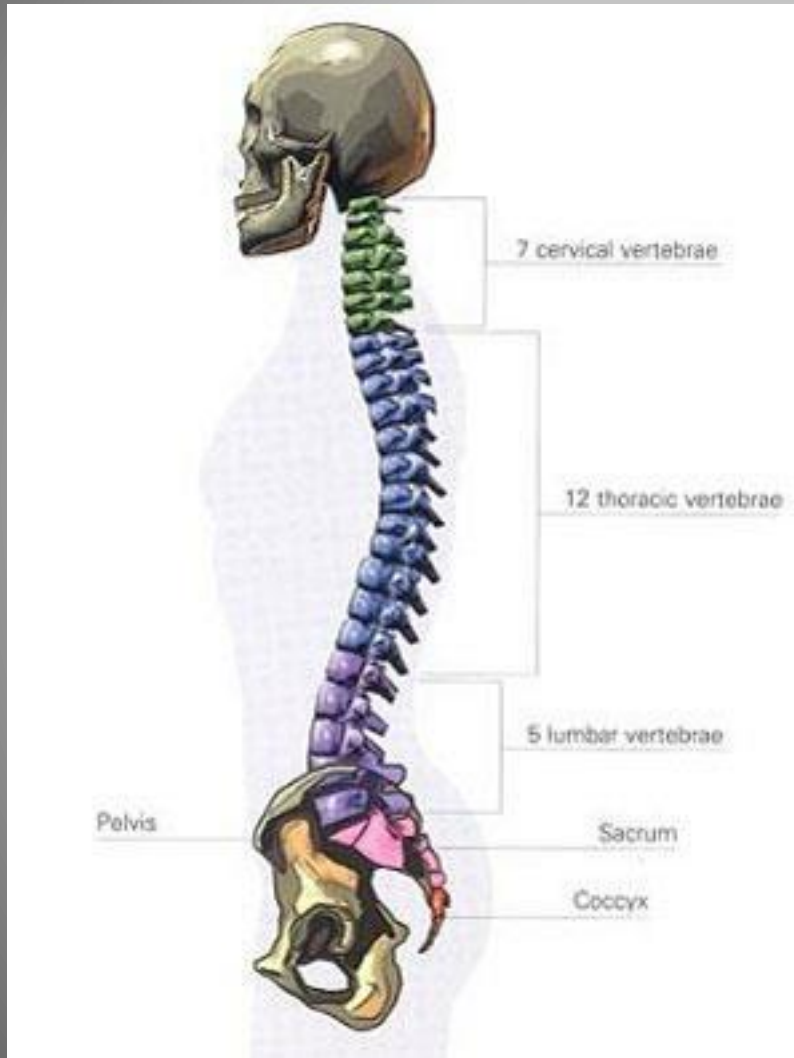


# SPINE STABILITY

MORE THAN JUST TA ACTIVATION!

# The Spine



- Lsp lordosis (5 levels)  
Tsp kyphosis (12 levels)  
Csp lordosis (7 levels)
- All sections have rotation, side-flexion, flexion, extension.
- MIN Lumbar rotation
- MAX C1-C2 rotation

# The Inner Unit

- **The Diaphragm:** the unseen big player
- **Transversus Abdominus:** the essential corset
- **Pelvic Floor:** the hammock underneath
- **Multifidus:** Linking the lordosis



Multifidus

Transversus abdominis

Pelvic Floor

# Trunk Muscle Imbalance (breathing)

- Upper Respiratory muscles (neck)

