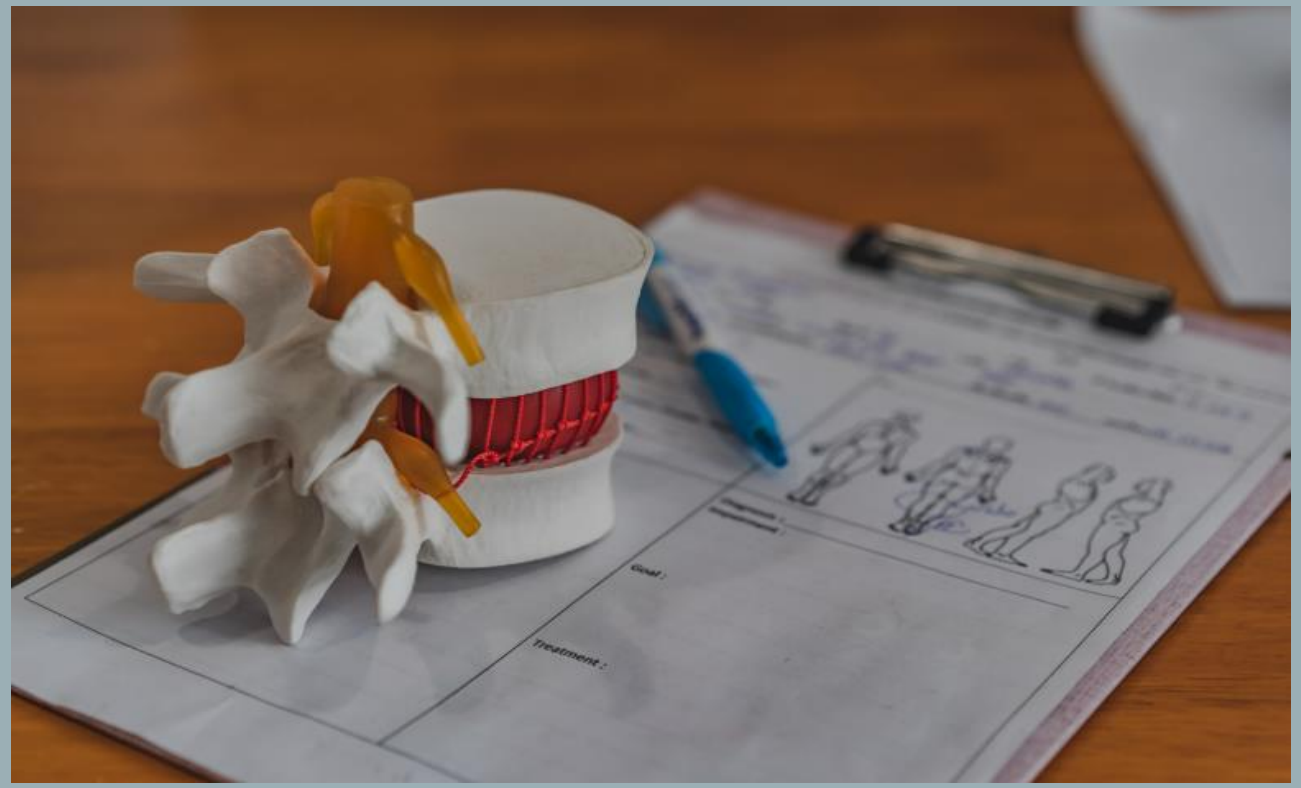
PAIN-FREE: LOW BACK AND NECK



Northeast Orthopedic Solutions, LLC

Joe Adams, DPT

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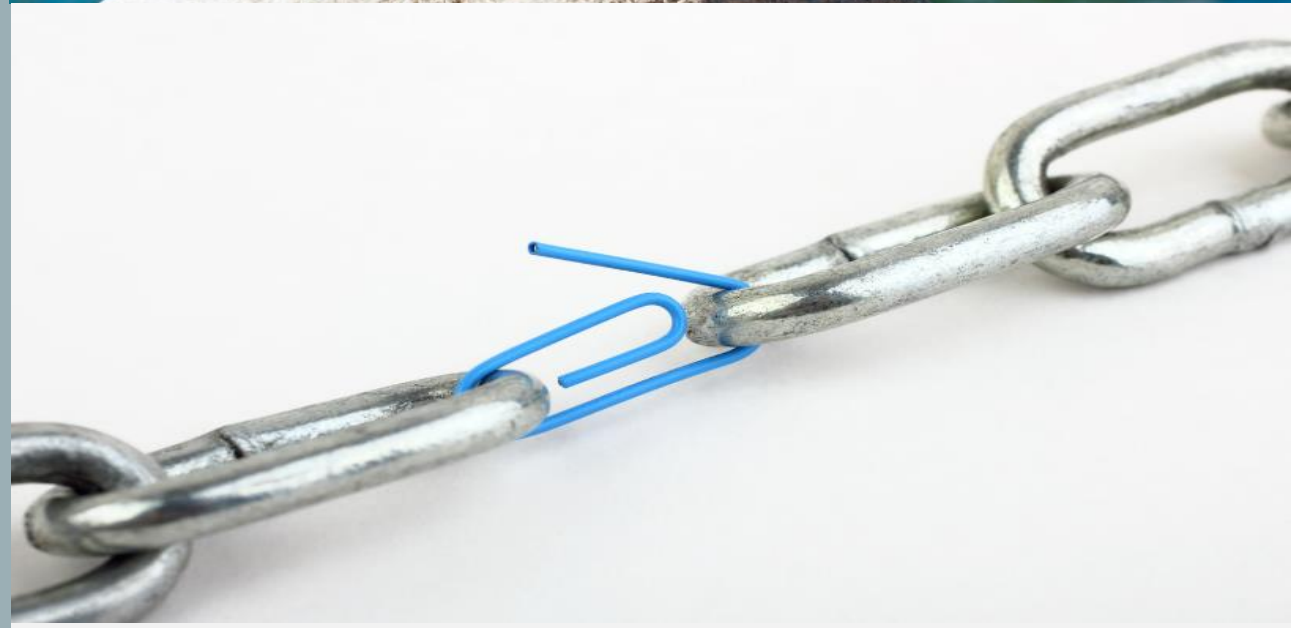
QUALITY MOVEMENT PATTERNS

Movement patterns are fundamental ways humans coordinate movement with one or multiple body parts working together.

Faulty movement patterns can identify:

1. Weakness
2. Instability
3. Flexibility deficits (Or sometimes too much flexibility!)



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WHY IS QUALITY MOVEMENT IMPORTANT?

