# The Missing Link

Do you optimally address low back, pelvic girdle, and hip pain?

# Pelvic Floor Dysfunction Prevalence

- Urinary incontinence: 5-72% depending on population
  - Most common cause of pediatrician sick visits
  - Most common cause of elder institutionalization
- Constipation: 15%
  - 4$^{th}$ most common cause of adult visits to a PCP
- Sexual dysfunction
  - Dyspareunia-21%
  - Erectile dysfunction-55%
  - Premature ejaculation-30%

Aoki Y, Brown HW, Brubaker L, Cornu JN, Daly JO, Cartwright R. Urinary incontinence in women [published correction appears in Nat Rev Dis Primers. 2017 Nov 16;3:17097]. *Nat Rev Dis Primers*. 2017;3:17042. Published 2017 Jul 6. doi:10.1038/nrdp.2017.42

Bharucha AE, Lacy BE. Mechanisms, Evaluation, and Management of Chronic Constipation. *Gastroenterology*. 2020;158(5):1232-1249.e3. doi:10.1053/j.gastro.2019.12.034

Ghaderi F, Bastani P, Hajebrahimi S, Jafarabadi MA, Berghmans B. Pelvic floor rehabilitation in the treatment of women with dyspareunia: a randomized controlled clinical trial. *Int Urogynecol J*. 2019;30(11):1849-1855. doi:10.1007/s00192-019-04019-3

# Why Does it Matter?

- Alteration of PF and TA muscle recruitment seen in patients with sacroiliac joint pain
- Patients with low back pain consider sexual disability associated with low back pain severely disabling and distressing
- Low back pain and urinary incontinence are associated in large epidemiological studies and each condition can predispose developing the other
- Transabdominal ultrasound measurements show significantly less pelvic floor control/activity in individuals with LBP compared to those without
- 95.3% of AFAB individuals with chronic lumbopelvic pain had some form of pelvic floor dysfunction
  - 71%-pelvic floor overactivity and muscle pain
  - 66%-pelvic floor weakness/lack of coordination
  - 41%-pelvic organ prolapse
  - 93%-urinary urgency or incontinence-highly predictive of presence of pelvic floor muscle dysfunction in women with lumbopelvic pain

Hungerford B, Gilleard W, Hodges P. Evidence of altered lumbopelvic muscle recruitment in the presence of sacroiliac joint pain. *Spine (Phila Pa 1976)*. 2003;28(14):1593-1600.
Dufour S, Vandyken B, Fortier MS, Vandyken C. Association between lumbopelvic pain and pelvic floor dysfunction in women: A cross sectional study. *Musculoskelet Sci Pract*. 2018;34:47-53. doi:10.1016/j.msksp.2017.12.001

# Why Does it Matter?

- Changes in urinary continence following THA recognized/documented phenomenon
  - UI improved post THA in 64% of patients
  - Worsened in 4% of patients
- Patients with concomitant vulvodynia experienced significant symptom changes following surgery for FAI
- Rate of urinary incontinence among female Crossfit competitors: 41.8%
- Rate of stress incontinence during kickboxing and boot camp
  - 64.2%
  - No difference based on history of pregnancy
  - Higher in those who exercised more