**DOMINATE**

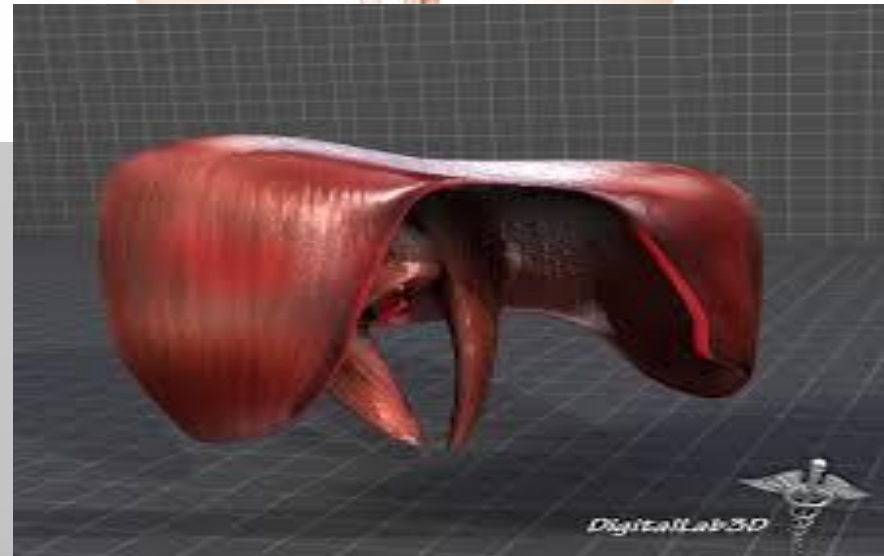
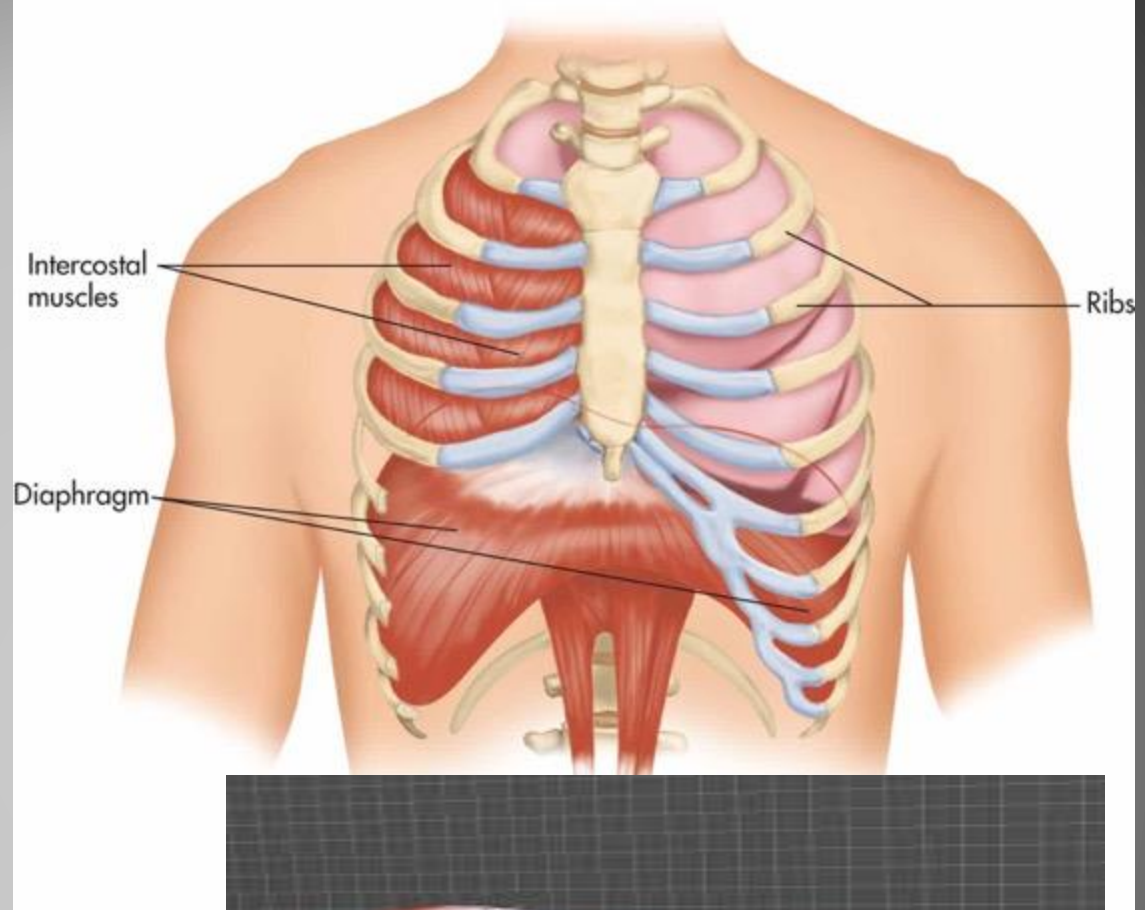
- Diaphragm