By improving the way we move with better alignment and coordination, we reduce the risk of injury and chronic pain

Activities of daily living

- Picking up laundry
- Carrying children
- Cleaning dishes
- Yardwork
- Groceries

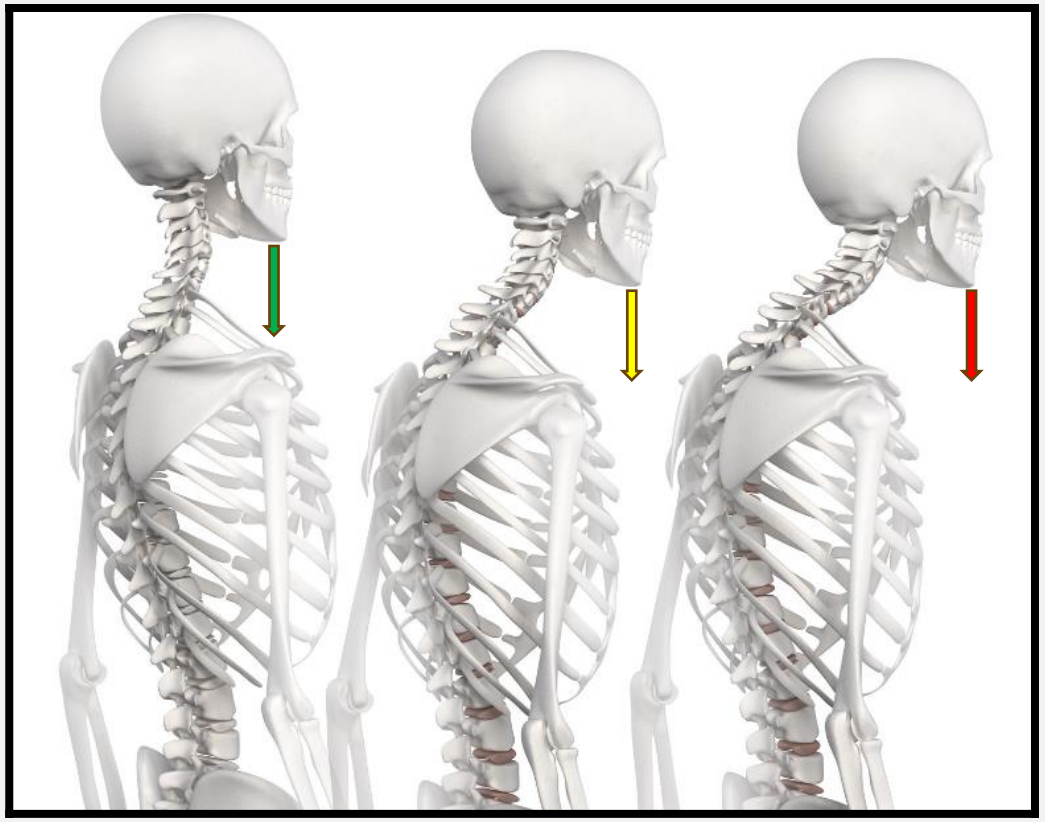
End Result= Better Health Outcomes

UPPER SPINE AND SHOULDER MECHANICS

The head and neck sit on top of the thoracic spine (area between shoulder blades)

Forward head posture moves the head away from this base of support muscles in this area can lead to more pain and further progression of forward head posture

Puts tension on joints, muscle, ligaments, nerve and other connective tissue



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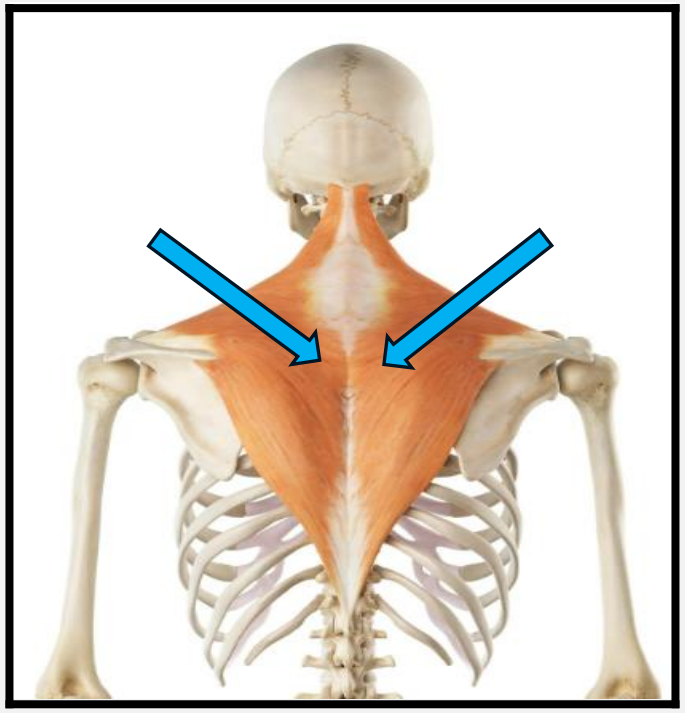
UPPER SPINE AND SHOULDER MECHANICS



Muscles along the upper back attach to various segments and run in different angles up to the cervical spine and base of skull

Weak muscles in this area can lead to more pain and further progression of forward head posture

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SCAPULAR RETRACTION AND CHIN TUCK

Scapular Retraction: Ability squeeze the shoulder blades together

Chin Tuck: Ability to pull chin in toward the neck without angling head downward

Prolonged activity without change in position can lead to neglect of using postural muscles

Chronic forward posture can lead to impaired shoulder health and less ability to reach overhead

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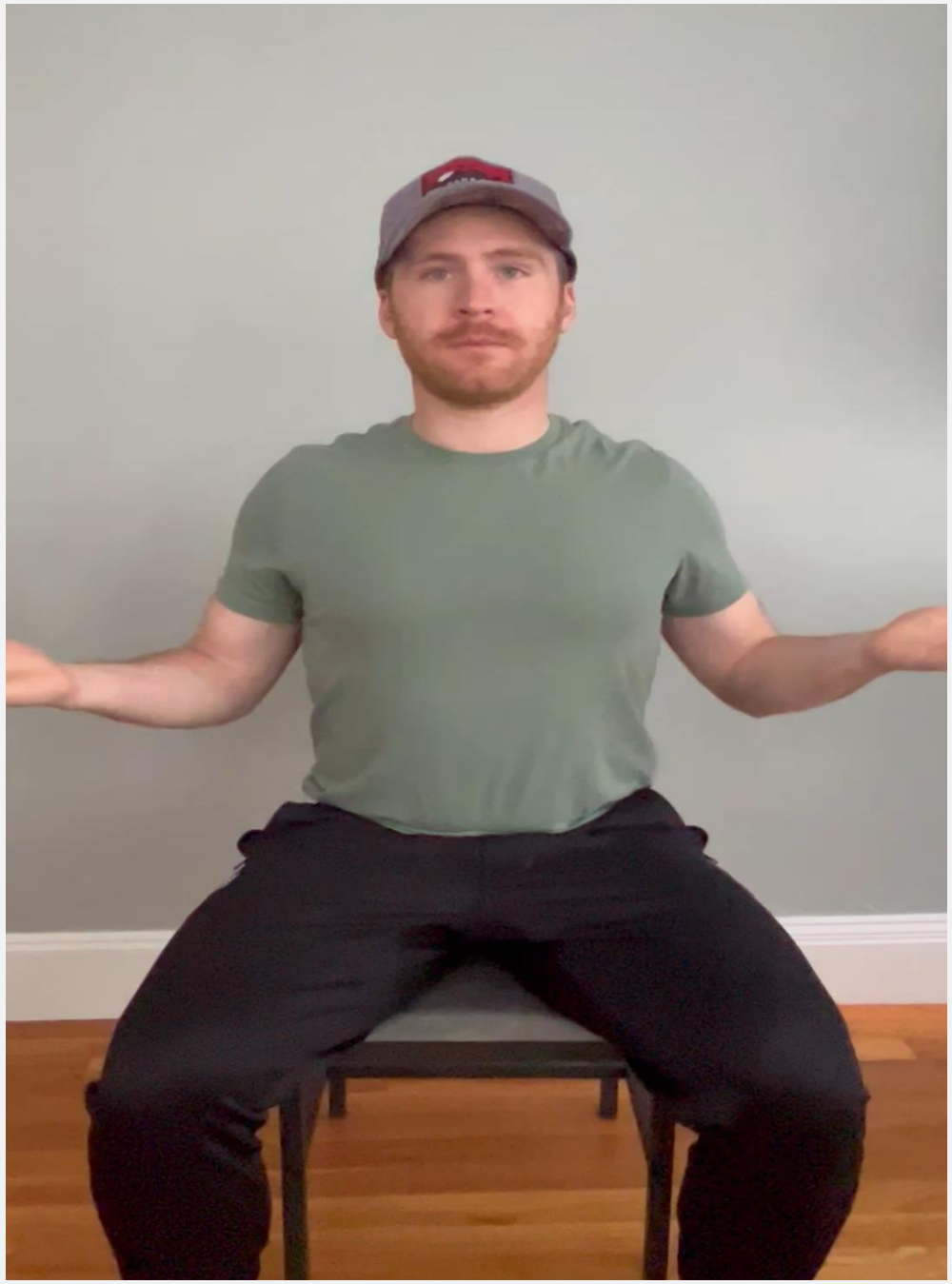
ACTIVE W'S