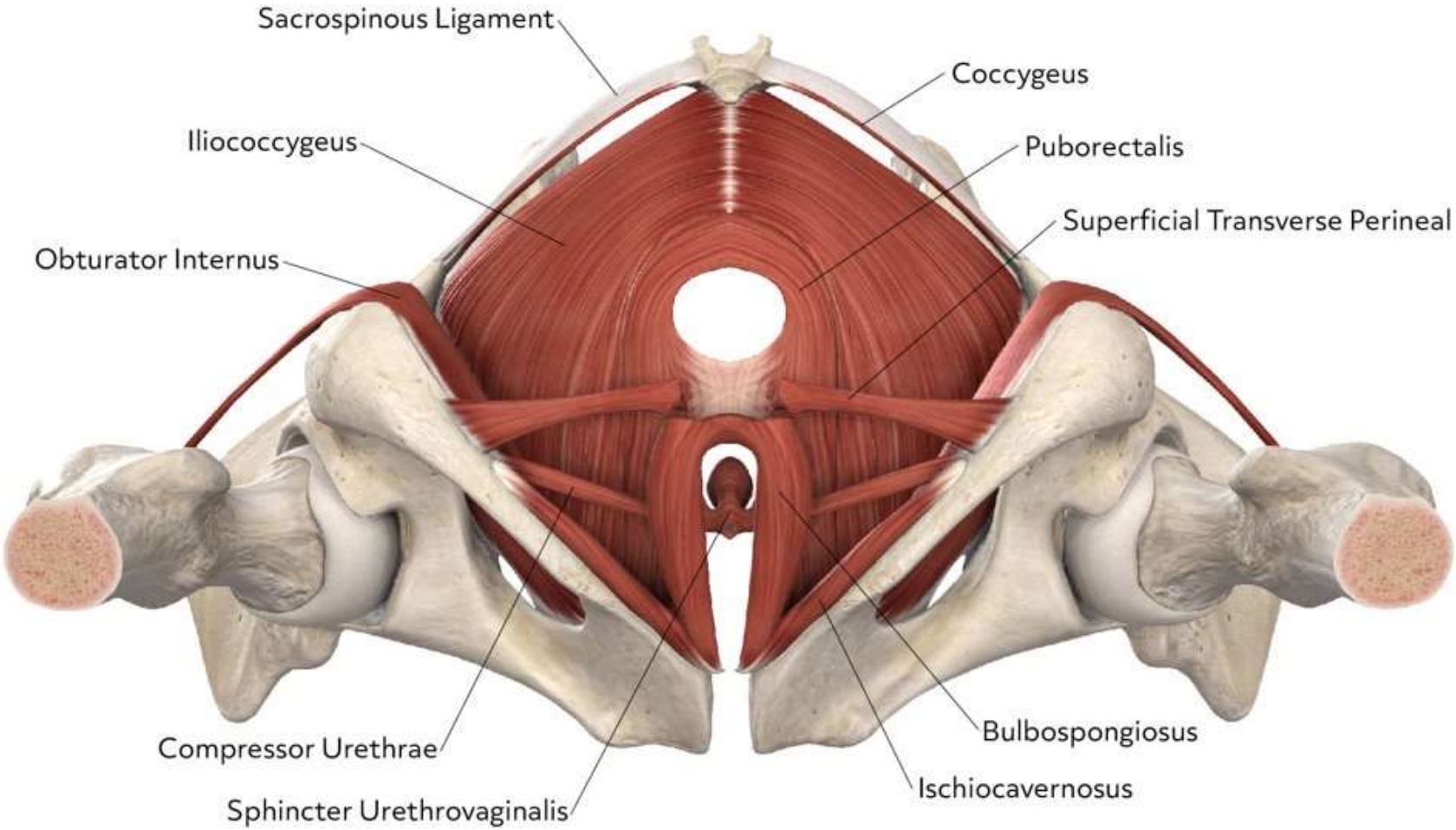
Tamaki T, Oinuma K, Shiratsuchi H, Akita K, Iida S. Hip dysfunction-related urinary incontinence: a prospective analysis of 189 female patients undergoing total hip arthroplasty. *Int J Urol*. 2014;21(7):729-731. doi:10.1111/iju.12404
Coady D, Futterman S, Harris D, Coleman SH. Vulvodynia and Concomitant Femoro-Acetabular Impingement: Long-Term Follow-up After Hip Arthroscopy. *J Low Genit Tract Dis*. 2015;19(3):253-256. doi:10.1097/LGT.0000000000000108
Wikander L, Kirshbaum MN, Gahreman DE. Urinary Incontinence and Women CrossFit Competitors. *Int J Womens Health*. 2020;12:1189-1195. Published 2020 Dec 14. doi:10.2147/IJWH.S278222
Khowailed IA, Pinjuv-Turney J, Lu C, Lee H. Stress Incontinence during Different High-Impact Exercises in Women: A Pilot Survey. *Int J Environ Res Public Health*. 2020;17(22):8372. Published 2020 Nov 12. doi:10.3390/ijerph17228372

# Does Rehab Help?

- Addition of pelvic floor exercise to PT intervention in chronic low back pain resulted in significantly lower pain scale & ODI scores- impact remained at 24 weeks
- Significant positive impact on pain, Oswestry score, and degree of bladder base displacement on postpartum individuals with lumbopelvic pain
- Physical therapy is a strongly supported intervention for common pelvic floor dysfunction related complaints such as incontinence, prolapse, and constipation

