Meet Your Pelvic Floor: Pregnancy, Postpartum and Beyond

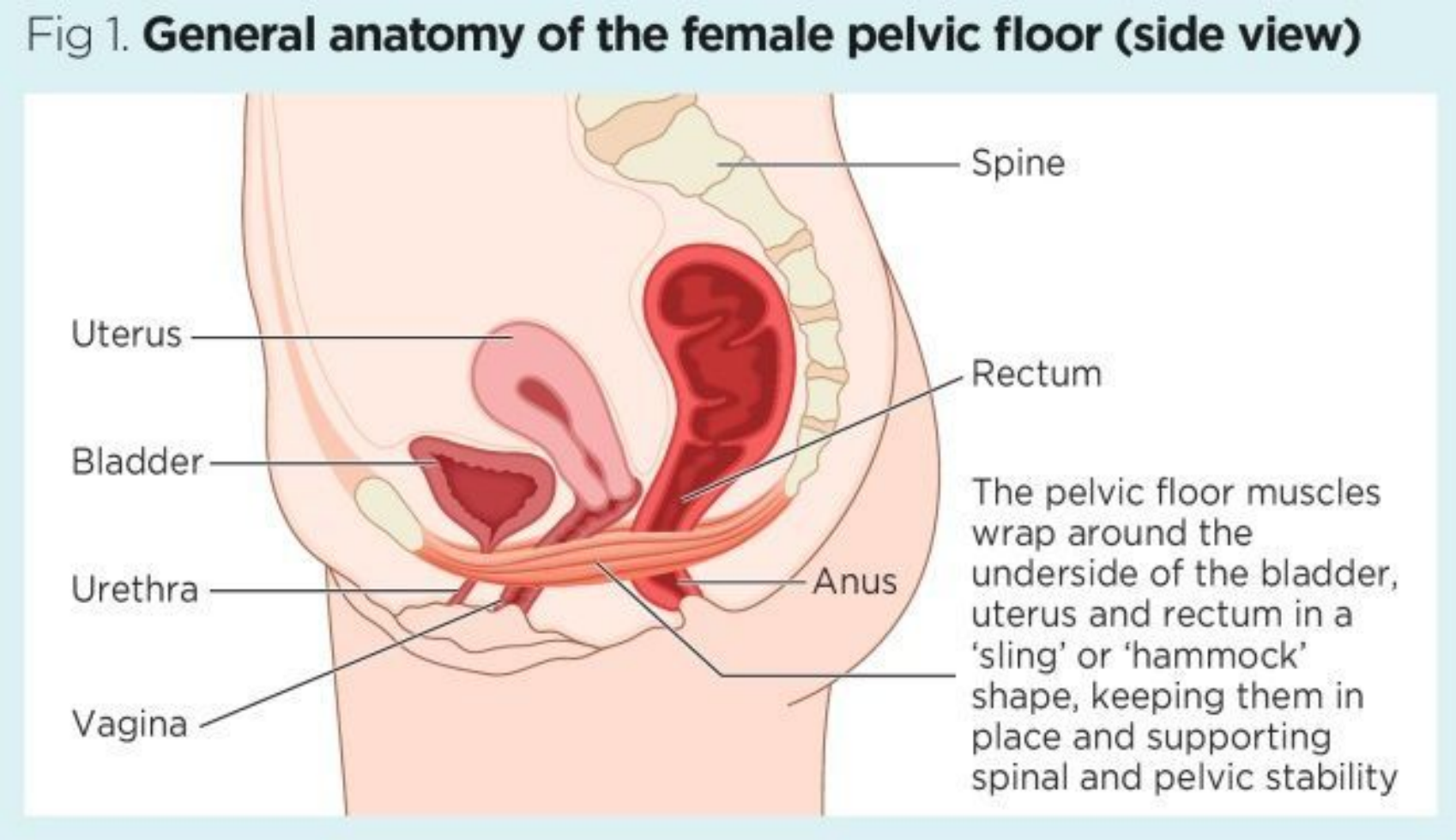
A Talk on the Female Pelvic Floor

Presenter: Hannah Schoening, PT, DPT, CLT

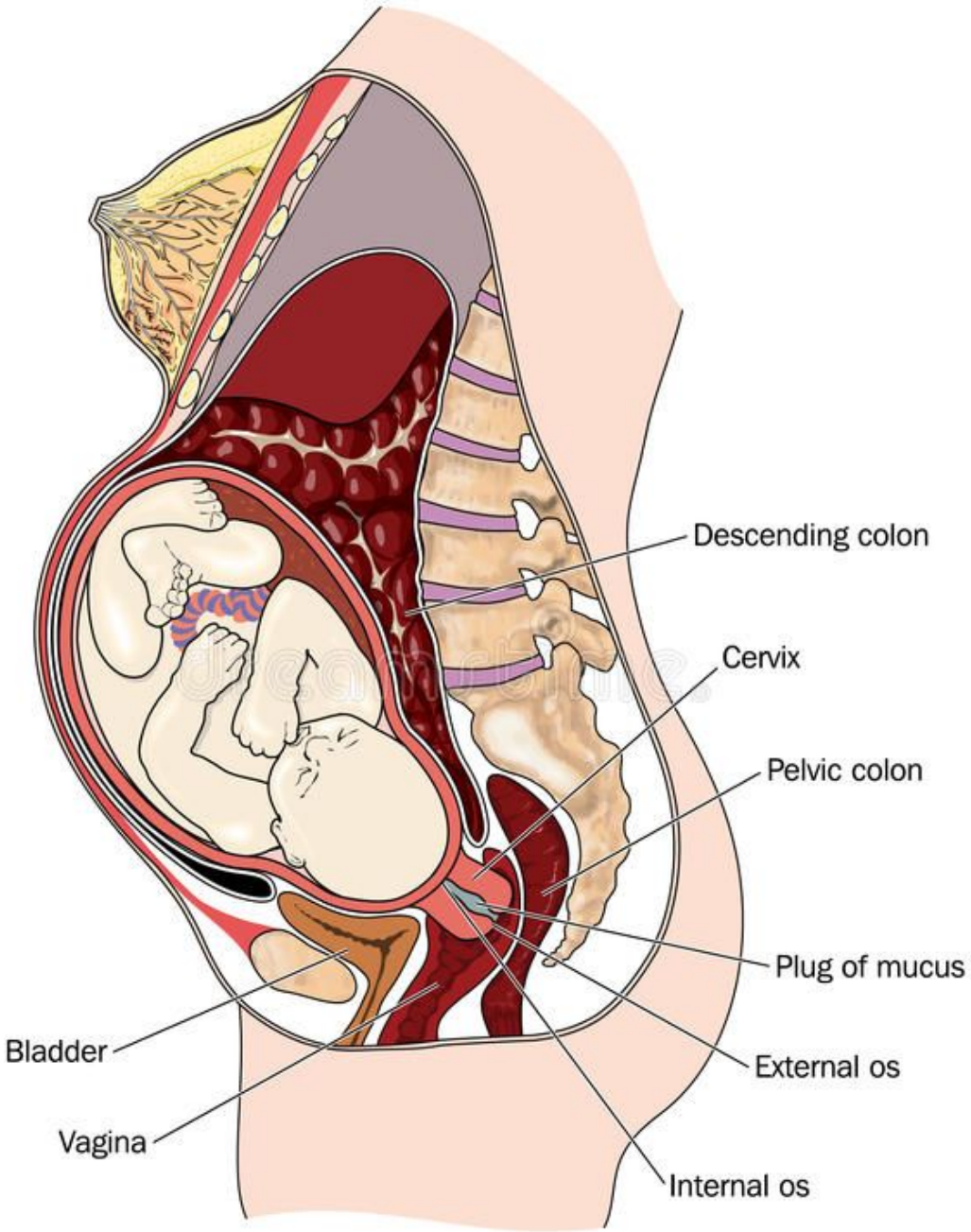
I have a what!?