Directions:

- Begin with elbows bent and arms pointing straight ahead
- Sit as tall as you can, and gently squeeze shoulder blades together
- As you Squeeze your shoulder blades, your arms will naturally flare out and point toward your 2 O'clock and 10 O'clock

Recommendations:

- 10-15 repetitions, 2-3x/day



*__IMPORTANT:__ *These stretches are not a replacement for medical advice.* Always consult your physician or qualified health care provider if you have any health concerns or have had recent surgeries and are unsure of your restrictions.

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CHIN TUCK STRETCH

Directions:

- Gently use bottom hand to push chin in towards neck
- Use hand on back of head to gently pull upward while maintaining chin tucked position
- You will feel a subtle stretch along the back of the neck and base of skull

Recommendations:

- 10 repetitions, 3 second hold, 2x/day

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SIDEWAYS CHIN TUCK STRETCH

Directions:

- Gently use bottom hand to push chin in towards neck
- Use top hand on side of head and bottom hand on chin to rotate head to side
- Do not pull head sideways, the movement should be an isolated rotation of the head on the neck
- A stretch will be felt along either side of the upper neck

Recommendations:

- 10 repetitions, 3 second hold, 2x/day

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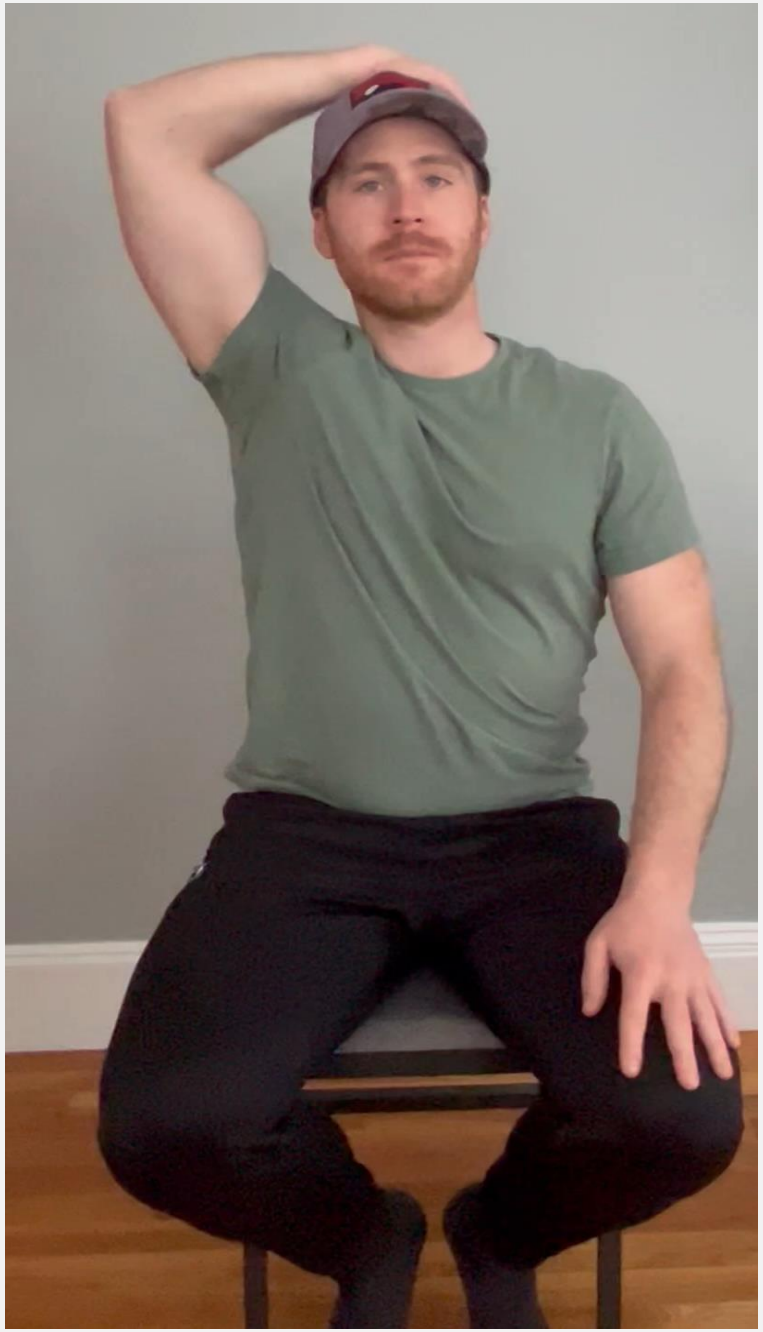
UPPER TRAP STRETCH

Directions:

- Sit up as tall as you can
- Place hand on opposite side of head and pull the head toward that arm
- A gentle stretch will be felt along the base of the neck and top of the shoulder

Recommendations:

- 2x20 second hold, 2-3x/day



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SEATED OPEN BOOK STRETCH

Directions:

- Sit up tall with both arms in front of you and palms together
- Rotate your trunk and neck in one direction, allowing your arm to reach behind you
- Rotate back to starting point
- Tip: Keep legs stable and don’t allow hips to shift. Holding a ball or block between the knees can help

Recommendations:

- 10 repetitions, 2-3x/day

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LUMBAR AND THORACIC EXTENSION

Directions

- Place hands behind head and elbows pointing forward
- Arch lower and upper back in a backward direction while flaring elbows out the side

Recommendations

- 10 repetitions, 3-5 second hold, 2-3x/day

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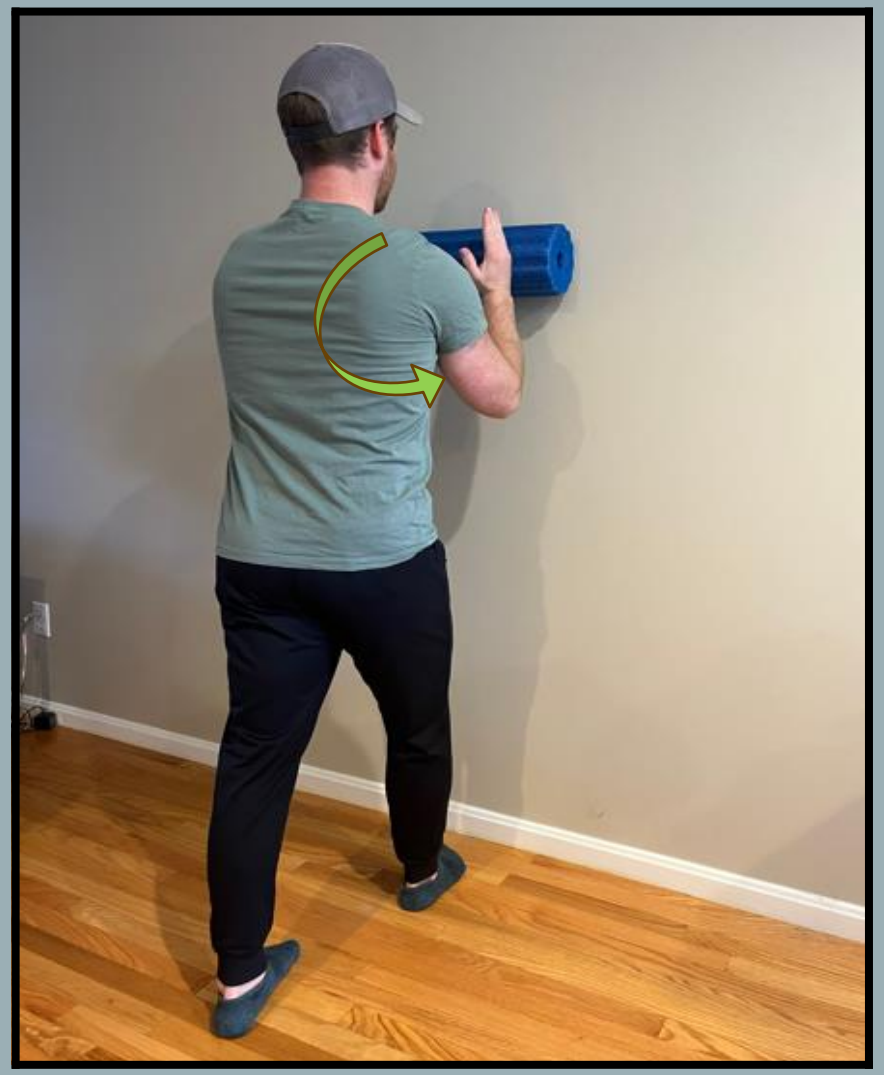
OVERHEAD REACHING AND LIFTING



Foam Roller Wall Slide

One foot in back for leverage and support

As roller slides up, push chest towards wall to use trunk as support under the arms

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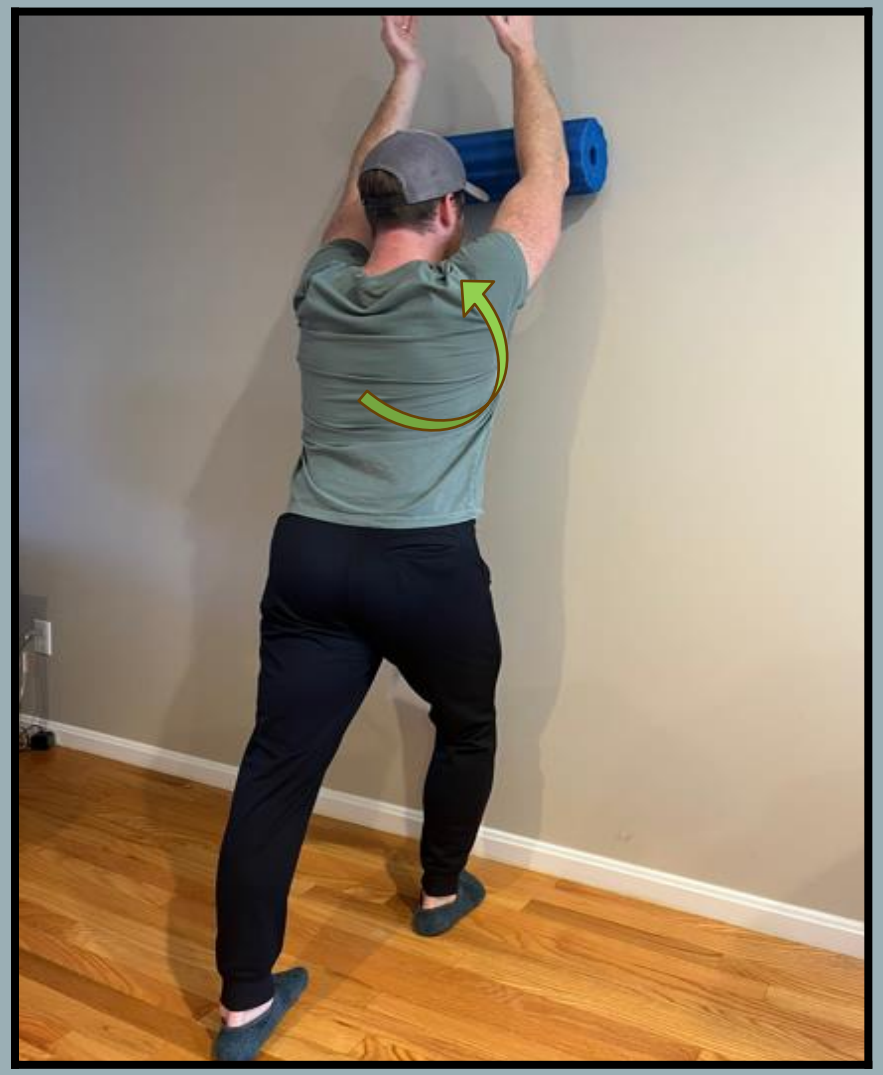
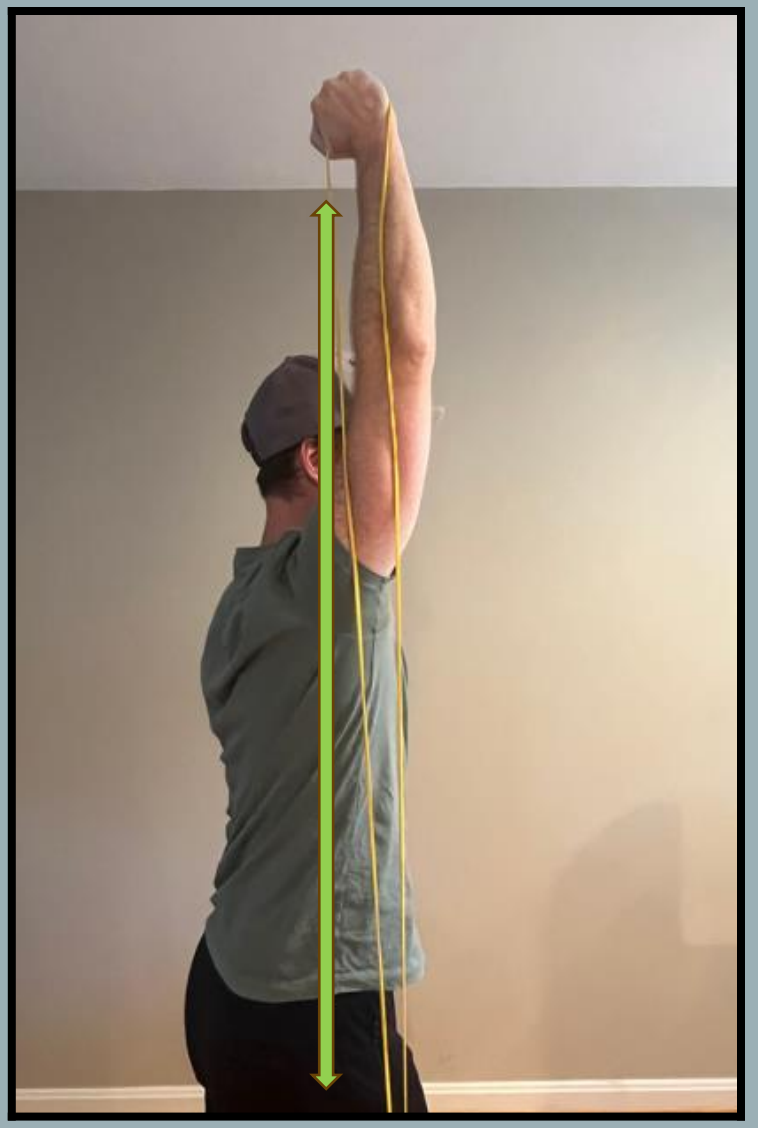