Bi X, Zhao J, Zhao L, et al. Pelvic floor muscle exercise for chronic low back pain. *J Int Med Res*. 2013;41(1):146-152. doi:10.1177/0300060513475383
Teymuri Z, Hosseinifar M, Sirousi M. The Effect of Stabilization Exercises on Pain, Disability, and Pelvic Floor Muscle Function in Postpartum Lumbopelvic Pain: A Randomized Controlled Trial. *Am J Phys Med Rehabil*. 2018;97(12):885-891. doi:10.1097/PHM.0000000000000993
Berghmans B. Physiotherapy for pelvic pain and female sexual dysfunction: an untapped resource. *Int Urogynecol J*. 2018;29(5):631-638. doi:10.1007/s00192-017-3536-8

# So…Internal for Everyone?



# Screening-Subjective

- Urine or stool leakage/incontinence
- Sexual pain or dysfunction
- Uncontrollable gas
- Constipation
- Difficulty releasing urine
- Struggles to figure out how to activate transverse abdominus
- “Breath holding” motor pattern with transitions or lifting
- Chest breathing
- Symptoms worsen around menses or originated around a delivery, puberty, or menopause
- History of abdominal surgery
- History of recurrent UTIs or pelvic infection

# External Pelvic Floor Evaluation

- Watch your patient move!
- Tests that assess for pelvic & core coordination (ASLR, single leg stance, functional movement assessment)
- Coccygeal Movement Test
- Breathing patterns/movement strategy
- Palpation

# Coccygeal Movement Test

- Patient in sitting, sidelying, standing
- Place proximal portion of hand on sacrum with 2nd and 4th digits on gluteal muscles and 3rd digit on coccyx
- Request a contraction of pelvic floor
- Inward displacement of coccyx=correct contraction
- Outward displacement of coccyx=straining/bulging/incorrect contraction
- No displacement of coccyx=nothing

# External Palpation

- Assess for tone & function
- Knees supported
- Fingers on ischial tuberosity, “sink in” to palpate
- Bilateral
- Pain, trigger points, resting activity levels
- Palpate hip adductors also-mirror PF activity
- Can be performed in supine or sidelying

# Intra-Abdominal Pressure

## What is it??

Evidence In Motion

# Specific or Nonspecific Muscle Training?

Coulombe, 2017: Meta-analysis of 5 studies

- Short term-specific exercise more effective than general exercise

Saragiotto, 2016: Cochrane review of 29 trials for chronic, nonspecific LBP

- Low to moderate quality evidence that motor control exercise has a clinically important effect compared with minimal intervention
- Very low to low quality evidence for MCE compared to exercise plus electrophysical agents
- Moderate to high quality evidence that MCE provides similar outcomes to manual therapy

Owen, 2020: Meta-analysis of 89 studies for adults with chronic nonspecific LBP

- Low quality evidence that Pilates, stabilization/motor control, resistance training, and aerobic exercise training are the most effective treatments
- Exercise training more important than hands-on therapist treatment for reducing pain and improving physical function and mental health

Coulombe BJ, Games KE, Neil ER, Eberman LE. Core Stability Exercise Versus General Exercise for Chronic Low Back Pain. J Athl Train. 2017;52(1):71-72. doi:10.4085/1062-6050-51.11.16

Owen PJ, Miller CT, Mundell NL, et al. Which specific modes of exercise training are most effective for treating low back pain? Network meta-analysis. Br J Sports Med. 2020;54(21):1279-1287. doi:10.1136/bjsports-2019-100886

Saragiotto BT, Maher CG, Yamato TP, et al. Motor control exercise for chronic non-specific low-back pain. Cochrane Database Syst Rev. 2016;(1):CD012004. Published 2016 Jan 8. doi:10.1002/14651858.CD012004

# Food for Thought

- Could it be different for different people?
- Or could it be that both are important?
- Global strategies
- Specific strategies
- What actually controls movement?
- Most positive outcomes typically came with translation into function

# Proposed Process

| Start | Add in | Add | Transition | Move on |
| --- | --- | --- | --- | --- |
| Start with breath | Add in awareness of pelvic floor & transverse abdominus | Add movement as quickly as possible | Transition into function/ global patterns | If it isn't working, move on |

