



THE PELVIS

Differential Diagnoses &
When to refer!

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Objectives

- The learner will gain understanding of pelvic anatomy.
- The learner will gain understanding of the following diagnoses: obturator internus dysfunction, diastasis rectus abdominis, SIJ dysfunction, chronic pelvic pain, urinary dysfunction
- The learner will be able to identify common objective musculoskeletal findings for each discussed diagnosis and subjective comments that may point to a pelvic differential diagnosis.
- The learner will be able to identify common pelvic floor muscle pain referral patterns.
- Learner will be able to perform a brief external pelvic musculature assessment with appropriate verbal communication of the process to a patient.
- Learner will be able to assess a diastasis rectus abdominus.
- Learner will be able to properly teaching pelvic floor musculature down-training through diaphragmatic breathing techniques.

The Muscles

Three Muscle Layers:

1. 1st layer, superficial genital muscles = sexual function
2. 2nd layer = sphincteric, continence
3. 3rd layer, deepest = support of viscera (like a hammock), stabilizes SIJ

Hip Stabilizing Muscles:

- Obturator internus
- Piriformis

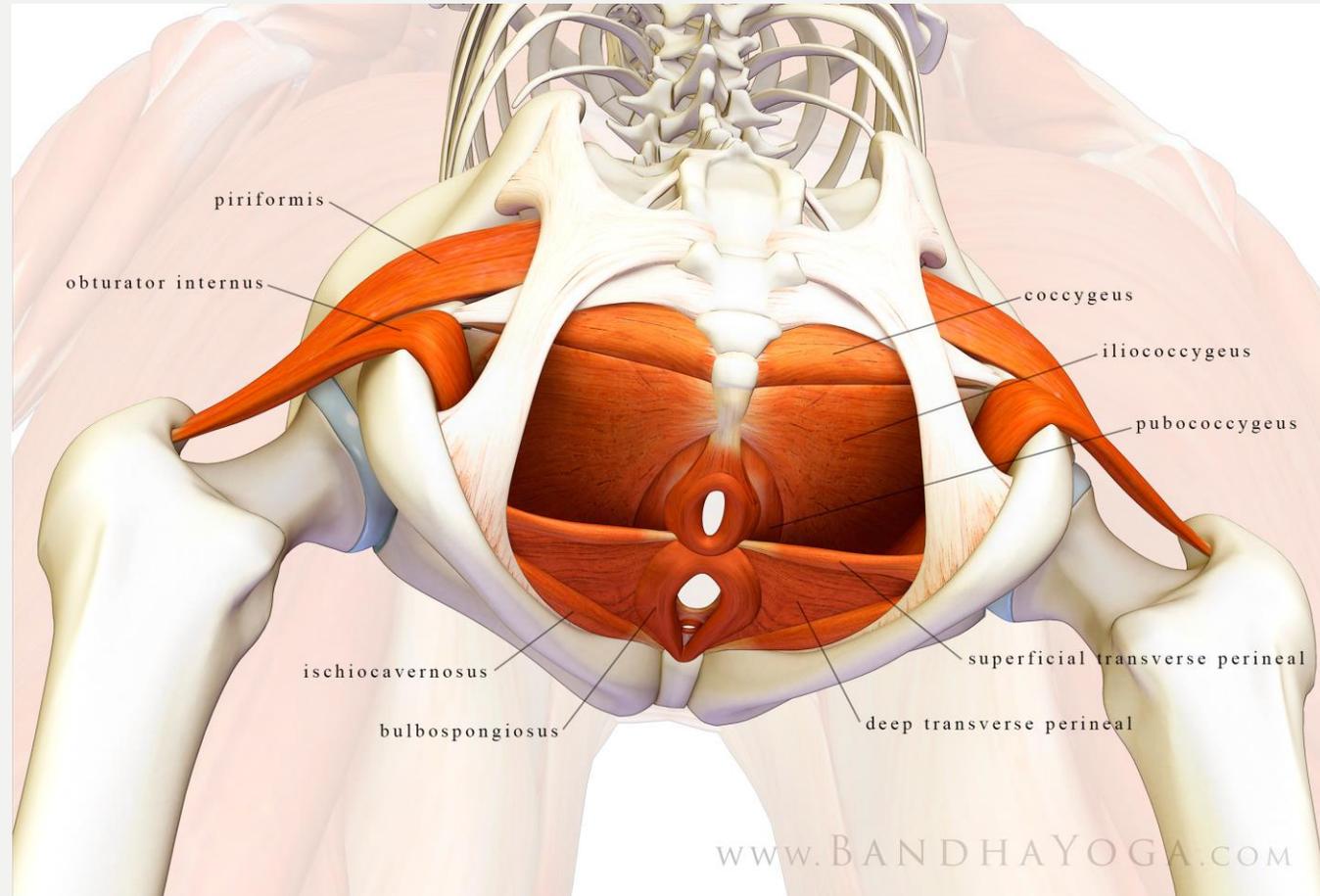


Photo: Daily Bandha

MSK FINDINGS →
PELVIC DIAGNOSIS



Obturator Internus Dysfunction

OBJECTIVE FINDINGS

- Pain down posterior thigh, complains of HS pain, ischial bursitis, labral pain
- LBP, HS pain, hip pain that is not responding to traditional treatment
- Single-leg-lean posture
- Tenderness with external palpation of OI

CLINICAL APPLICATION

- Palpation allows assessment of PFM control
- Training of the OI & adductors can help with decreasing SUI symptoms ¹

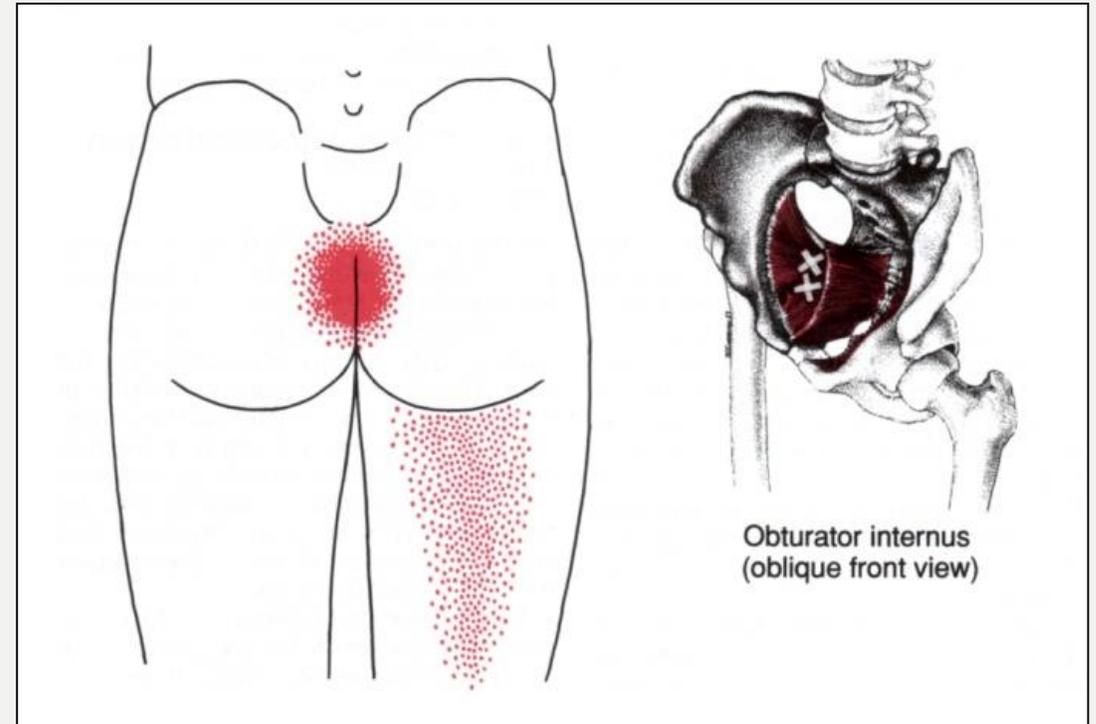


Photo: Travell ¹¹

OI PALPATION

Lab!