OVERHEAD REACHING AND LIFTING

Providing light resistance helps test and improve understanding of how your own shoulder moves and what your comfortable end range limit is



OVERHEAD REACHING AND LIFTING

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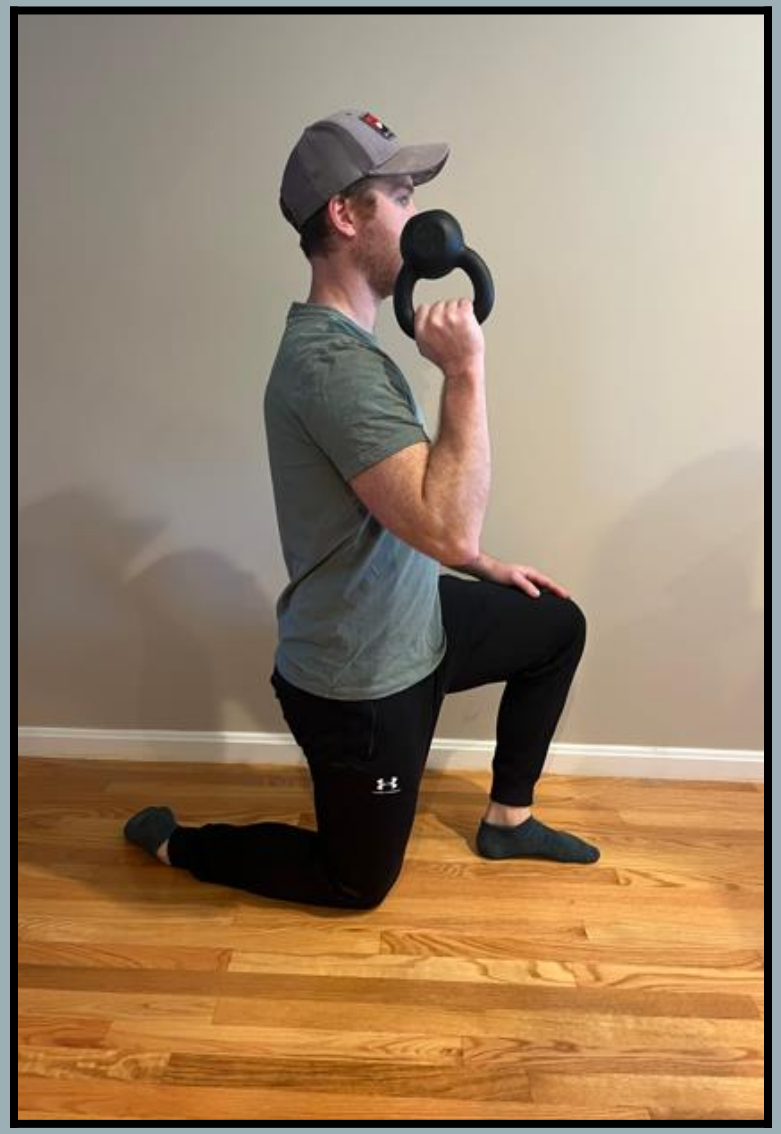
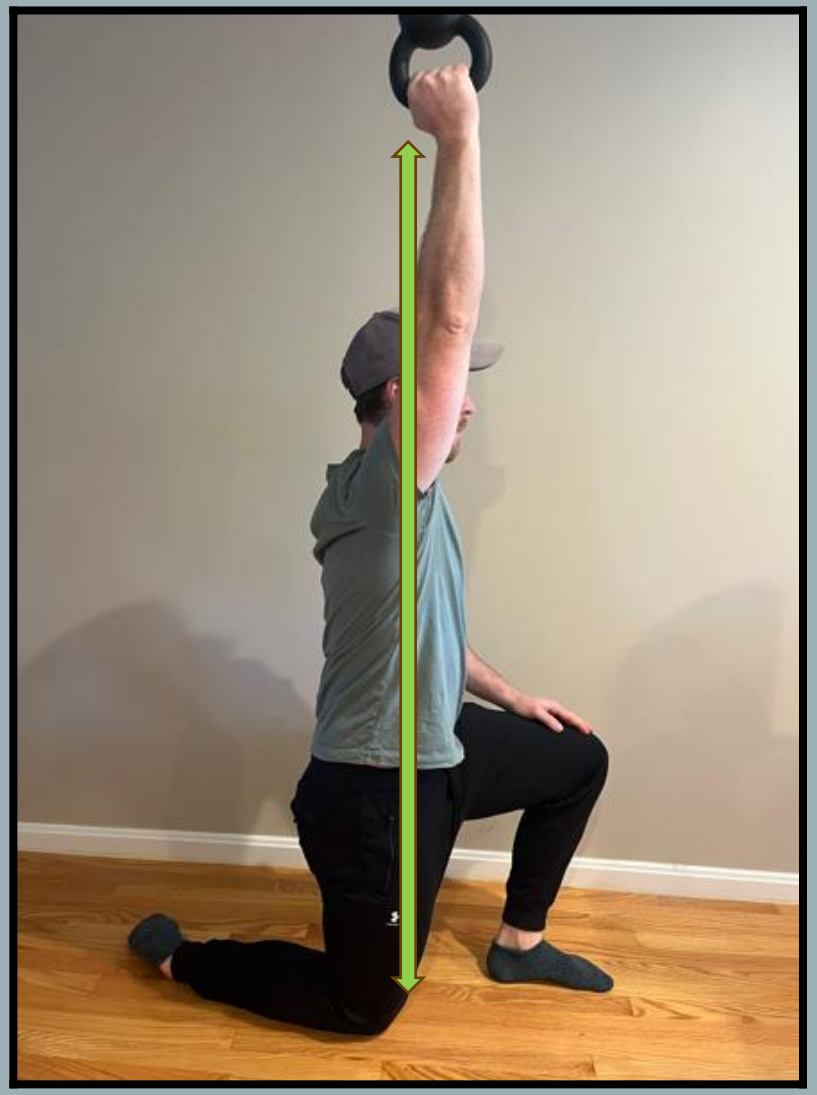




