core exercise solutions

BETTER ALIGNMENT

FOR AB ENGAGEMENT

Dr. Sarah Duvall, PT, DPT, CPT

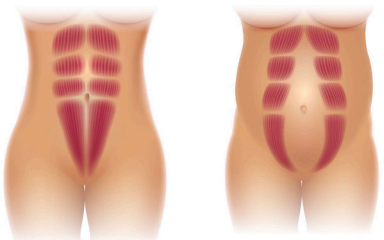
www.CoreExerciseSolutions.com

Notes

BETTER ALIGNMENT FOR AB ENGAGEMENT

Assessing Breathing and Rib Cage Mobility

- Offers insight into bracing and loading strategies that can affect a diastasis recti.
- Both the inhale and exhale affect our abs.
- Diastasis recti is a lengthening and thinning of the fascia that connects our abs in the middle.



NORMAL ABDOMEN

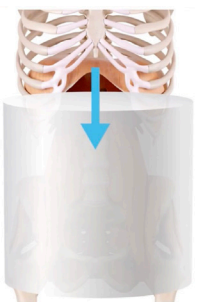
DIASTASIS RECTI DURING PREGNANCY

- Often seen with back and side compression, so we need to address both.
- We want a full range of movement in both directions (for any muscles).
- Might need to bias training in the range that is less available to bring balance to the system and improve movement options.
- The rectus pulls the sides of a diastasis together, narrowing it.

- TAs improve depth.

Breathing Mechanics

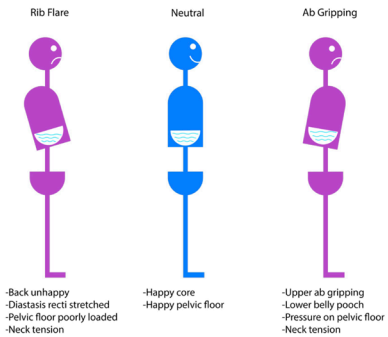
- Inhale: the diaphragm pulls down, rib cage expands, organs descend into pelvic floor and lengthen it, chest expands.



- Exhale: a natural recoil and lifting back up of the pelvic floor, abs, and diaphragm.

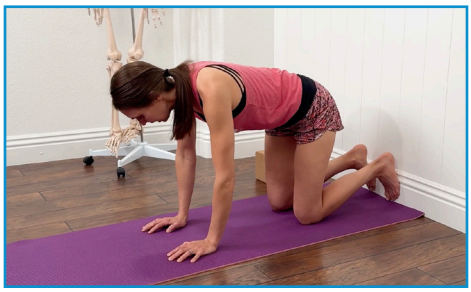
- Bracing is an increased intensity of the exhale to manage pressure.
  - Intensity can vary to meet the demand of the activity

- A good 360 degree breathing pattern improves the resting tone of the abs and diaphragm and also improves pelvic floor function.
- Rib cage positioning and mobility affect breathing mechanics and the stress that is put through a diastasis.

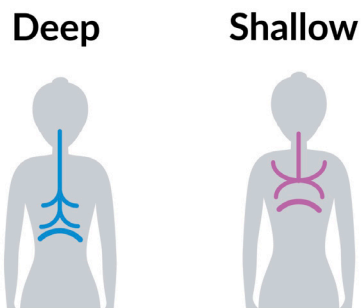


- With a diastasis recti, the abs are more lengthened relative to other areas, so more of the inhale will go forward to the path of least resistance.
  - Address this by working on bringing length and expansion to other areas, and compression and shortening through the more lengthened area (location of the diastasis)
  - Lack of length in other areas can contribute to an over-recruitment of the superficial abs and an imbalance in our brace, further negatively affecting the diastasis and pelvic floor and even straining other parts of the body, like the neck
- Can use different rib cage mobility drills to help open up parts of the spine and rib cage that need more length, assist the intercostals to close the rib cage, and help avoid over-recruiting the superficial abs.

- Load the core while working on breathing under a brace to improve tension across the abs while eccentrically lengthening them and getting expansion into other parts of the rib cage.



- Should feel equal expansion into the back, sides, diaphragm, chest wall, abs, and pelvic floor with the inhale.



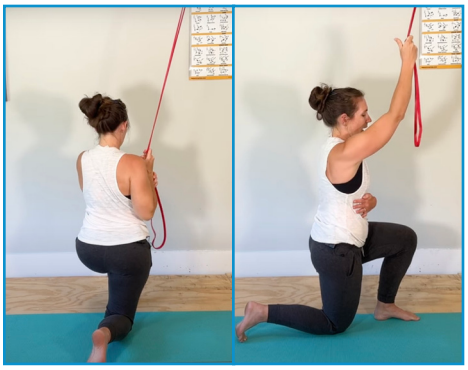
  - Shallow breathing pattern: no rib expansion, rib cage shifts up instead of out
  - Paradoxical breathing pattern: ribs expand but diaphragm sucks up, using accessory breathing muscles. This will result in sending the pressure back down and out on the exhale instead of containing the pressure.
  - Belly breathing: the inhale goes out into the abs with no rib cage movement. This often overly lengthens abs that are already lengthened.
- Should feel equal compression and engagement throughout the entire ab wall with a forced exhale.