Diastasis Recti Abdominus

OBJECTIVE FINDINGS

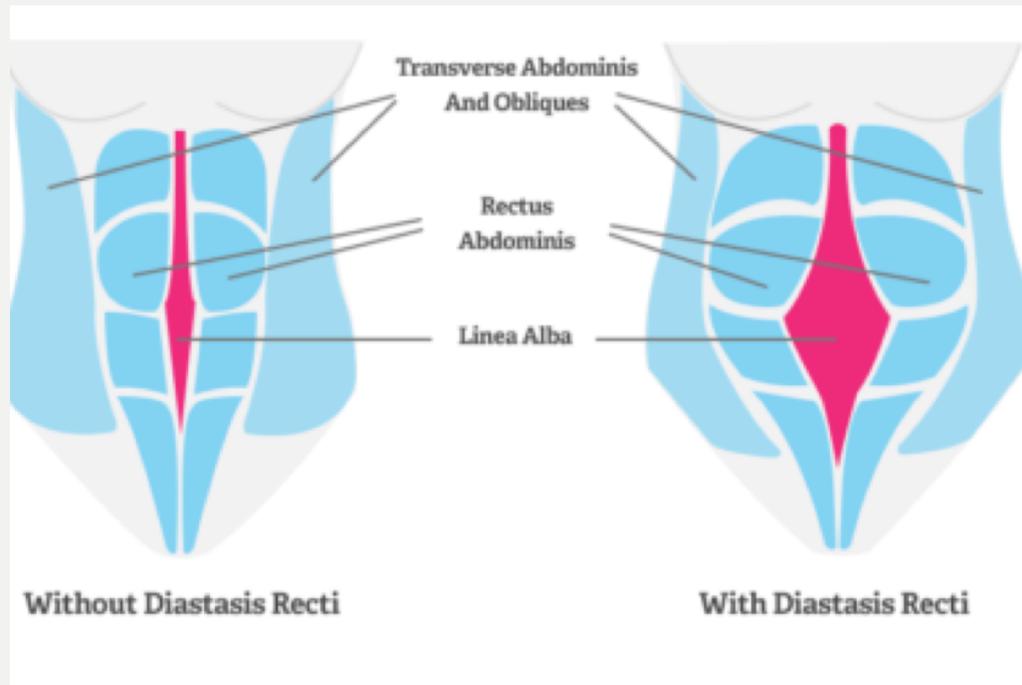
- Abdominal wall separation at linea alba between rectus bellies
- Weakness of the TVA³

PREVALENCE:

- >50% of women have DRA²
- Risk factors: >33 y.o., multiparity, larger baby, greater weight gain, c-section birth³

TREATMENT

- TVA activation: improves fascial tension, draws together rectus abdominus, and improves efficiency of load transference, as well as speeds up recovery of DRA^{2,3}
- **AVOID:** sit ups, isolated oblique work, gravity increasing positions, increased intra-abdominal pressure



DRA ASSESSMENT

Lab!



SIJ Dysfunction

- Presenting as LBP
- SIJ and PFM are directly connected
- Recent pregnancy – increased relaxin leading to ligamentous laxity near sacrum and PFM weakness leading to instability of pelvic region
- Tightness of PFM can pull asymmetrically causing posterior slack SIJ ligaments; and weak PFM will cause instability
- Poor coordination/control of SIJ and PFM can lead to urinary symptoms or prolapse
- PFM stabilizes sacrum between coxal bones⁴