Female Pelvic Anatomy

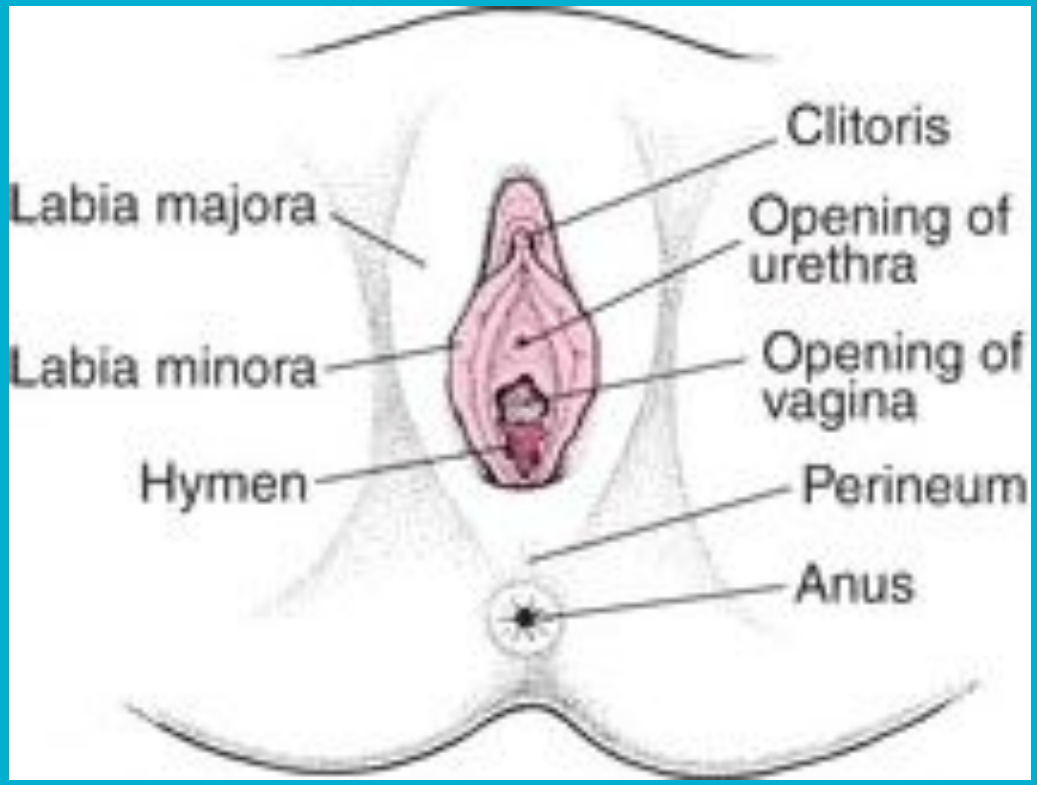
The Pelvis and Its Contents



https://www.nursingtimes.net/clinical-archive/womens-health/female-pelvic-floor-1-anatomy-and-pathophysiology-22-04-2019/


Descending colon
Cervix
Pelvic colon
Plug of mucus
External os
Internal os
Bladder
Vagina

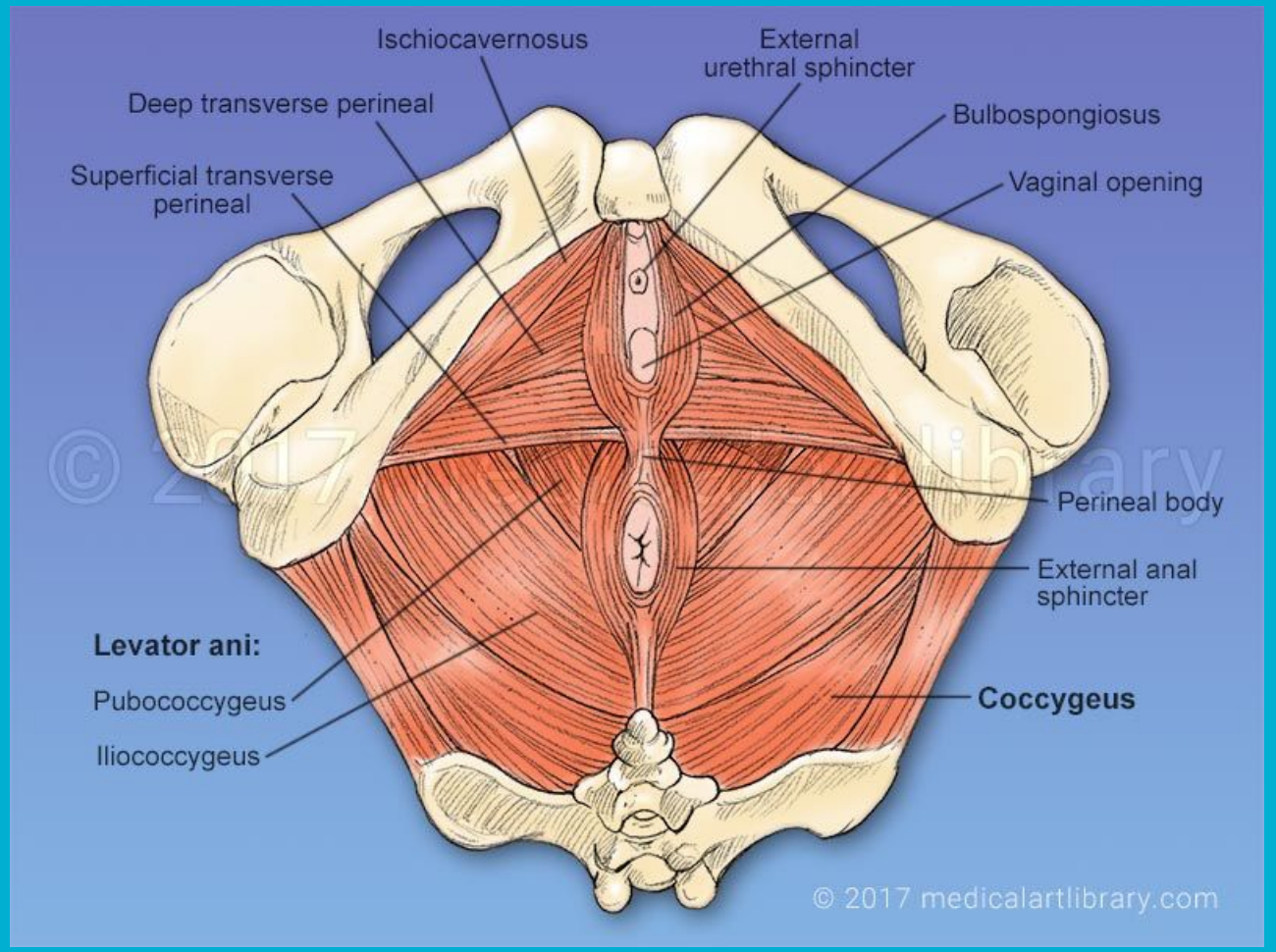
External Anatomy



https://www.merckmanuals.com/home/women-s-health-issues/biology-of-the-female-reproductive-system/female-external-genital-organs

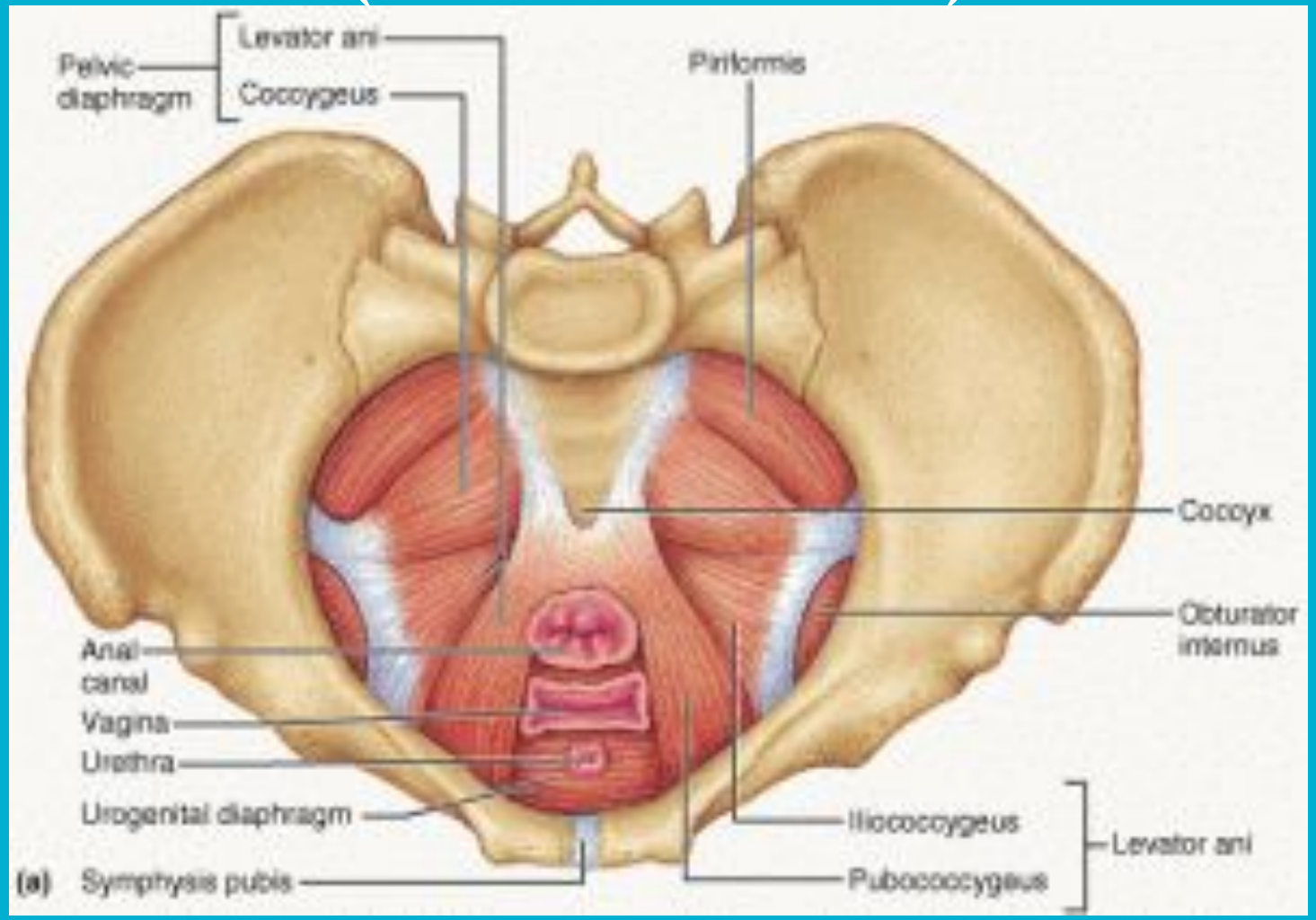
Muscles of the pelvic floor (External View)