Notes

Notes

Make Everything a Core Exercise

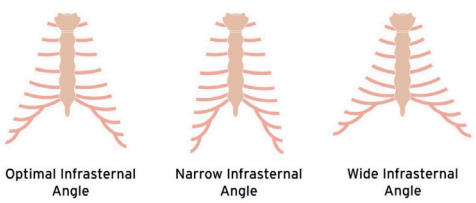
- It's important to be able to move the scapula independently from the rib cage. Otherwise, there can be a tendency to put more stress and strain through the diastasis.



- Can also use scapular positioning and intentional breathing to improve rib cage mobility in that area.

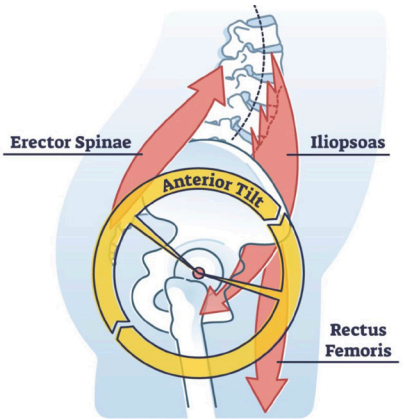
Connection to the Serratus

- Can use the serratus to help close the rib cage by exhaling when reaching via the connection of the serratus and external obliques (for a wide ISA).
- Can use the serratus to help open the rib cage by inhaling when reaching (for a narrow ISA).



Address Pelvic Movement and Positioning

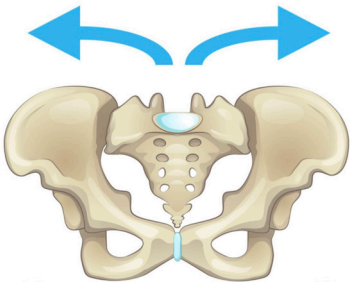
- The position of the pelvis can affect breathing and bracing mechanics and resting ab positioning.
- Pelvis in more of an anterior pelvic tilt = lower abs overly lengthened from top to bottom.



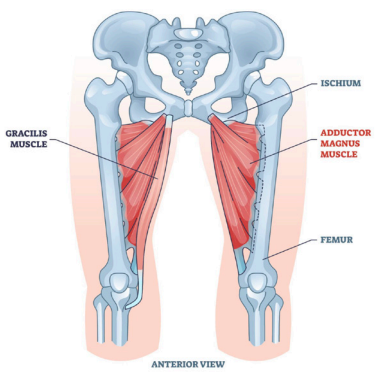
- If we try to correct by using more rectus and obliques, this might lead to a rectus-dominant pattern.
- If we try to correct by using the glutes, this might affect breathing mechanics and hip function.

- Instead, we might need to find more proximal hamstrings to address the pelvic positioning.

- Pelvis in more inlet external rotation = lower abs more lengthened from side to side, and posterior hip and pelvic floor compression.

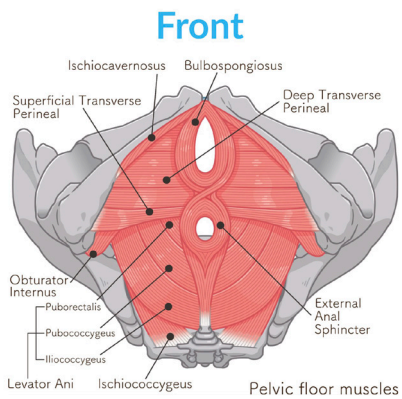


- Makes it hard to get a good inhale that goes down, and hard to find TAs
- Use glute lengthening and adductor engagement to improve pelvic positioning and mobility to improve breathing and bracing



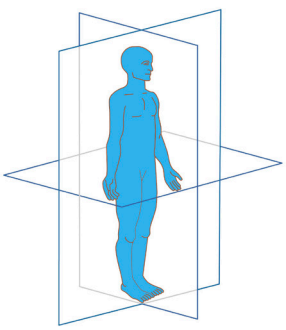
Address Pelvic Floor Tightness

- Pelvic floor tightness can hinder diastasis healing, affect pelvic floor function, and affect breathing and bracing strategies.



Work Different Planes of Motion and Load Through the Full Range

- It's important to get out of the sagittal plane and work on thoracic rotation.



- Focus on both concentric and eccentric work to improve tension across the front and the lengthening abilities of the obliques, sides, and back.

Notes