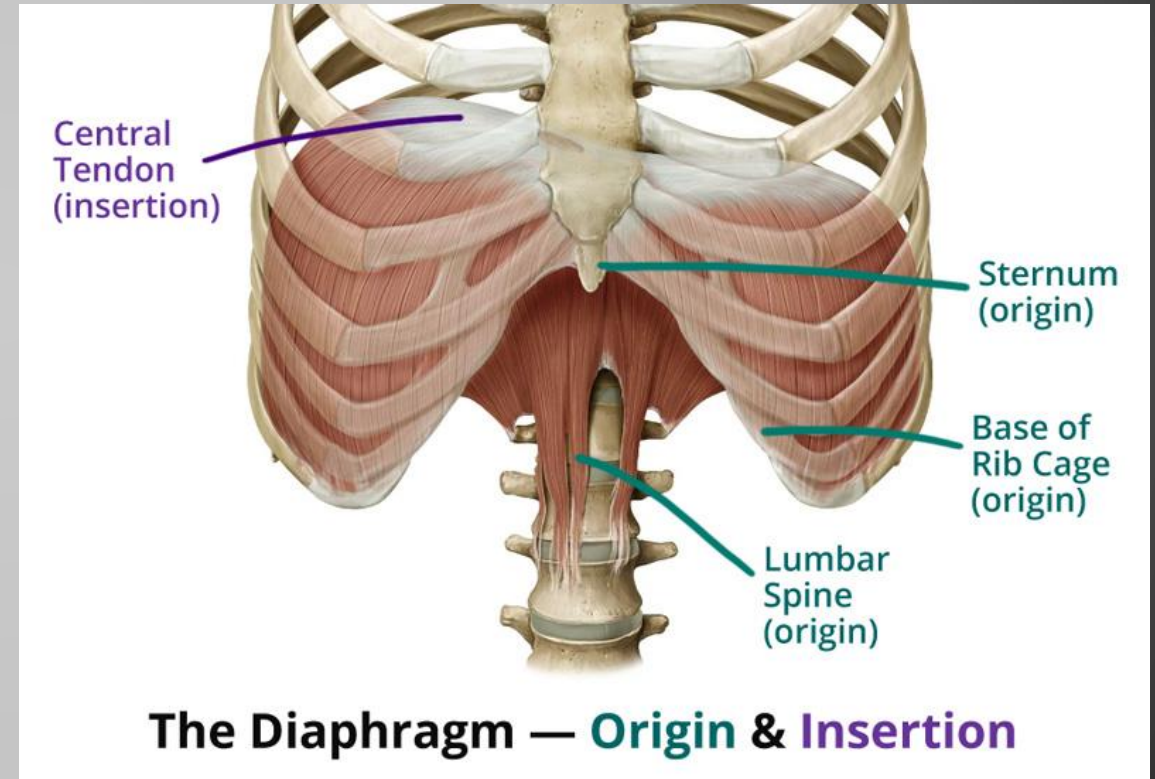


## Inner Unit: The Diaphragm

- The unseen big player in rehab
- Big muscular sheet compressing down, creating negative pressure in lungs
- It contracts on **inspiration**, relaxes on expiration
- **Inspiration** focus more important than **Expiration**