- superficial layer, deep layer
- endurance vs. sprinter muscles
- weak and long, strong and tight, weak and tight

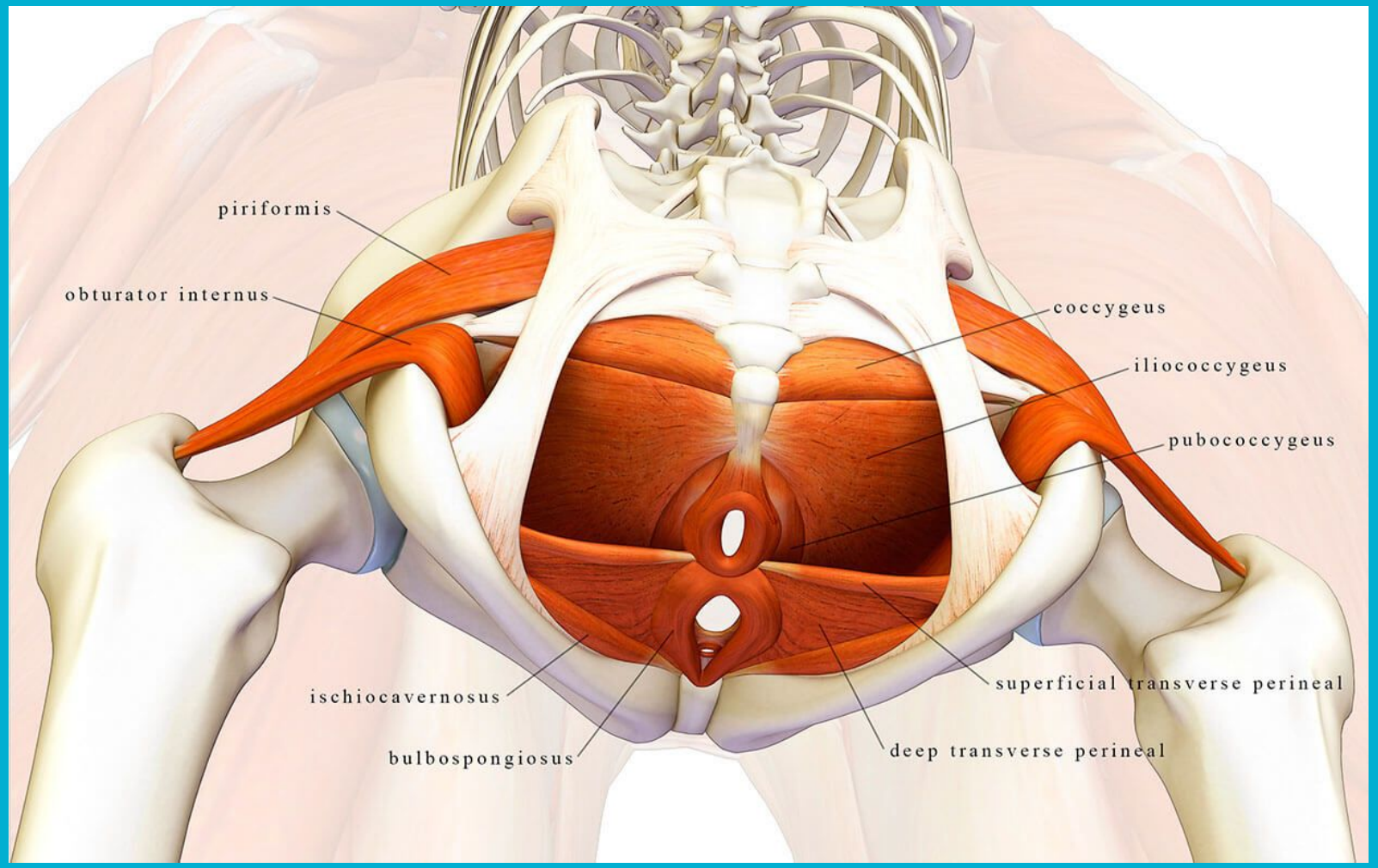


https://medicalartlibrary.com/pelvic-floor-muscles/

Muscles of the pelvic floor (Internal View)



https://provenancerehab.com/the-significance-of-pelvic-floor-muscle-dysfunction/

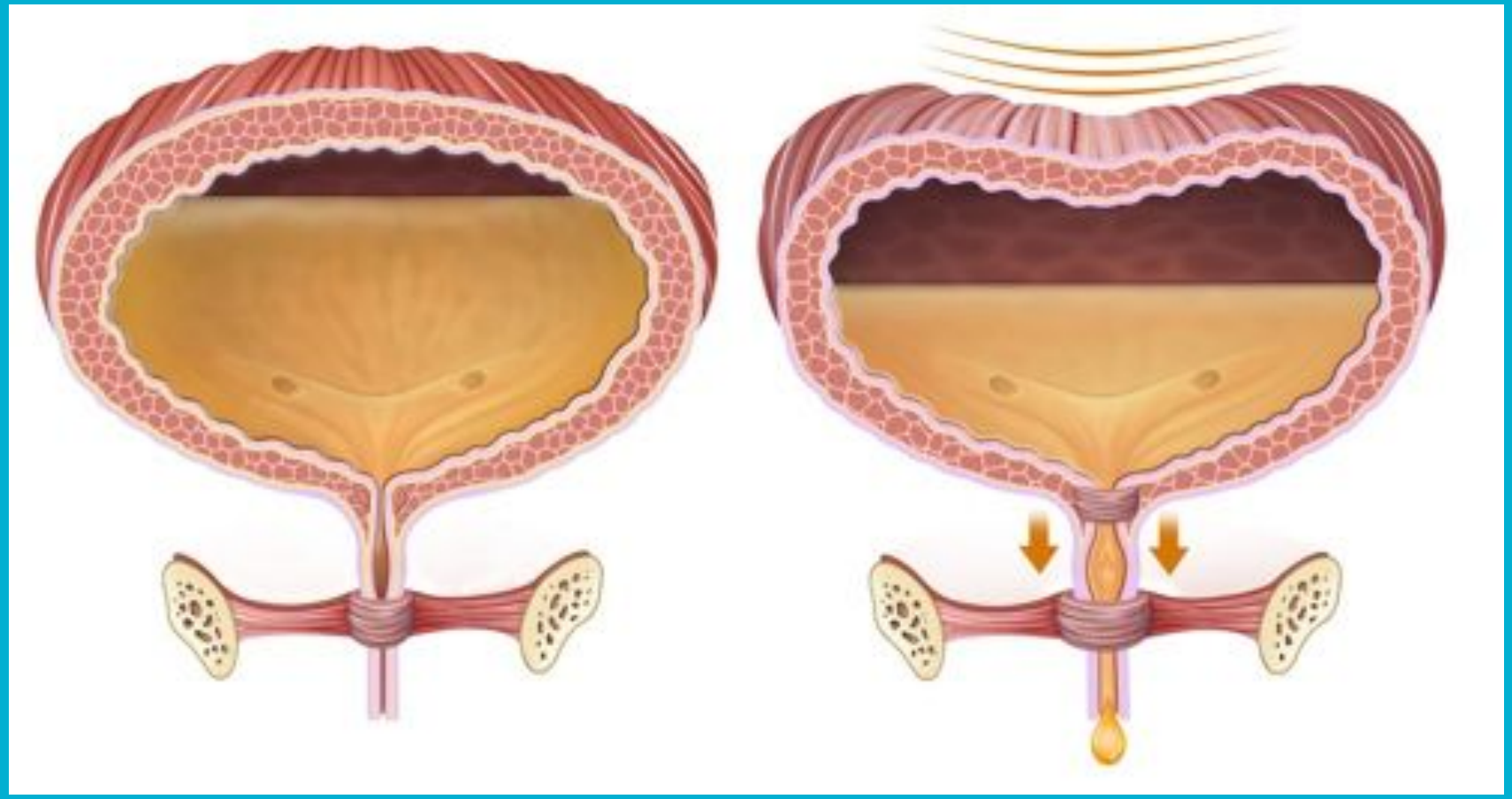


https://naturalhealthcourses.com/2016/02/the-low-down-on-our-pelvic-floor/

I jumped on a trampoline with my kids....

