

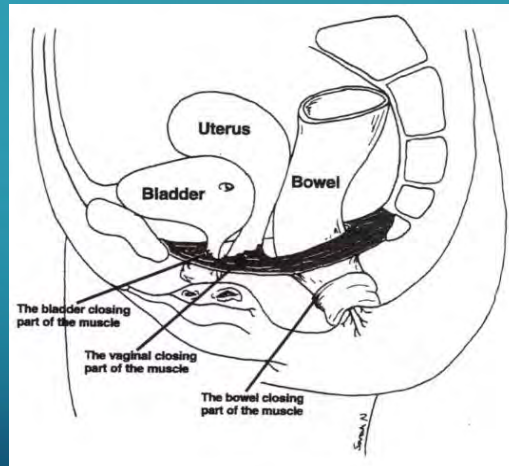
# POWER AND THE PELVIS

HOW TO PREPARE FOR ACTIVITY  
AND SUPPORT YOUR PELVIS

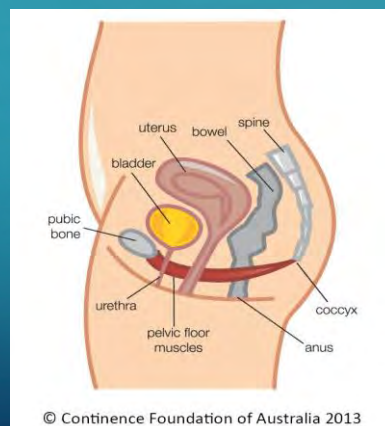
BREE RUTTEN, B.Sc.P.T.

## PELVIC FLOOR FUNCTION:

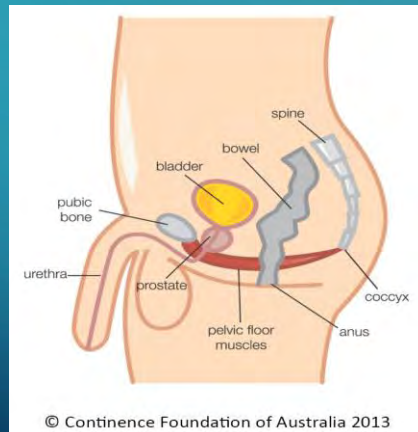
- Support your pelvic organs to prevent prolapse
- Help to keep bladder and bowel closed to prevent incontinence
- Assist in sexual function and orgasm



## FEMALE PELVIC FLOOR



## MALE PELVIC FLOOR



## MOVEMENT AND THE PELVIC FLOOR

- The pelvic floor is a reactive muscle group – but is also under our control
- It should know to automatically squeeze if we cough/sneeze/jump/run and then to fully relax to empty our bladder and bowel
- Sometimes, it gets confused, and needs reminders of how it should work

## HOW DOES MOVEMENT AFFECT OUR PELVIS

- Laying vs. sitting vs. standing positions
- Change of hip positions – legs narrow, wide or in stride position
- Strain or pressure on the pelvis – loaded with weight, from impact or from effort

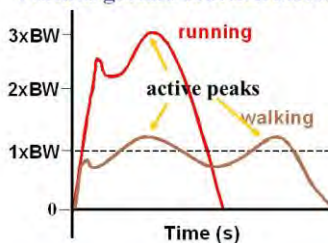
## RUNNING

- 3x our body weight goes through 1 leg 40% of time in single-support

### Forces during Walking vs. Running

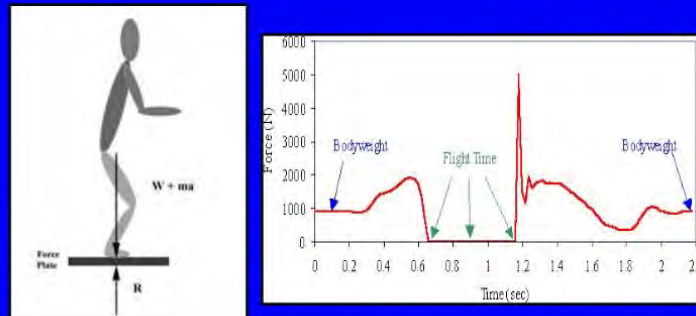
- walking:
  - long duration
  - double "active" peaks
  - +/-20% body weight
- running/sprinting/jumping:
  - brief durations
  - single "active" peak
  - 3 times BW
  - heel-toe landing
- jump landings:
  - brief duration
  - up to 10+ times BW
  - forefoot landing