LUMBAR SPINE

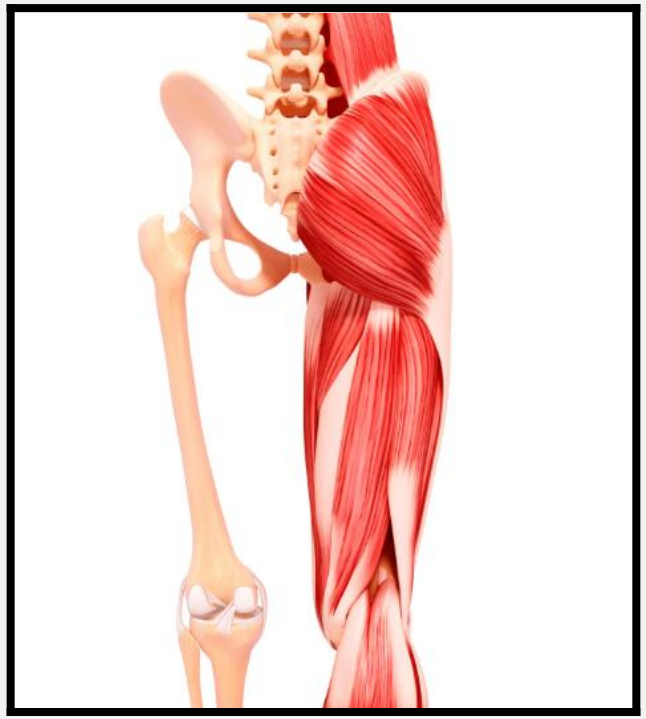
The segments of the 5 vertebrae of the lower spine are aligned differently than those of the neck

Their axis primarily favors the movements of bending forward and backward

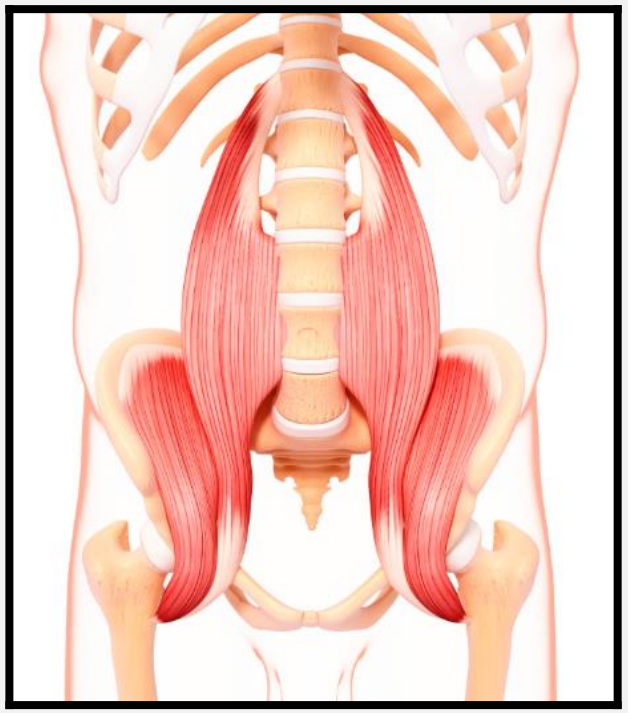
So how do we perform motions like twisting and side-bending?

HIP MUSCULATURE

HAMSTRINGS AND GLUTES PROVIDE STRENGTH IN THE BACK OF THE LEGS WHEN BENDING OR LEANING FORWARD



HIP FLEXOR MUSCLES PROVIDE SUPPORT ALONG THE FRONT OF THE BODY AND CONNECT DIRECTLY ONTO THE SPINE



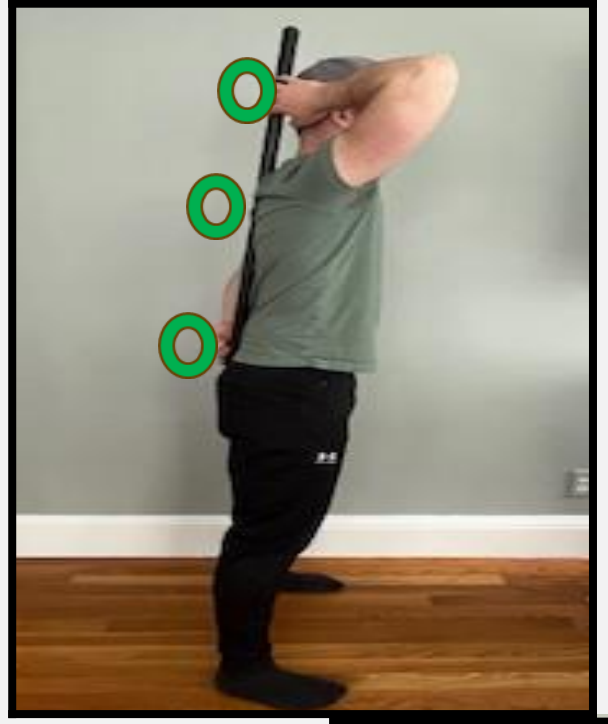
HIP HINGE

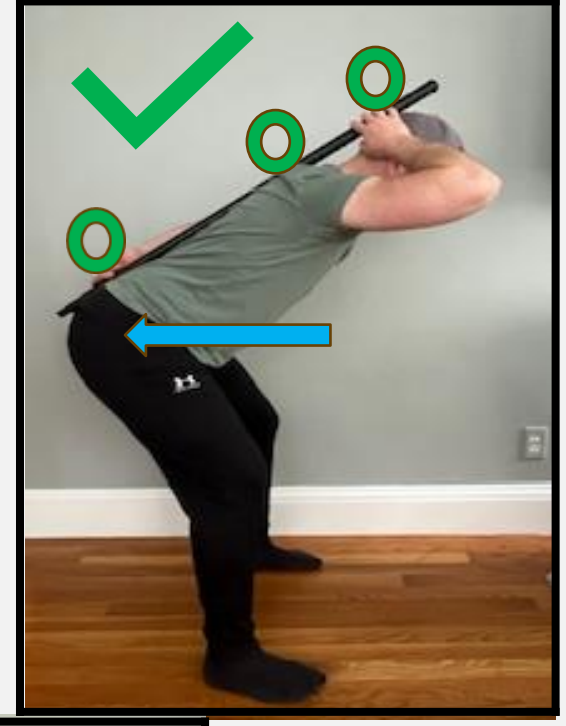
3 points of contact:

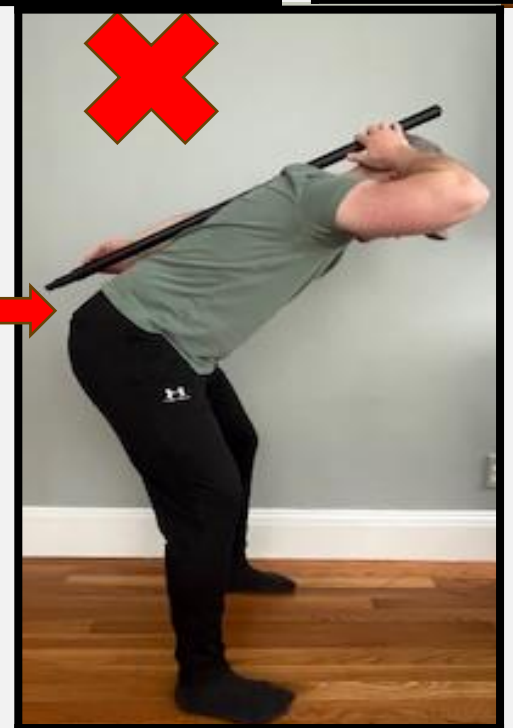
- Head
- Upper back
- Low back

These 3 points have to maintain postural alignment along the stick as you push hips backwards and shift weight onto heels

Think of this as a backward and forward exercise







Lost point of contact

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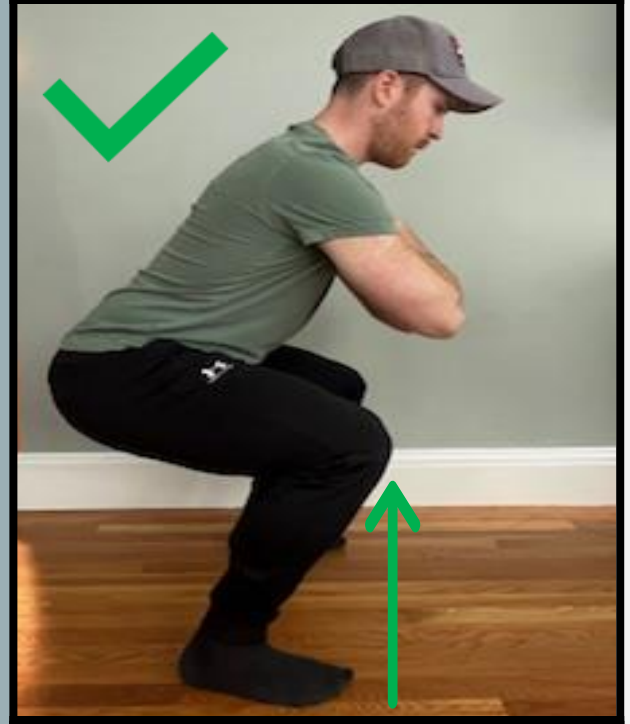
SQUAT

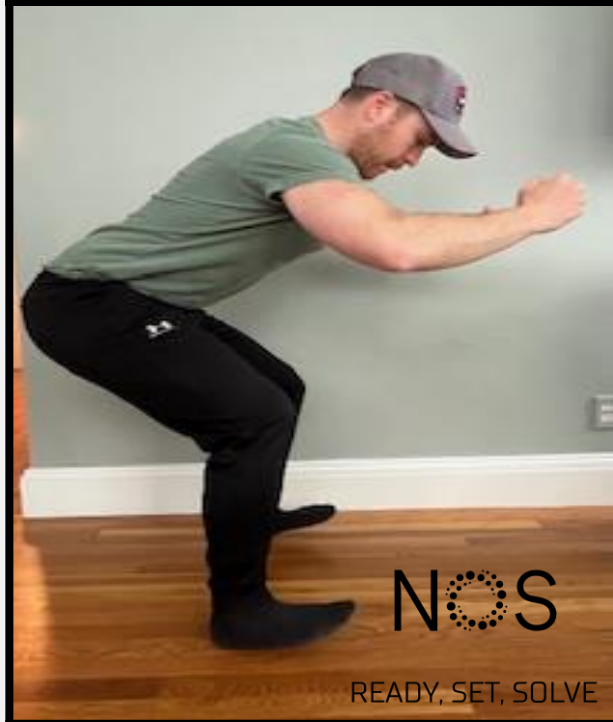
Hip and knees have to move simultaneously while the spine and head stay in a neutral position

Similar to the hip hinge, but now we using knees to *lower center of gravity* instead of shifting it backwards

Myth: "knees behind toes"