The Underactive Pelvic Floor

The Underactive Pelvic Floor – Stress Incontinence

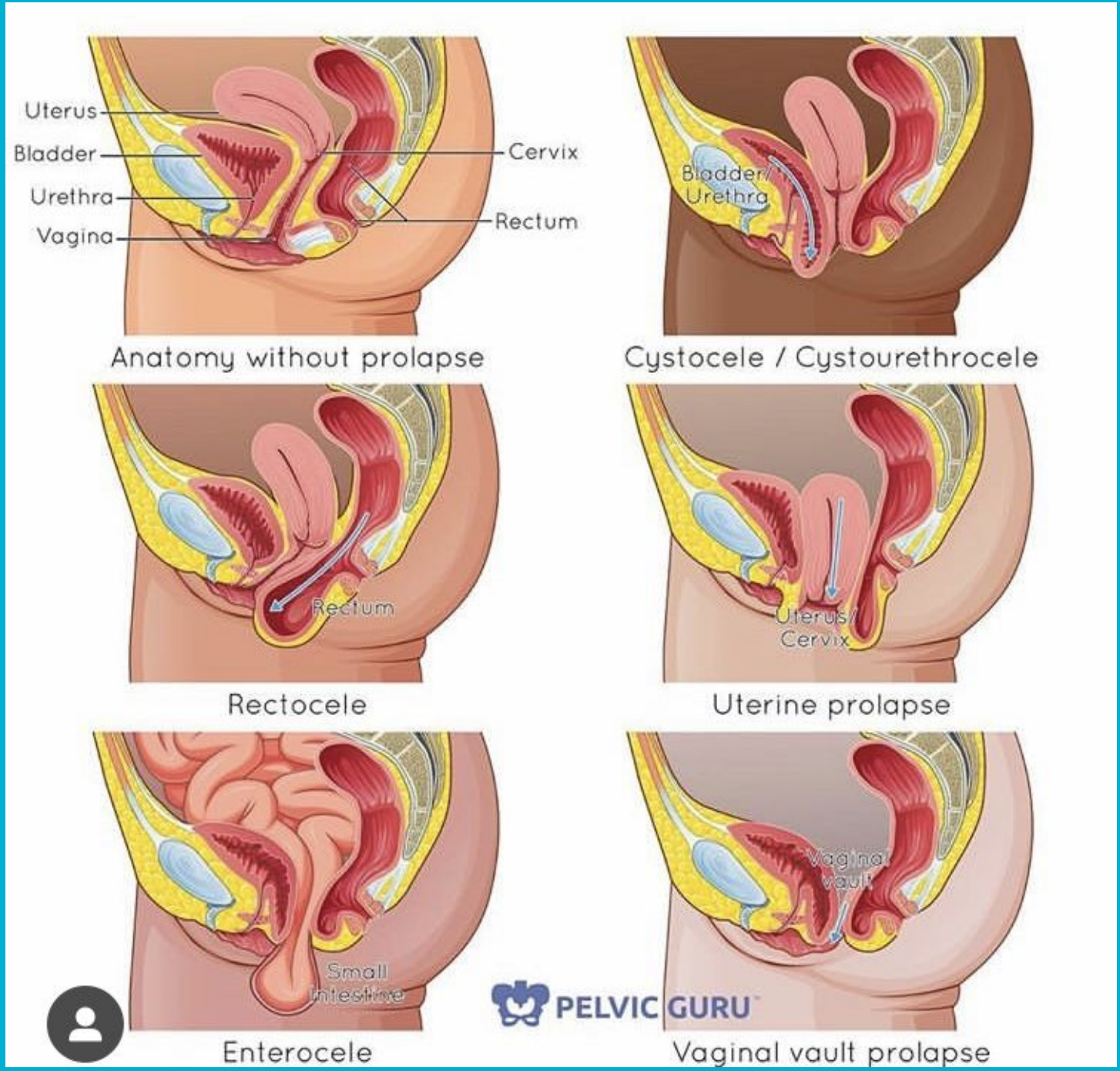


https://brisbaneurologyclinic.com.au/conditions-we-treat/urinary-incontinence/

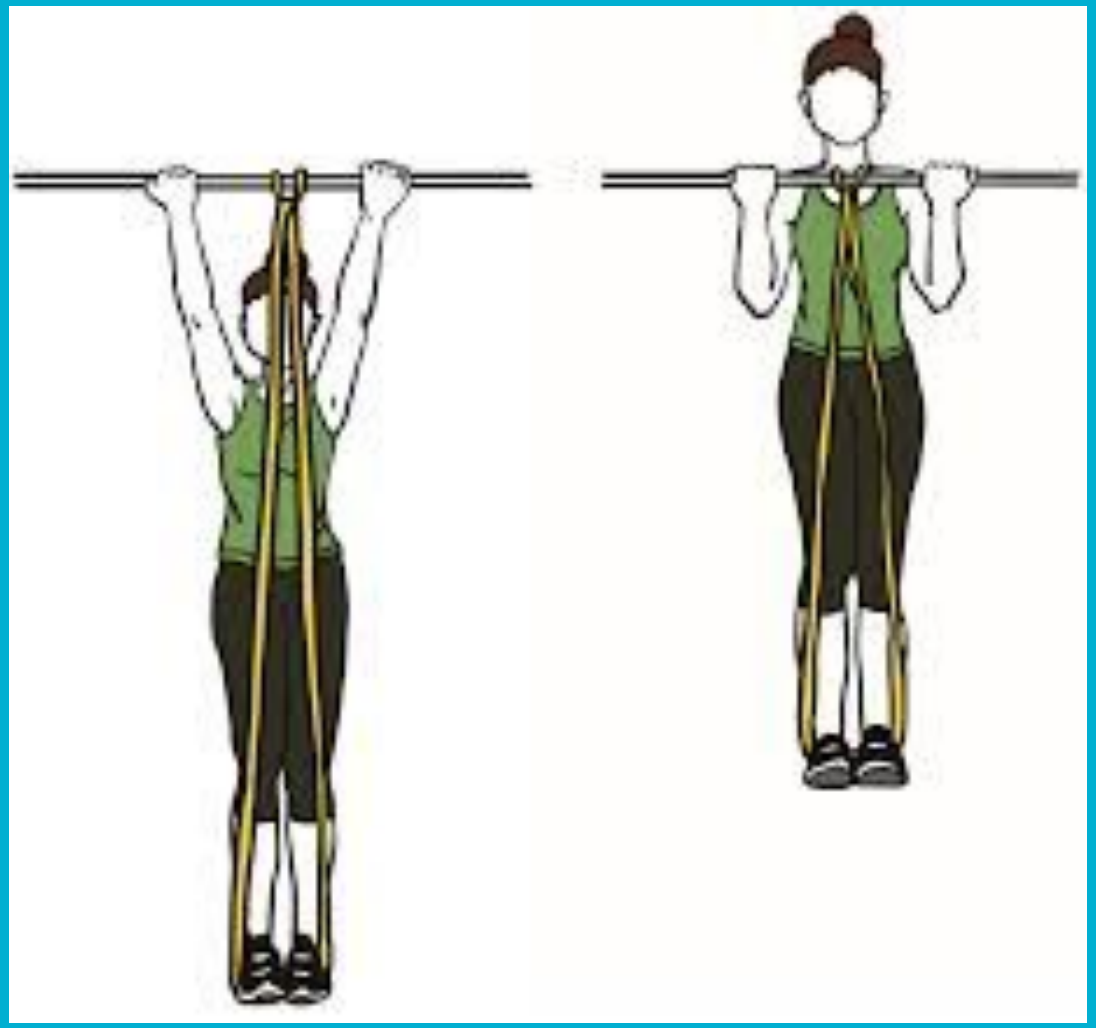
The Underactive Pelvic Floor

https://www.climbing.com/skills/training-perfect-pullups-for-climbing-strength/

The Underactive Pelvic Floor – Prolapse



The Underactive Pelvic Floor



(https://atemi-sports.com/calisthenics-resistance-bands/)

The Underactive Pelvic Floor

- Kegels
  - Are you doing them correctly
  - Diaphragmatic breathing
  - Are you doing them often enough and enough repetitions- FATIGUE!
  - Supine vs. Sitting vs. Standing
  - Functional movement – stepping, stairs, squatting, bending, jumping
  - Abdominal contraction
  - Lifting - exhale

What does your bladder and Pavlov's dog have in common?