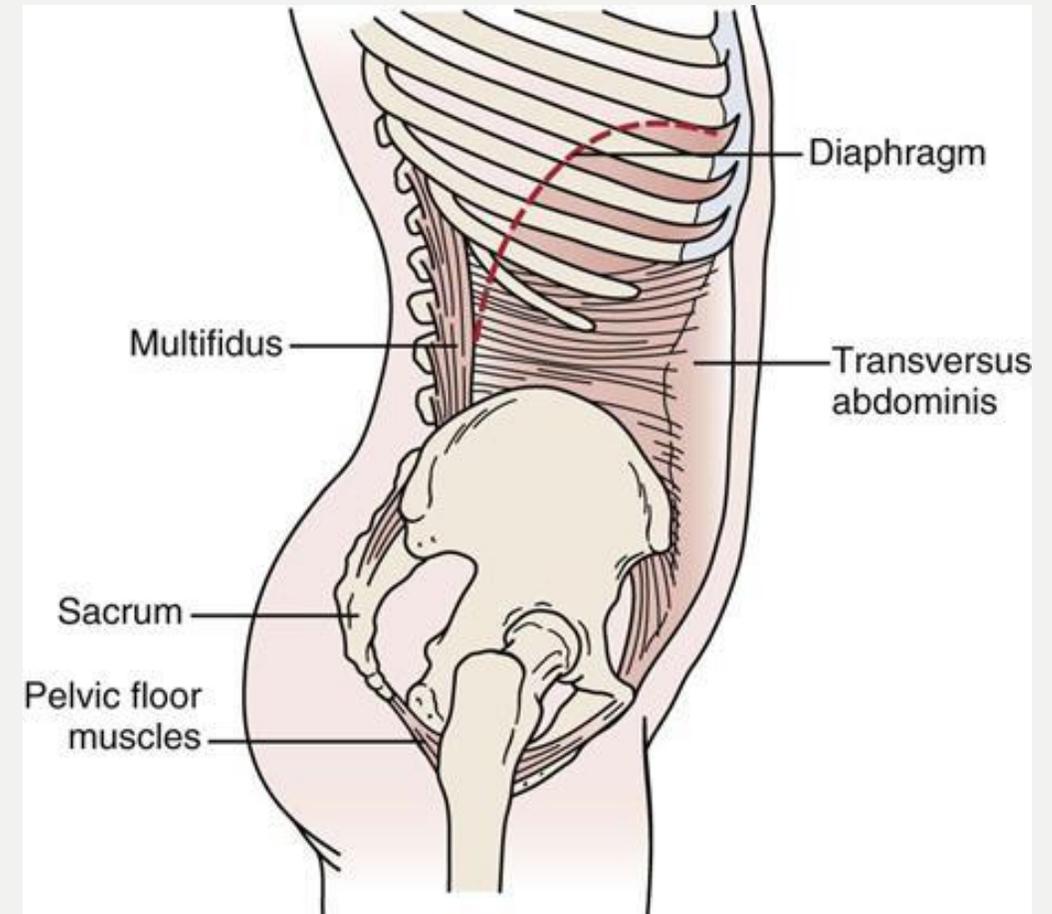


Photo: Magee¹²

Chronic Pelvic Pain & Posturing

OBJECTIVE FINDINGS

- 85% of patients with CPP have **lumbar lordosis, hyperextension, anterior pelvic tilt, decreased ROM in spine** ⁵
- Pelvic floor muscle spasm
- Abnormal posture
- Loss of 15-25' internal rotation
- Abdominal myofascial tender points ⁶

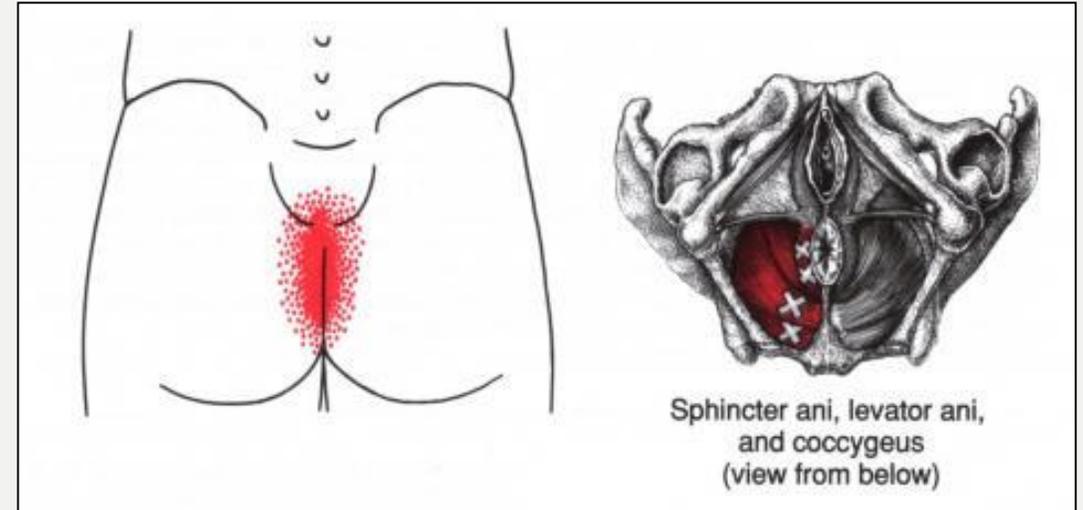


Photo: Travell ¹¹

Urinary/Bowel Dysfunction

OBJECTIVE FINDINGS

- Low back pain
- Complaints of urinary urgency
- Poor TVA control/awareness - co-activation of gluts/adductors/Valsalva⁵
- Limitations in hip flexion – leading to abnormal voiding patterns
- Medications that may cause constipation

PREVALENCE

- LBP – 78% of women with LBP also had complaints of UI⁷
- High prevalence of increased falls risk, severe LBP and multi-site OA, if a woman has UI⁸
- Elite female college athletes – 28% reported urine loss during sports^{9,10}

Questions to ask!

- Have you had any **changes** in bowel/bladder function?
- Increased urgency, frequency or leakage?
- Constipation or difficulty voiding?
- Groin, abdomen or pelvic pain?

WHY ASK?

- Prolapse, chronic pelvic pain, abnormal posturing, decrease in physical/social activity, falls associated with urgency



Photo: pelvic guru

DIAPHRAGMATIC BREATHING

Lab!



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