Vertical ground reaction forces



# JUMPING

## Force Plate in Jumping...as we know



<https://www.slideshare.net/drewlee1/exss-3850-9-summer-linear-kinetics>

## FACTORS TO WATCH

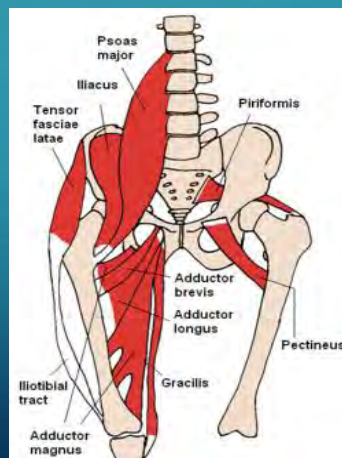
- Use of breath – holding, straining patterns
- Hip position – wide vs. narrow, flexed vs. straight
- Use of buddy muscles – glutes vs. quads, lower vs. upper abs

## MUSCLES THAT SUPPORT THE PELVIC FLOOR

- Gluteals
- Lower abdominals
- Inner thighs
- The are groups I take in to consideration to help with strength but also to help for releasing the pelvic floor

## ANTERIOR PELVIS AND CO-CONTRACTORS

[HTTPS://EN.WIKIPEDIA.ORG/WIKI/ADDUCTOR\\_MUSCLES\\_OF\\_THE\\_HIP](https://en.wikipedia.org/wiki/Adductor_muscles_of_the_hip)



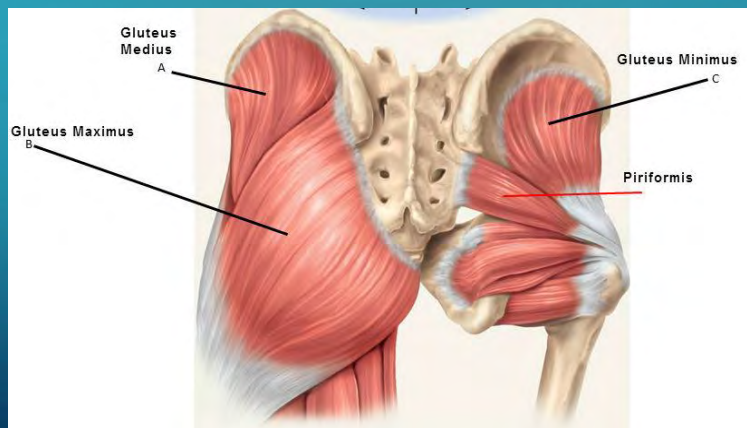
## HAMSTRING GROUP

WWW.YOGANATOMY.COM



## GLUTEAL MUSCLE GROUP

[HTTPS://WWW.HOWTORELIEF.COM/GLUTEUS-MAXIMUS-ORIGIN-INSERTION-ACTION-NERVE-SUPPLY/](https://www.howtorelief.com/gluteus-maximus-origin-insertion-action-nerve-supply/)



## HOW CAN WE ALTER MOVEMENT TO SUPPORT THE PELVIS?

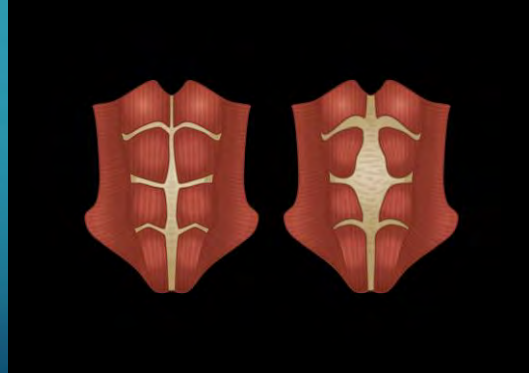
- Add in more glute activation:
  - Semi squat position
  - Support with lower abs vs. upper abs
  - Exhale on effort
- Long spine position
- Relax upper abs and breathe

## CORE STRENGTH AND THE PELVIS

- Are sit ups and crunches bad?
- Daily activities and positions in life and how do we train for that
- On top of that – leisure and sporting activities

## DIASTASIS RECTI

[HTTP://WWW.NEXTSTEPPHYSIO.COM/WOMENS-HEALTH/PELVIC-FLOOR/](http://www.nextstepphysio.com/womens-health/pelvic-floor/)