Urge Incontinence

Normal Bladder Function

- Frequency:
  - every 2-5 hours
- Nighttime voids:
  - 0-1 time per night
- Fluid intake:
  - 6-8 glasses of 8 ounces (48-64 oz)
  - 0-1 irritating fluids/ day
  - Less than 50 oz and greater than 80 oz can lead to incontinence

Normal Bladder Function

- Bladder Function:
  - Store urine by relaxing and allowing urine to collect
  - Contract fully to expel urine
- Bladder capacity:
  - First sensation to void 150 ml
  - Normal need to void 400-500 ml (normal bottled water = 500 ml)
- Bladder filling:
  - 15 drops per minutes, slows at night, speeds up with irritants

Bladder Irritants

- Caffeine
- Alcohol
- Carbonated beverages
- Processed foods
- Nicotine
- High acid foods
    - Cranberry juice, grapefruit, lemons, oranges, pineapple, strawberries, chili peppers, pickles, sauerkraut, tomatoes, vinegar, worcester sauce, coffee, tea
- Artificial sweeteners
- Spicy Foods
- MSG
- Concentrated urine

Urgency and Frequency

- Frequency –
  - Average time between going to the bathroom of less than 2 hours
  - Often the result of habits (going just in case). Bladder begins to signal the need to urinate before its full capacity. Bladder rules the brain and will signal at smaller and smaller amounts.
- Urgency –
  - A strong urge to urinate associated with an outside event: cold, running water, walking by a bathroom, pulling into the driveway (Pavlov's Dog)

Bladder Diary

	Urinate in toilet	Amount of leak / accident	Activity during leak	Drink type/ amount
6 AM				
7 AM				
8 AM				
9 AM				
10 AM				
11 AM				
12 AM				
1 PM				
2 PM				
3 PM				
4 PM				
5 PM				
6 PM				
7 PM				
8 PM				
9 PM				
10 PM				
11 PM				
12 PM				
1 AM				
2 AM				
3 AM				
4 AM				
5 AM				
Total				

Bladder Training

- Based off the information from the bladder diary we strategize
  - Too much fluids
  - Bladder irritants
  - ”Just in case bathrooming”
  - Triggers
  - Bladder empties before full
- Establish a training schedule
  - Voiding every 45 minutes?- schedule 1 hour and use urge suppression and progressively space this out

Urinary Urge Suppression

- Calm down- walk slowly, take deep breaths, don't rush
- Sit down – pressure on the perineum
- Distract your mind – count backwards from 100 by 7
- Imagine you are in a car and are not able to stop yet
- Get busy with work
- Activate a reflex – small pelvic floor contracting signals the brain to calm the bladder

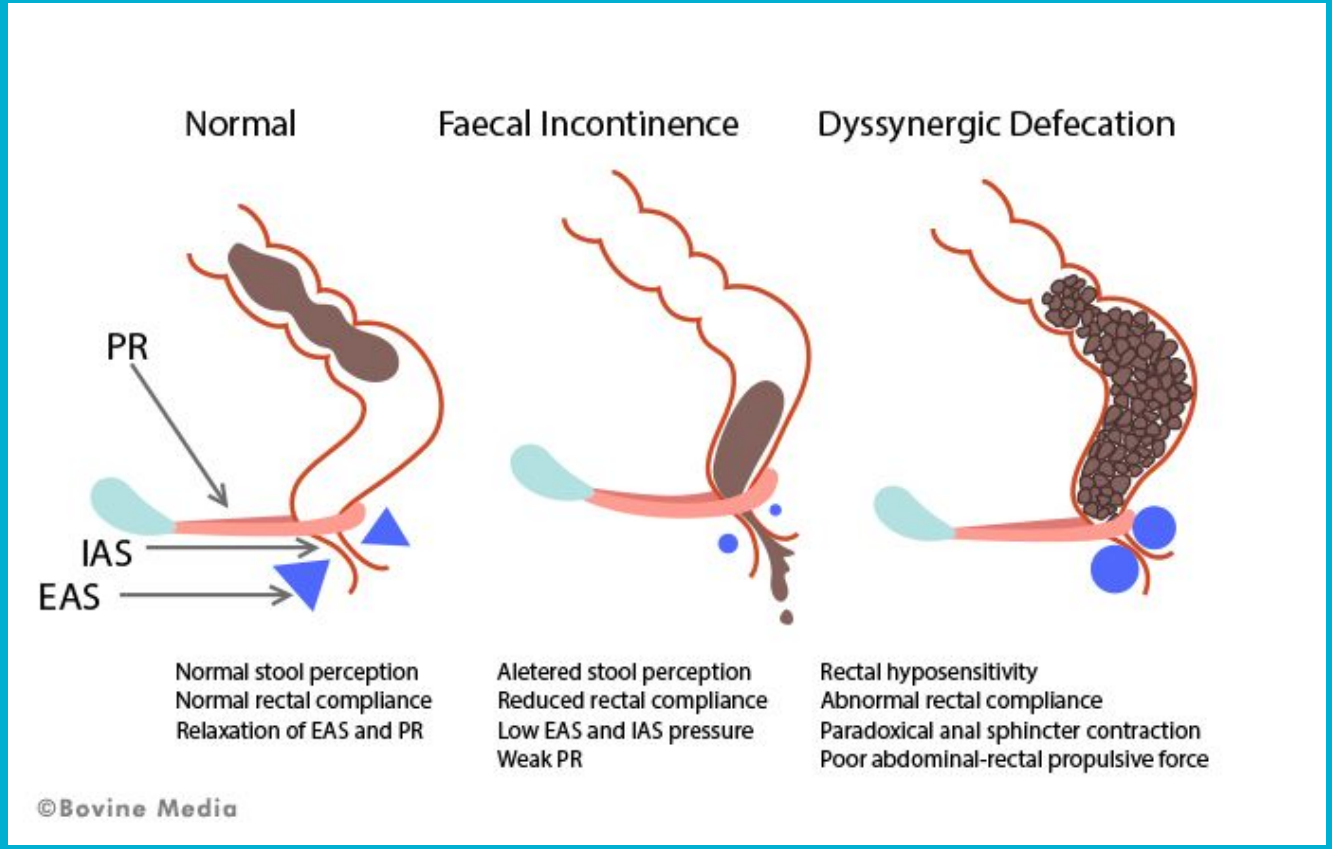
Other Lifestyle Modifications

- Lifestyle and Behavior Modifications for treatment
  - Bladder training
  - Elimination of bladder irritants
  - Management of fluid intake
  - Management of constipation
  - Weight control (BMI < 30 kg/m^2)
  - Smoking Cessation
  - Urge suppression techniques

Are we really going to talk about poop?