- **Over-use of back and hips**





SINGLE LEG BALANCE

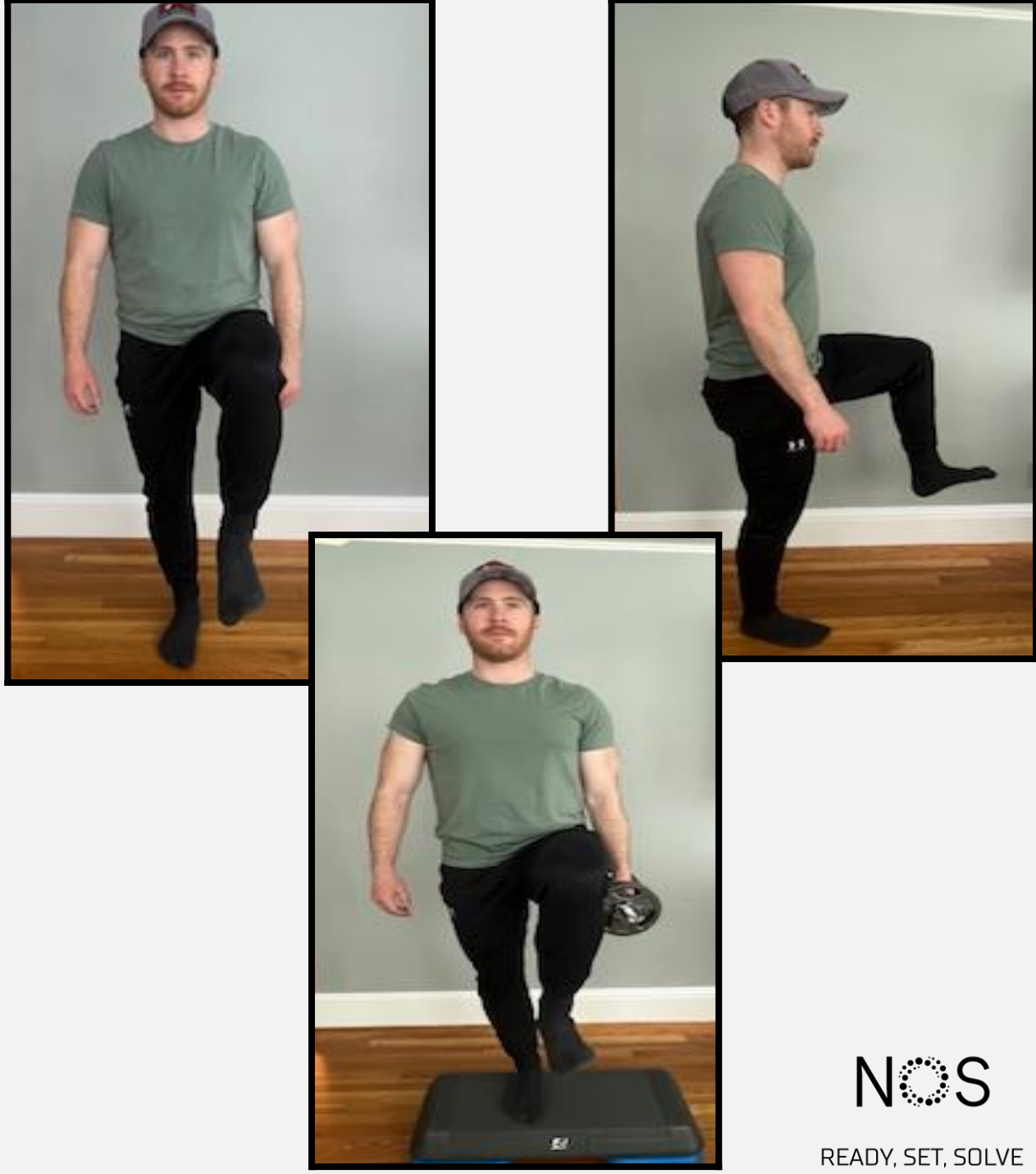
Many ways to compensate

- Exposes weakness and instability at the ankle, hip or core muscles

Goal: Hold for 30-60 seconds without compensation or swaying

Ways to make this more advanced?

- Hold weight in the opposite hand
- Stand on unstable surface
- Perform on a step for more dynamic challenge



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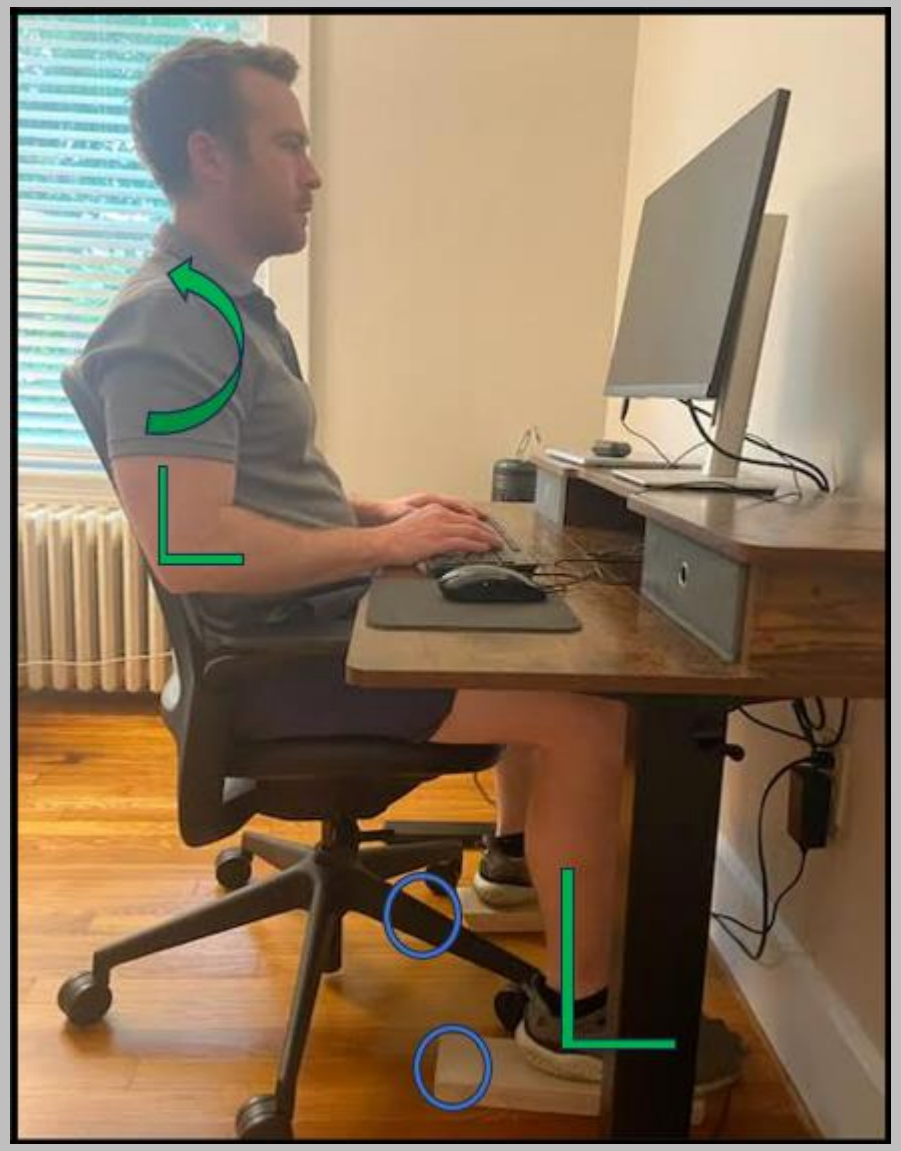
DESK ERGONOMICS

- **Chair Height**
  - Chair should be able to roll all the way into desk
  - Elbows are either at or a little above desk level
  - Feet should be flat on the ground
- **Chair Seat**
  - Hips should be above knee level
  - Seat depth
    - Alignment goal: While sitting up against back rest, front edge of seat should not be pressing into the back of the knee (waterfall effect)
- **Back Support**
  - Does your chair back rest lock?
  - Chair should provide convex lumbar support, preferably with adjustable slide up and down
- **Keyboard and Mouse**
  - Wrists should be in neutral position
  - Adjust chair height to line elbows up with the desk level
  - Mouse should be in line with the shoulder and without wrist deviation
- **Monitors**
  - Distance – arm reach away
  - Height – 1-2 inches at eye level
  - The bottom of the monitor should be tilted upward
  - Primary screen should be in front and if the job requires multiple monitors minimize neck rotation



QUESTIONS?

HOME (NEORTHOPEDICSOLUTIONS.COM)

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