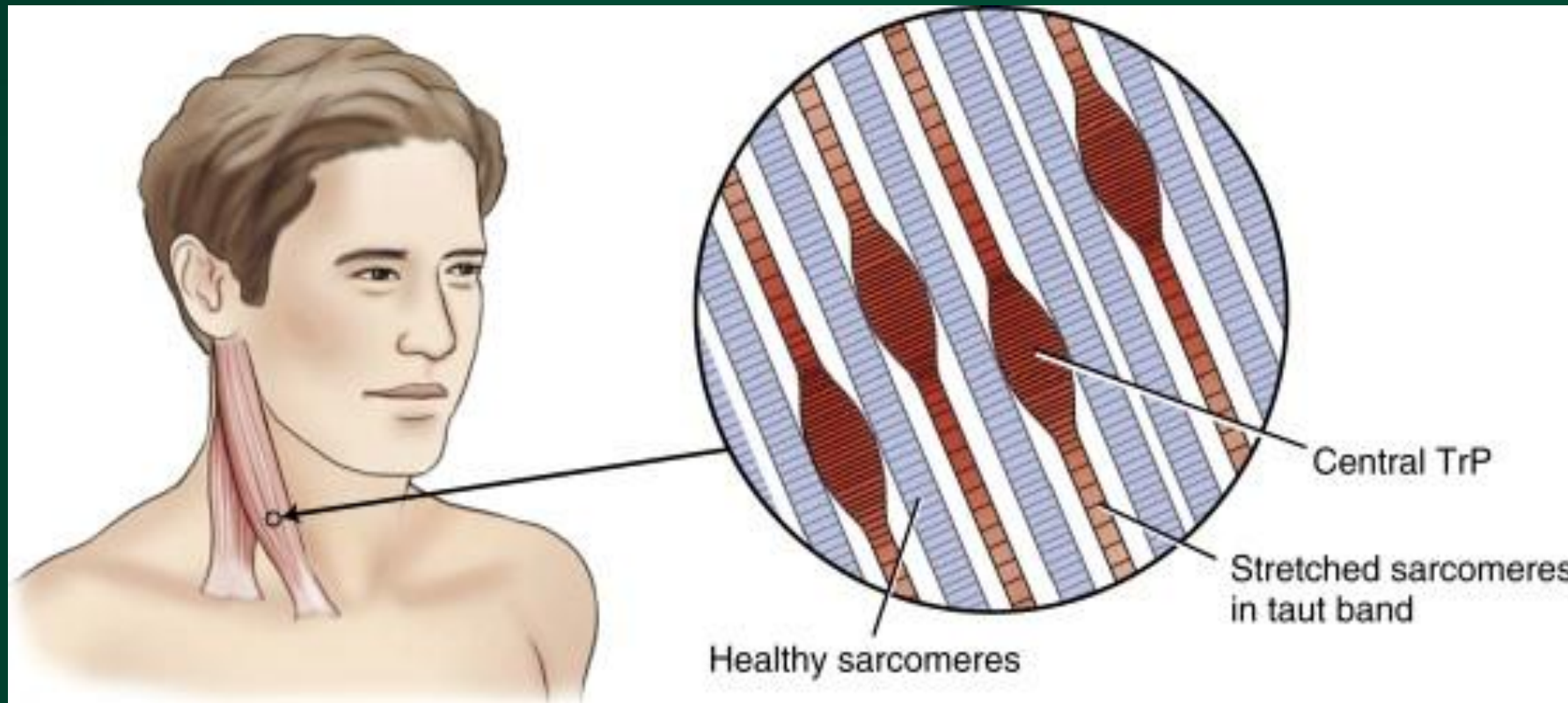
537 – 686 [Volume 210, Issue 1, Supplement S277](#) January 2014

564: Metoclopramide and diphenhydramine: a randomized controlled trial of a treatment for headache in pregnancy when acetaminophen alone is ineffective (MAD Headache Study)





TRIGGER POINT → Anatomy



Definition: Localized, Tender, Palpable Muscular Knot in a Muscle
Ropelike Band of Muscle ("Taut Band")
Palpation Produces "Muscular Twitch" + Pain



Manual pressure over knot

Forced venous emptying

Muscular relaxation

Increased Blood Flow

Increases oxygenation