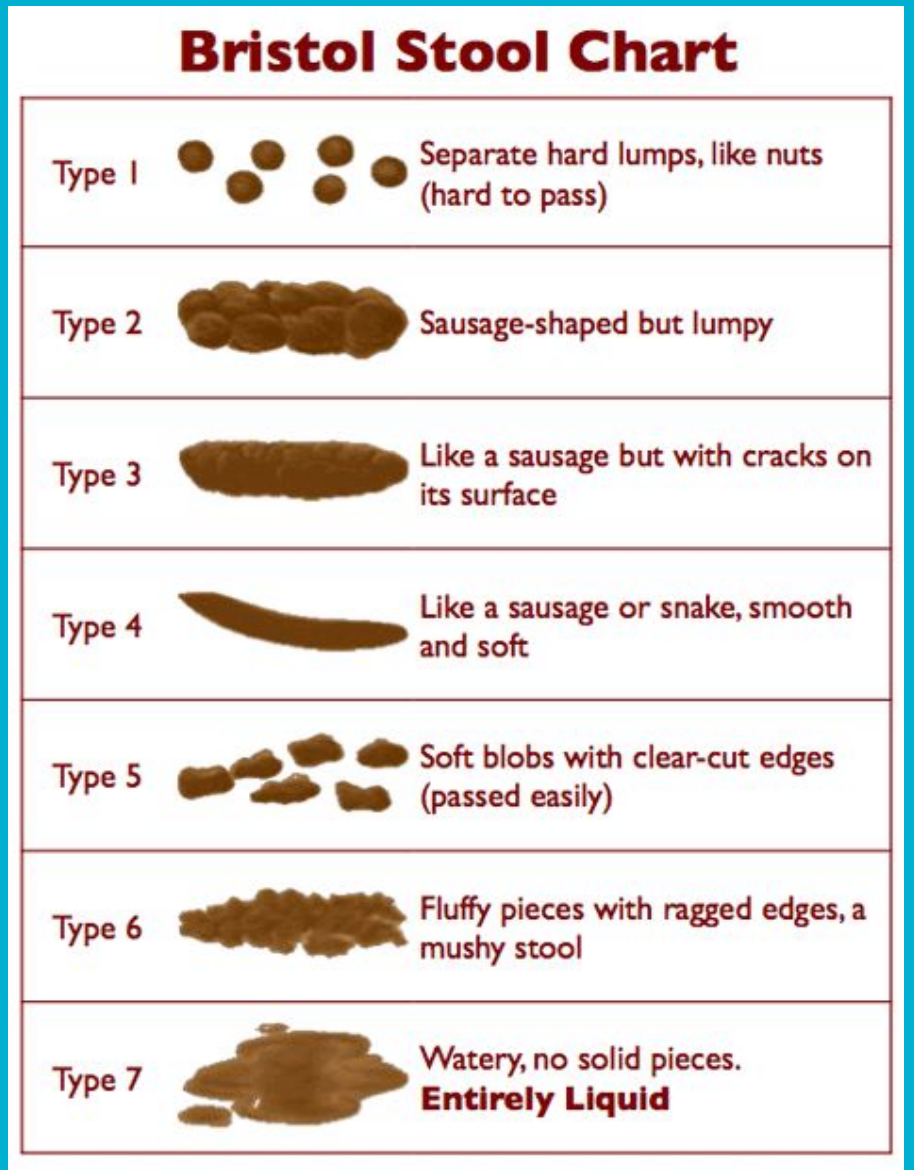
Constipation/Incontinence

Back to the Overactive/Underactive Pelvic Floor



https://monalisatouch.co.nz/menopausal-hormone-therapy-linked-faecal-incontinence/

Bristol Stool Chart



https://www.continence.org.au/pages/bristol-stool-chart.html

Proper pooping

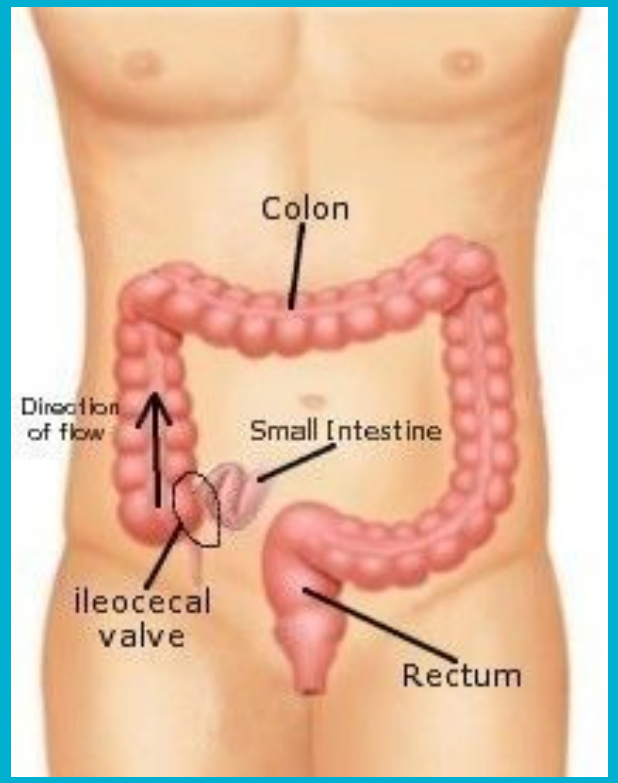
- Squatty Potty
- Good posture
- Diaphragmatic breathing – no valsalva
- Do not sit for long periods of time bearing down (no more than 5-10 min.)
  - Hemorrhoids
  - Prolapse
  - Pelvic floor weakness
- Relax pelvic floor as you inhale
  - Imagine a circle getting bigger
  - Envision a flower blooming petal by petal

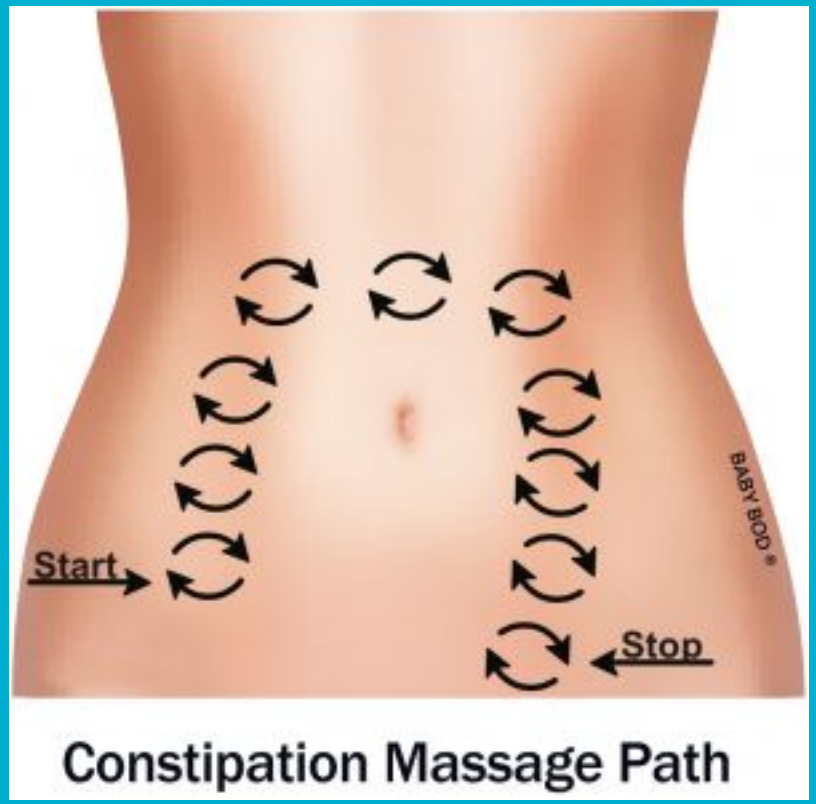
(Facebook: @PhysioLaura)

Bowel Scheduling

- Try to eat at consistent times particularly breakfast
- Eat 20-30 grams of fiber
- Sit on toilet 20-30 after eating for 10 minutes to coincide with normal gastrocolic reflex
- Hydrate (within reason- not a gallon)
- Regular exercises - increases gastric motility

Bowel Massage





https://www.best-constipation-remedies.com/massageforconstipation.html

Fecal Urge Suppression

- Calm down - sit if you must, relax abdominals, take deep breaths
  - Do not rush to the bathroom during the peak of an urge
- Ask yourself, is this gas, diarrhea, or stool?
  - If gas, “Let it go!” (when appropriate)
  - If something else, activate the reflex below
- Rectoanal Inhibitory Reflex
  - Perform 1 long, strong pelvic floor contraction for 30-60 seconds
  - Take relaxed breaths in through the nose and out through the mouth as you hold the kegel

Ouch that hurts!

Intercourse postpartum, postmenopausal or any time in your life span!

