Form Matters

BIOMECHANICS OF POSTURE DURING EXERCISE
What is Posture?

Definition: The position of all body segments relative to each other and the spine

Posture can be used as a base for
- Stability
  - Standing, sitting, laying, planking
- Movement
  - Walking, running, lifting weights

Body Segments
- Feet to hips
- Hips to chest
- Chest to shoulders
- Shoulders to head

Posture determines the demands placed on your muscles, ligaments, and bones.
- Automatic vs conscious
Spinal Posture

Spine

Pelvis
- Base for the spine
- Location of the pelvis directly influences the alignment of the spine

Shoulders
- Any movement of the shoulder girdle alters the load placed on the spine
Spinal Posture

- **Posterior Tilt**
  - Flat Back
  - 25°

- **Normal Tilt**
  - 40°

- **Anterior Tilt**
  - +40°
Improper alignment of the shoulders, spine and pelvis

- Dangerous for your joints
- Alters ROM
- Can increase your risk for exercise related injuries

For a lot of people this is an automatic posture because most people don’t think about their posture at all

**Consequences of bad posture:**

- *Stretched ligaments*
- *Weak muscles*
- *Tight muscles*
Optimal Posture

The pelvis, spine, and shoulder girdle

- Maintain alignment: keep the spine stacked on top of the pelvis and shoulders holding the spine in place

Exercise Goal: Maintain body position even when external loads are applied

- line of gravity (and) external load from weights

How to set up posture (in general)

- Standing -> hip hinge -> plank

Keep it “tight” (*keep your core engaged at all times)
Do you know good posture?
Do you know good posture?
Do you know good posture?
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Do you know good posture?
Posture and Exercise

How to set your body up for exercise
- Keep your core “tight”
  - Conscious engagement if the core

Training/improving your posture
- Awareness (paying attention to when your posture changes to be bad)
Training for Core Strength

Maintaining a rigid core
- isometric exercises (to increase endurance)

Exercises to strengthen the core
○ Rigid core but dynamic limbs (allow for mobility of other joints)
○ Activity/Demonstration: bird dog, dead bug, planks, back extensions, bent over rows/flys, deadlifts, squats
Training thoracic spine mobility

Improving mobility-
- Rigid limbs but moving core
- Activity/Demonstration: Practice assisted roll ups and cat cows, torso twists
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Staying mindful

Continuous check-ins

Don’t sacrifice your posture to exercise harder

You can’t undo a day of bad posture with an hour or two at the gym