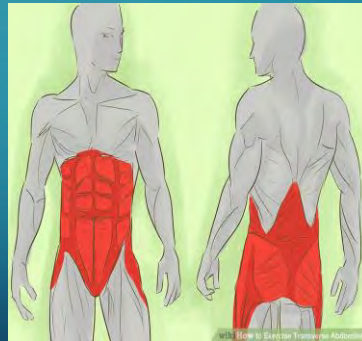
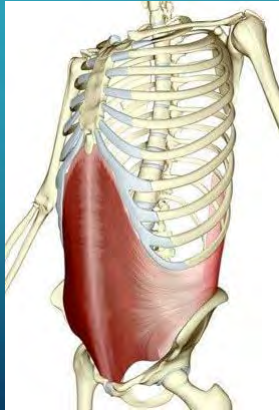
## SPINE STABILIZERS WITH PELVIC FLOOR

- The transverse and multifidi should co-contract before movement occurs to prepare us
- These muscles are also co-contractors of the pelvic floor
- I start specific with the PF first, then go global

# TRANSVERSE ABS

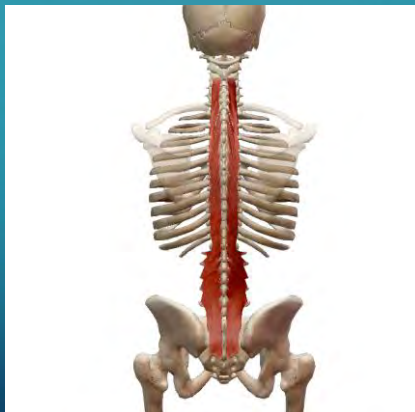
[HTTPS://WWW.CUSTOMPILATESANDYOGA.COM/HEALTH/TRANSVERSE-ABDOMINIS-LEARN-YOUR-MUSCLES/](https://www.custompilatesandyoga.com/health/transverse-abdominis-learn-your-muscles/)

[HTTPS://WWW.WIKIHOW.COM/EXERCISE-TRANSVERSE-ABDOMINALS](https://www.wikihow.com/Exercise-Transverse-Abdominals)



# MULTIFIDI

[HTTPS://WWW.NORTHFLORIDASPIINEANDINJURYCENTER.COM/B/THE-MULTIFIDUS-MUSCLE-SO-SMALL-YET-SO-VERY-IMPORTANT](https://www.northfloridaspineandinjurycenter.com/b/the-multifidus-muscle-so-small-yet-so-very-important)



## IS OUR PELVIC FLOOR ALWAYS SUPPOSED TO BE ON?

- It is already “on” through everyday life – how much more it is supposed to be on or off depends on the activity I am doing
  - Lifting or carrying
  - Controlling my bladder or bowel
  - Relaxing to fully empty
  - High strain/high impact

## DON'T FORGET!

- The pelvis is a puzzle – there are many factors involved in it
  - Hormones – huge
  - Diet
  - Bladder and bowel health
  - Orthopedic issues – hips, back, pelvis, feet. . .
  - Posture
- We must also make sure we don't overtrain or overtighten the pelvic floor

## WHAT SYMPTOMS TO LOOK FOR

- Leakage – bladder or bowel
  - Is it normal discharge or sweat?
- Heaviness or pressure in the pelvis
- Hip, back or tailbone pain

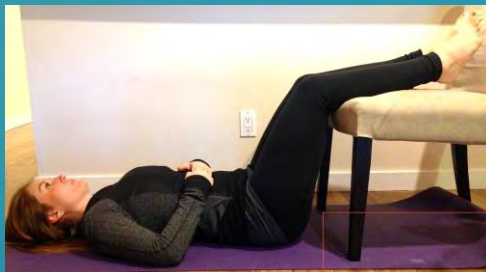
## WHAT TO DO WITH SYMPTOMS

- Pelvic floor assessment
- Core and pelvic stability
- Running or strength/conditioning assessment
- Fine tune exercises –
  - Strength vs. endurance
  - Area that needs to be targeted

## REST POSITIONS FOR THE PELVIS



Pinterest: Journeys of Yoga



<https://thebalancedcollective.wordpress.com/2014/12/18/5-simple-and-effective-ways-to-manage-low-back-pain/>

<http://otfitness.com/stressed-out-throw-those-legs-up-against-the-wall/>



## Bree Rutten, BScPE, BScPT

Craven SPORT Services  
#3 – 701 2<sup>nd</sup> Ave North  
Saskatoon, Sask.  
S7K 2C9

(306) 934-2011