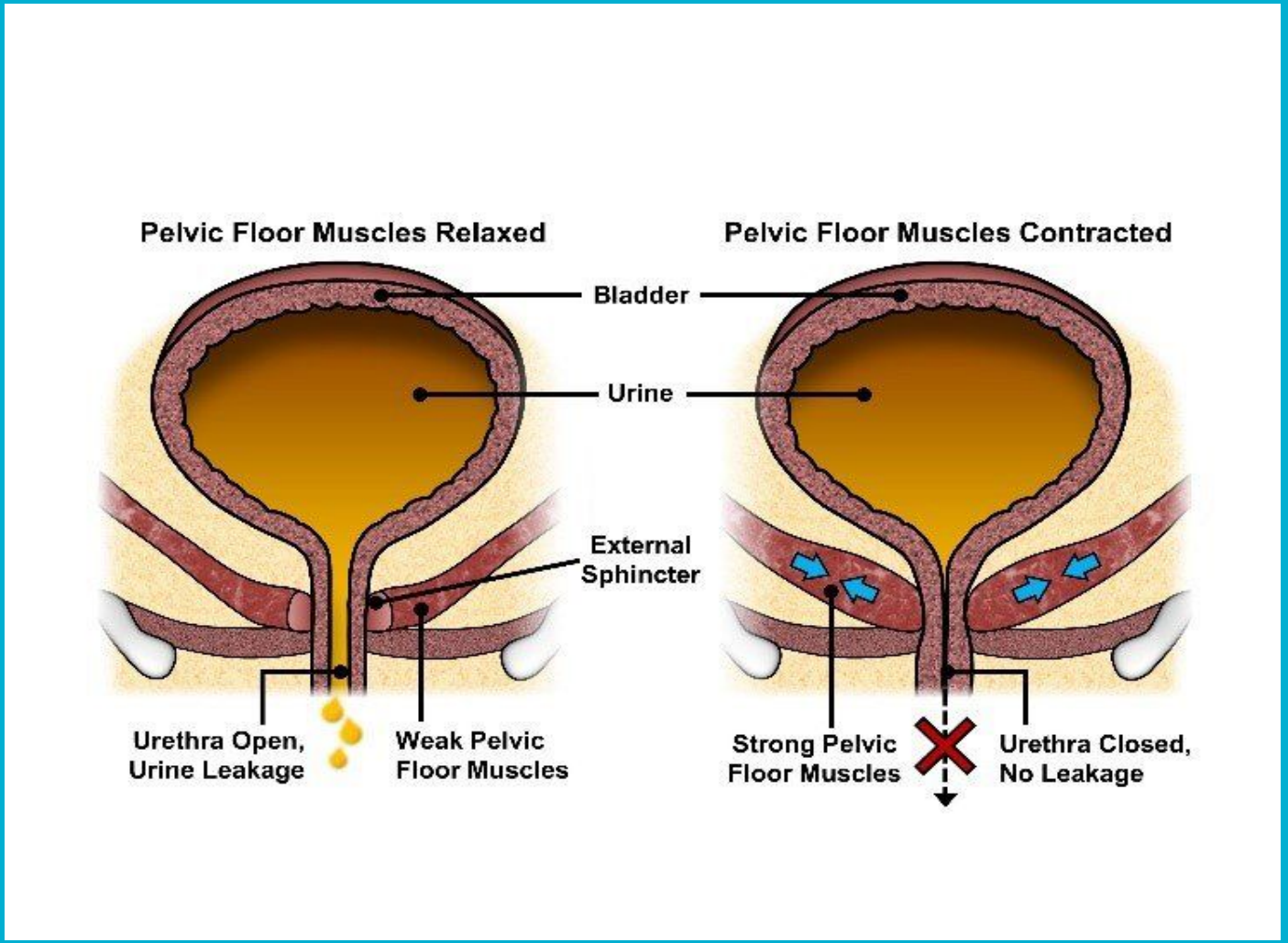
Don’t tell me to just relax!

The Overactive pelvic floor

- Why overactive?
  - IBS, endometriosis, polycystic ovarian syndrome, IC, anxiety, abuse/trauma of any type, culture, anatomy, sports/ballet, hip pain

- Upper trapezius/headache tension

The Overactive Pelvic Floor
Urinary Retention



https://vibrance.com.my/what-is-the-knack/

The Overactive Pelvic Floor

- Pelvic pain
- Pain with penetration
  - tampons, pelvic exams, intercourse
- Biofeedback
  - down training
- Contract/relax
- Diaphragmatic breathing
- Dilators

Resources

Ascension St. Vincent

PT Solutions Pelvic Physical Therapy Locations:

Carmel Women's Hospital: 317-582-8170 for scheduling

Fishers Hospital: 317-415-9135
Indy North at Naab Rd and 86th: 317-338-3364

Brownsburg: 317-415-6040

Pelvic Health and Midlife Women, Carmel Women's Hospital
Practitioner: Daun Hooley-Miller, NP
Scheduling: 317-582-8560

I’m pregnant. What does this have to do with me?

Exercise and Pregnancy

- Ask your provider if there are any risks or considerations unique to you before you begin or continue exercising
- If you need guidance or want an individualized program, see a physical therapist
  - Pelvic floor physical therapists specialize in women's health conditions and have specialized training to address pregnancy related to musculoskeletal conditions that can impact movement
  - Physical therapy can help with appropriate progression and modification of exercise as your pregnancy progresses

General Tips for exercising

- Stay hydrated
- Eat a nutritious snack to avoid hypoglycemia
- Wear a good, supportive sports bra
- Avoid overheating by wearing appropriate clothing, staying indoors if it is too hot or cold outside, and hydrating
- Any activity is better than no activity
- You can break down your total exercise goal time into smaller increments

Recommended Exercise:

Cardiovascular exercise 20-30 minutes most days of the week. (if new to exercise start at 3 days a week and gradually build up)

- Exercise ideas: walking, low-impact land or water aerobics, swimming, racquet sports, running/jogging, yoga/pilates
- Exercise to avoid: hot yoga/pilates, contact sports, activities with high fall risk, scuba diving, sky diving
- Work at a level that feels somewhat hard but not really hard or exhausting. You should be able to carry on a conversation during the activity.

Strength training exercise 2-3 times per week

- Exercise Ideas: 1-2 sets of 10-12 repetitions
- Tips: watching for good posture and positioning, exhale on effort

Pelvic Floor Exercises every day

- Exercise Ideas: Contract the muscles that stop the flow of urine or hold in gas, hold each contraction for 5 seconds, perform 2-3 sets of 10-15 repetitions
- Exercises to Avoid: avoid bearing down or straining
- Tips: do not hold your breath. Instead, exhale to kegel and inhale to relax pelvic muscles.

Labor prep

Perineal stretching/massage

- Technique of stretching the skin and muscle between the vagina and anus to promote flexibility
- 10 minutes/day, starting week 34-35 gestation until delivery
- Studies find that tearing incidence does go down with daily perineal massage, however, patients can still tear even if they do massage.

Positioning

- Discuss your preferred laboring positions in your birth plan
- Studies find that the all-fours position is correlated with less tearing than semi-recumbent

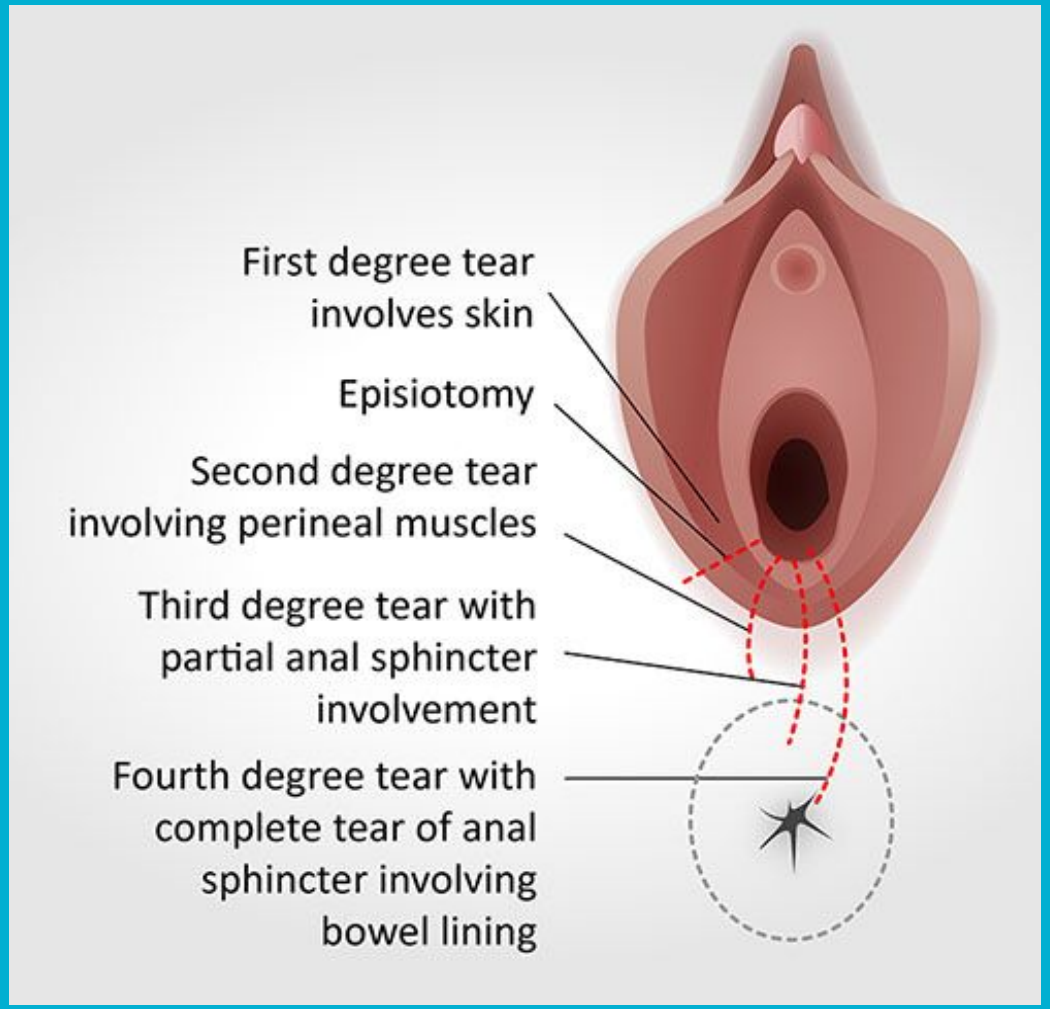
(Labrecque et al., 1999; Soong & Barnes, 2005)

I just gave birth! What about me?