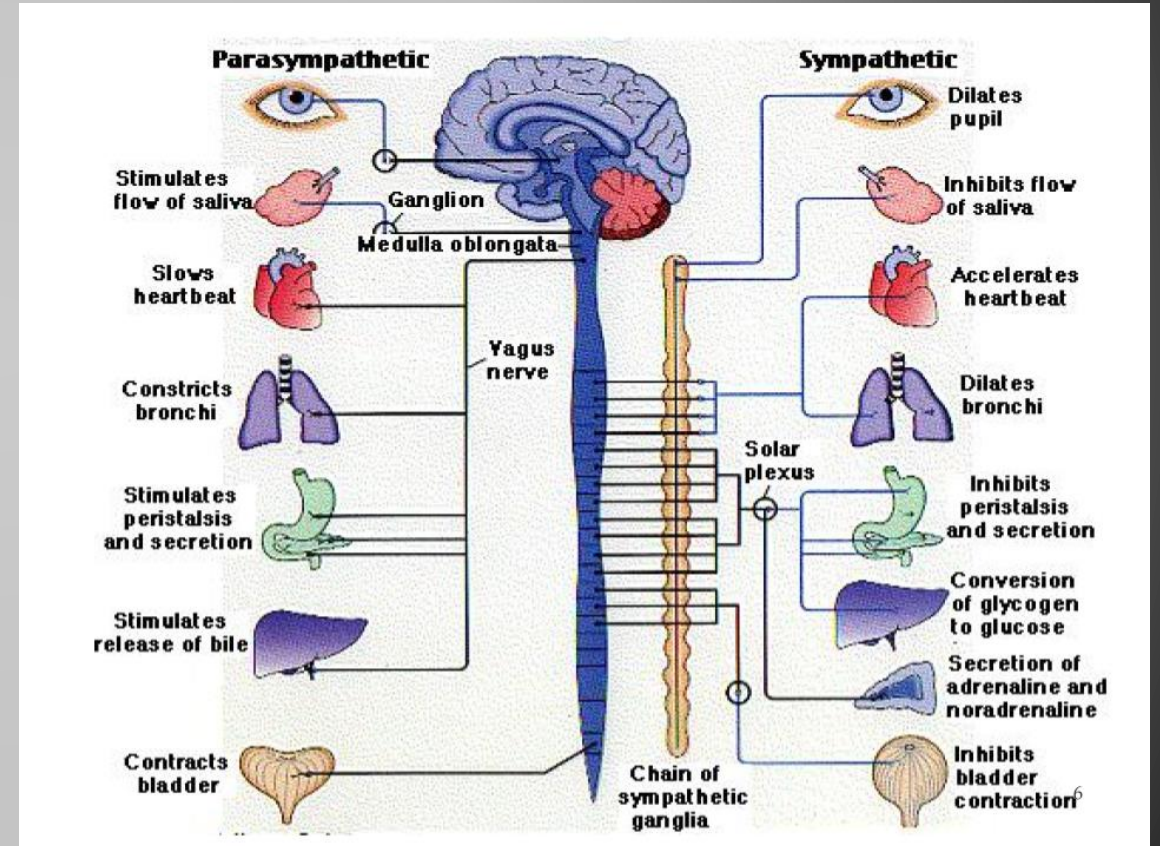


- At the front, fibres insert into the xiphoid process and along the costal margin.
- Laterally, muscle fibres insert into ribs 6–12.
- Posteriorly, muscle fibres insert into the vertebra at T12 and the crura, descend and insert into the lumbar vertebrae at L1 & L2



# Respiratory Diaphragm

- Diaphragmatic breathing activates your parasympathetic nervous system, mainly through influence on your vagus nerve. This allows your body to slow down and heal.