# Retraining Breath

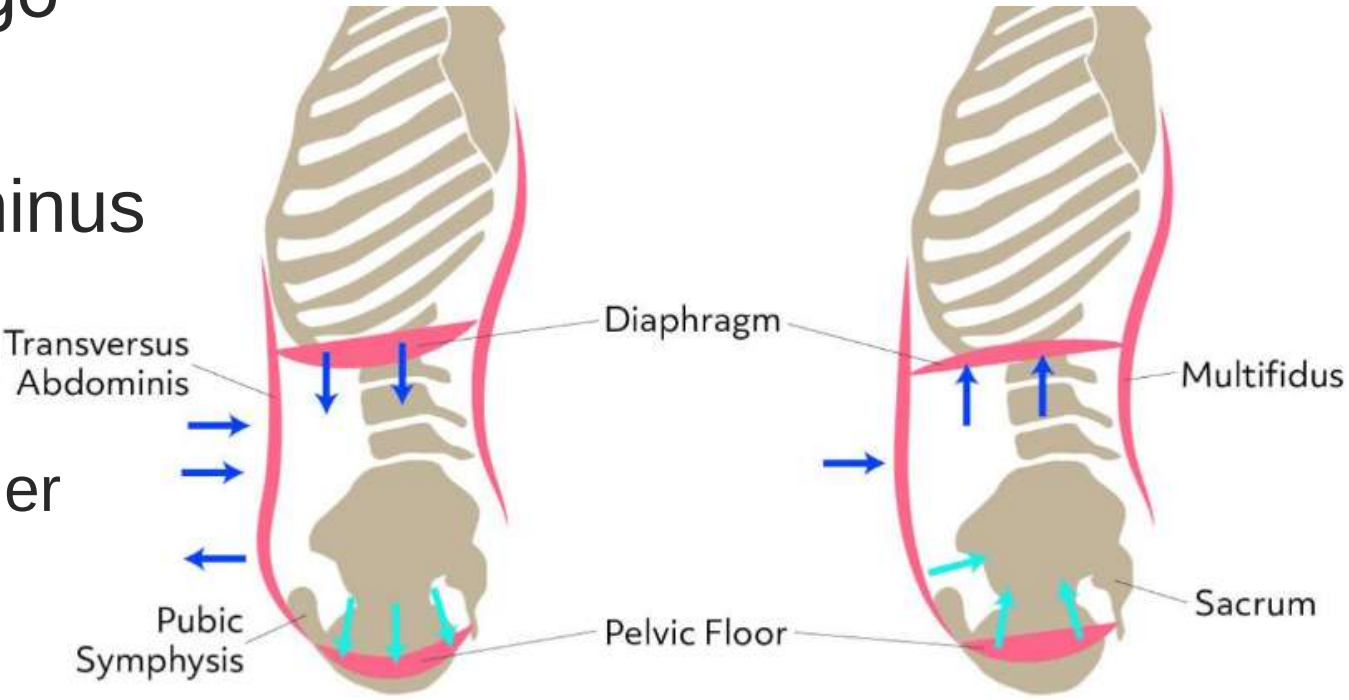
## Turning on the diaphragm

# Pelvic Floor: Let Go

- “Downtraining”
- Breath and positioning
- How much activity do you need to do this?
- Where does this go in “stability training”?

# Pelvic Floor: Turn On

- Breathing, “blow before you go”
- To Kegel or not to Kegel?
- Cuing with transverse abdominus
  - Pull sit bones together
  - Raise testicles
  - Pull clitoris and tailbone together
  - Hold back gas
  - Pretend to stop flow of urine
- Bracing/Valsalva, evil or no?
- How do I know what it’s doing?




Evidence In Motion

# Neuromotor Retraining

## Variability in positions and movement

- The pelvic floor is NOT a static hold muscle!
- Eccentric elongation needs to be just as (if not more) controlled as concentric shortening
- Elevator (pauses/control)
- Use positions that activate the pelvic floor (balance!)
- Ideal scenario: teach it to do its thing WITHOUT a volitional request
- Type of muscle fiber and type of muscle activation practice

# Questions?

- Remember…everybody has a pelvic floor! (And you're the movement expert and you can work with humans with pelvic floors!)
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Evidence In Motion