The 4th trimester

Vaginal Delivery

- Baby size
- Time pushing
- Tearing – ASK!
  - 1st degree
  - 2nd degree
  - 3rd degree
  - Reconstruction



https://www.rcog.org.uk/en/patients/tears/tears-childbirth/

Physical Therapy's Role

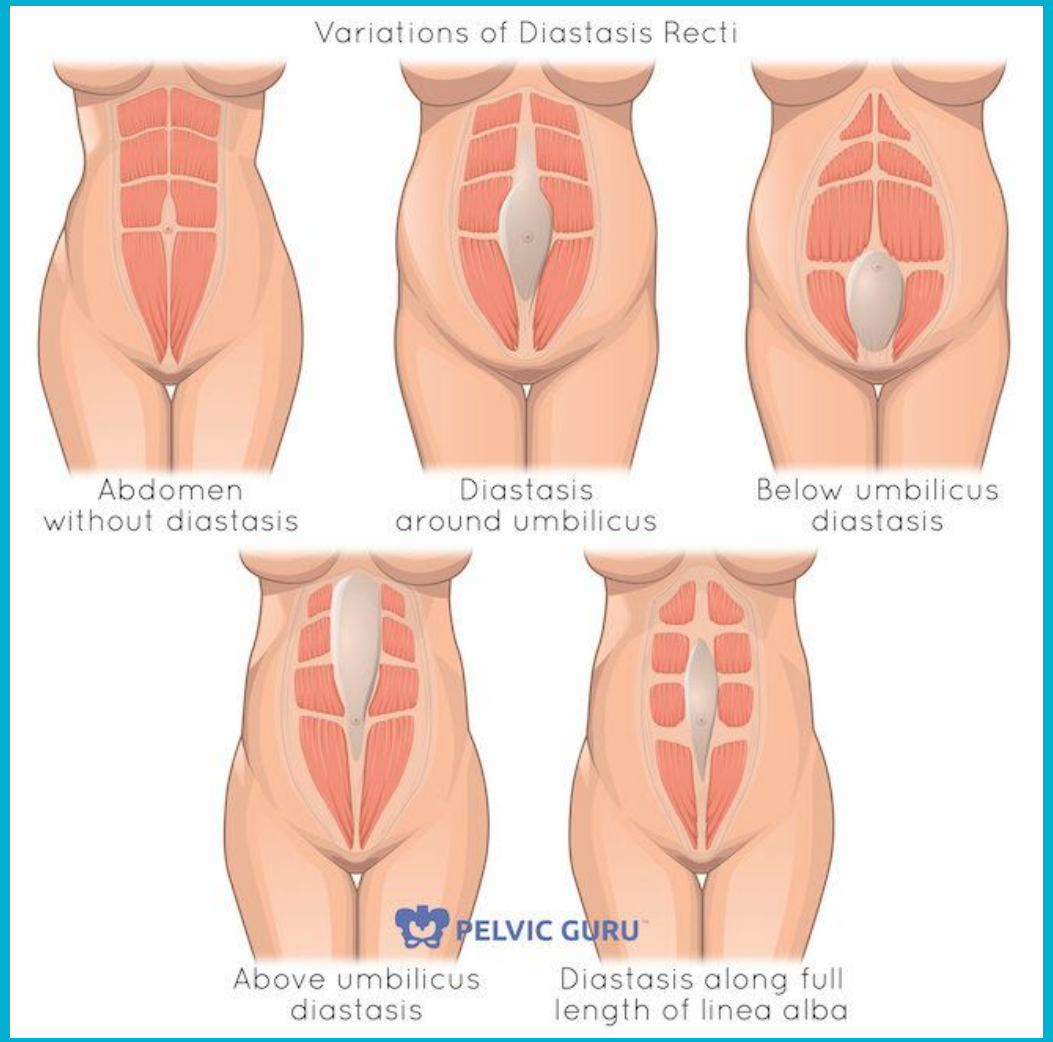
- Assessment of strength after 6 week visit
- Assessment and treatment of scar – Painful intercourse?
- Begin strengthening just like with an underactive pelvic floor
- Consider a perineal tear a muscle tear! PTs rehab all kinds of muscle injuries, even these!
- Teach you how to gradually return to activity

C-Section

- 9 months of pregnancy with a head at the pelvic floor
- Often times there is still pushing
- Major abdominal surgery

- Physical Therapy
  - Assess abdominal and pelvic strength
  - Assess abdominal scar for mobility/pain
  - Teach how to get in and out of bed and lift child post-operatively (weight restriction post-partum)

Diastasis Recti and Muscle Length



(https://www.newjourneypt.com/blog/2019/9/18/what-is-rectus-diastasis-and-how-do-you-close-the-gap)

Pelvic Instability/Ligament Laxity

- Low back pain
- Repeated bending
- Poor posture with nursing
- Repeated lifting

- Physical Therapy's Role
  - Treat low back pain and pelvic alignment
  - Teach gradual progression of strengthening and stabilization
  - Return to impact – Runner's, CrossFit, Boot Camp

Return to Activity

Gradually increase activity with adequate rest periods and symptom monitoring.

- If you notice urine or fecal leaking, have pain or feel heaviness in your pelvis or vagina then you might have increased your activity too quickly or by too much.
- Progress to 30 minutes of moderate leisure-time activity on most days of the week

What Activity Can I Do Now?

Week 0 to 2

- Pelvic floor muscle exercises (once catheter removed) targeting strength and endurance functions.
- Basic core exercises e.g. pelvic tilt, bent knee drop out, side lying leg lifts
- Walking (for cardiovascular exercise).

Week 2 to 4

- Progress walking/pelvic floor muscle/core rehab.
- Consider introduction of squats, lunges and bridging, in line with the functional requirements of day-to-day life as a new mother.

Week 4 to 6

- Introduce low impact exercise e.g. static cycling or cross-trainer taking into account individual postnatal recovery, mode of delivery and perineal trauma. Recovery should be such that the new mother is comfortable sitting on a saddle.

Full

Week 6 to 8

- scar mobilization (for either c-section or perineal scar)
- power walking
- increased duration/intensity of low impact exercise
- deadlift techniques beginning at light weights no more than the weight of the baby in a car seat (35 lb) with gradual load progression e.g. barbell only with no weight. This aims to strengthen and restore strategies for carrying out the normal everyday tasks required when caring for a newborn and/or older siblings.
- resistance work during core and lower limb rehab

Weeks 8 to 12

- Introduce swimming (if bleeding has stopped and there are no issues with wound healing).
- Spinning (if comfortable sitting on a spinning saddle).

Return to Running Checklist

__ **Minimum 3 months postpartum**
__**No symptoms of:**
- __Heaviness/dragging in pelvic area
- __Leaking urine or inability to control bowel movements
- __ Pelvic or low back pain
- __Ongoing or increased blood loss beyond 8 weeks

__ **Grade 3 muscle test in supine and standing**
__**Minimum in standing**
- __10x quick contractions
- __8-12 reps of 6-8 seconds max contraction
- __60 second submax contraction (30-50%)

__**GH+PB< 7 cm on Valsalva**
__**Load and impact management assessment – no pain, heaviness, dragging or incontinence with:**
- __Walking 30 minutes
- __Single leg balance 10 sec
- __Single leg squat 10 repetitions
- __Jog in place 1 minute
- __Forward bounds 10 repetitions
- __Single leg hops 10 repetitions each leg
- __Single leg “running man” 10 repetitions each leg

__**Video analysis of running form**
__**Strength testing -20 repetitions:**
- __Single leg calf raise
- __Single leg bridge
- __Single leg sit to stand
- __Sidelying hip abduction

__**No DRA with or functional tension with:**
- __Active SLR to 30
- __Resisted trunk rotation
- __Chin to chest

__**BMI <30**
Considerations: Sleep, breastfeeding, RED-S, PND, scar tissue, supportive clothing

References

- Images in slide from associated website indicated
- Information provided from APTA Section on Women's Health Pelvic Course and Manual 1-3

- Labrecque, M., Eason, E., Marcoux, S., Lemieux, F., Pinault, J. J., Feldman, P., & Laperrière, L. (1999). Randomized controlled trial of prevention of perineal trauma by perineal massage during pregnancy. *American journal of obstetrics and gynecology*, *180*(3 Pt 1), 593–600. https://doi.org/10.1016/s0002-9378(99)70260-7
- Soong, B., & Barnes, M. (2005). Maternal position at midwife-attended birth and perineal trauma: is there an association?. *Birth (Berkeley, Calif.)*, *32*(3), 164–169. https://doi.org/10.1111/j.0730-7659.2005.00365.x
- Guidelines: https://www.dugof.dk/siteassets/dokumenter/fagligt/kliniske-retningslinier/returning_to_running_postnatal_guideline_for_medical_health_and_fitness_professionals_managing_this_population.pdf