# TRADITIONAL APPROACH

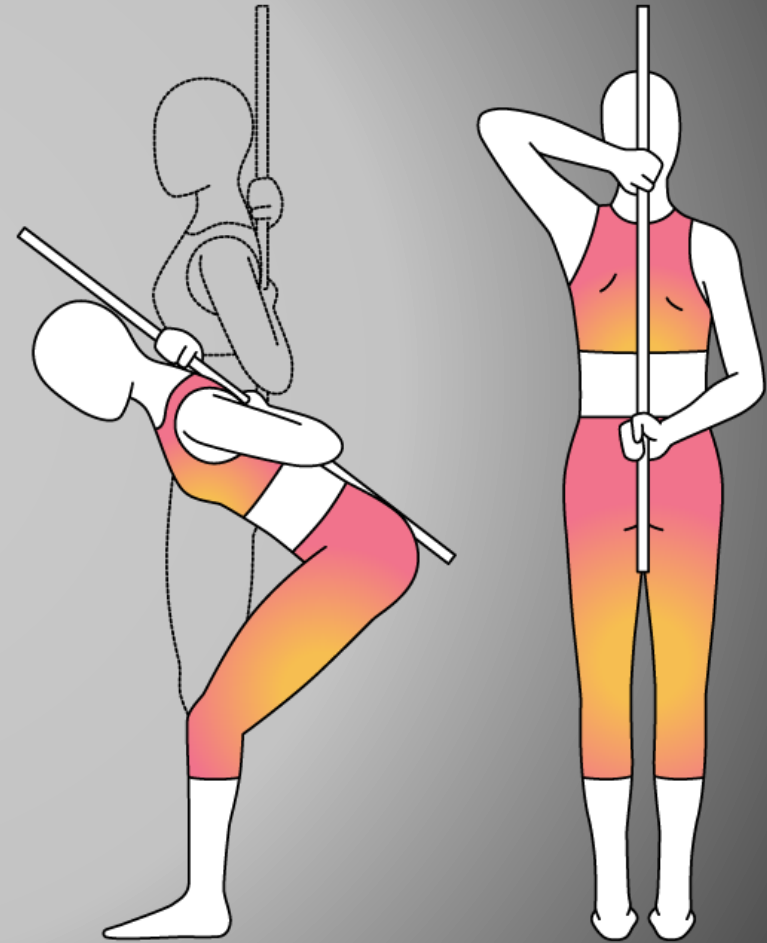
- Verbal cues to engage muscles
- Stabiliser pillow
- Ultrasound
- Pilates

# JAMES' VIEW

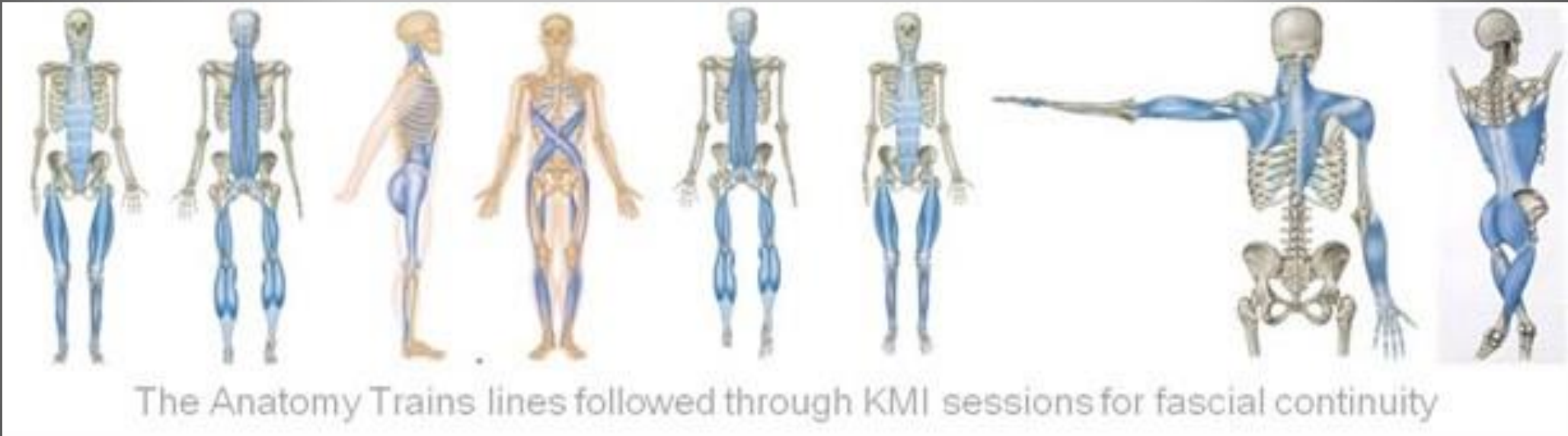
- Neutral spine is key.....can't find it= no stability
- Glut squeeze with head position
- Pelvic tilt
- Head and pelvis interact
- Breathing is the pathway – Nasal Breathing
- Broom stick – hip hinge

# BROOM STICK

- Use a broom stick to find neutral spine.
- 3 points of contact.
- Hip Hinge.

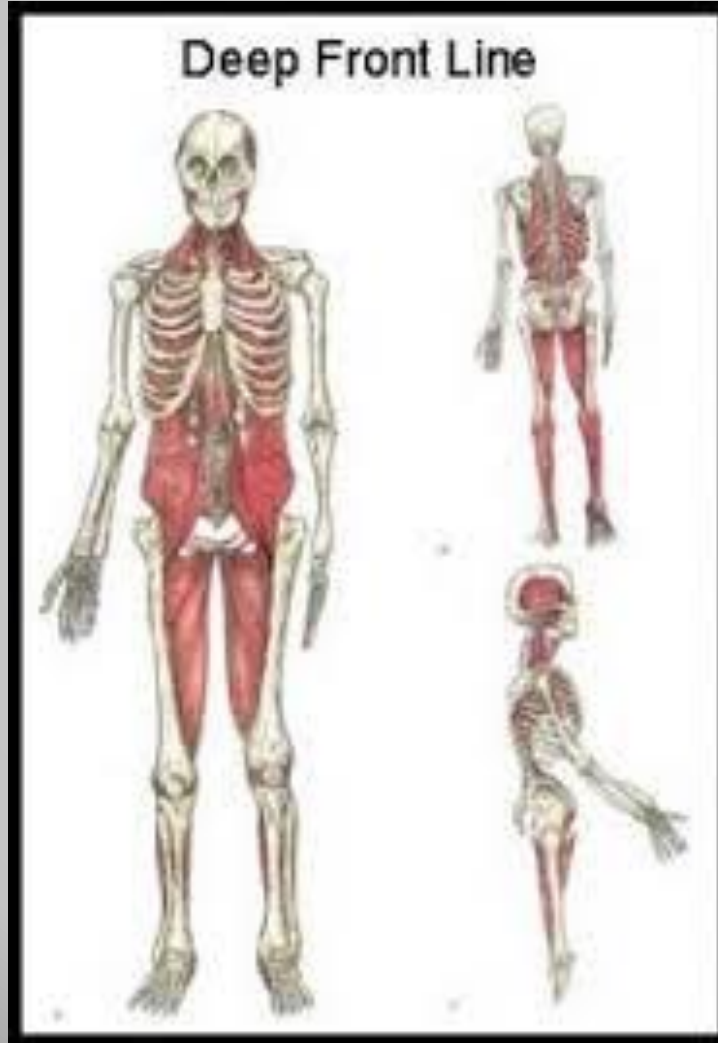


# But there is more!





# Deep frontal line

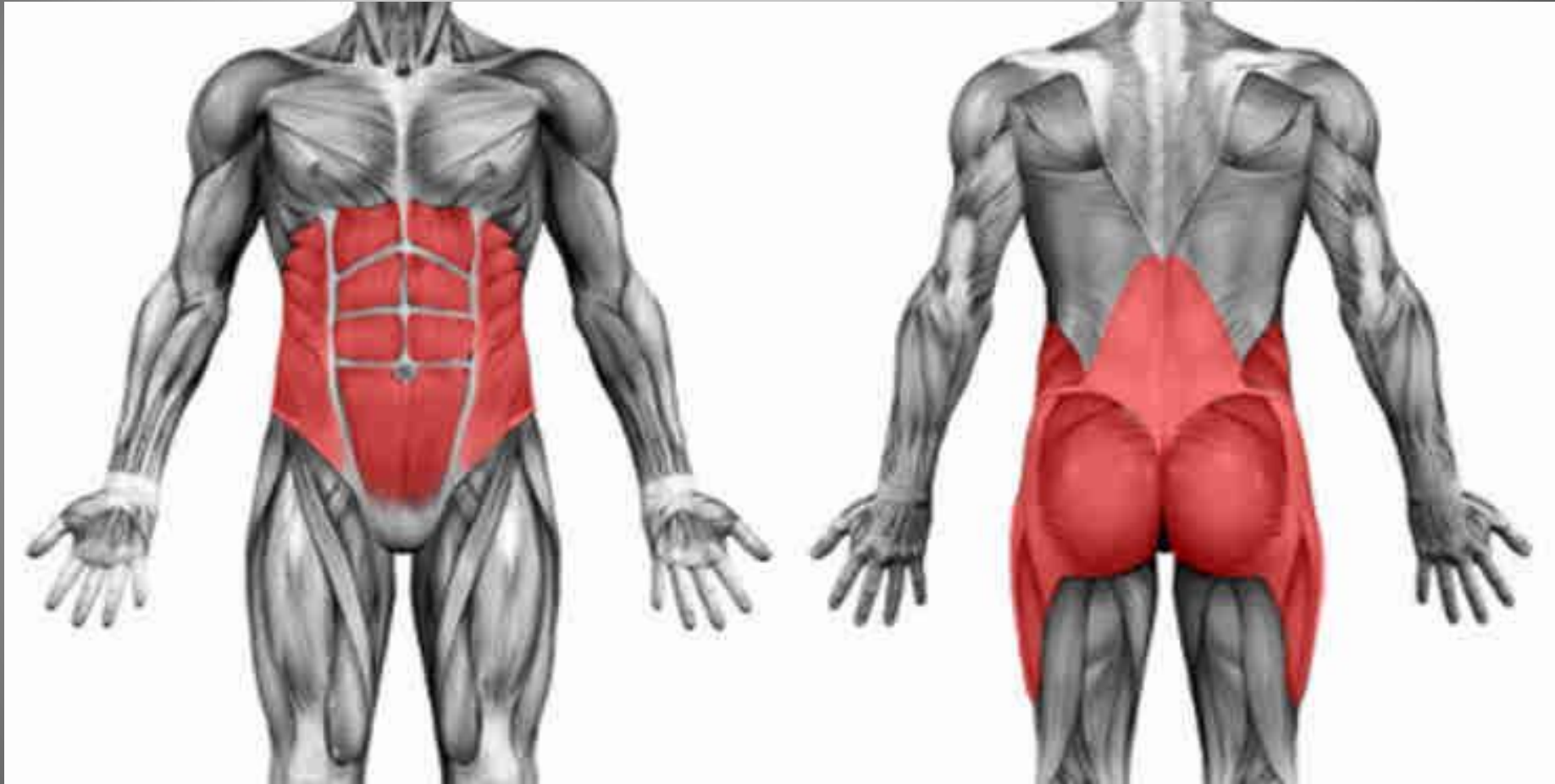




# Activation drills

- Need to be different than normal adaptive movement patterns
- Floor
- 4 point kneeling
- High kneeling
- Sitting
- Standing
- Upright movements

# Muscles to target





# PALLOF PRESS



# THORACIC ROTATION

- GET STABILITY FIRST
- THEN WORK ON MOBILITY
- SMALL, SAFE RANGE



# Rolling for spiral line

