

# Health and Wellness Seminars

## Shoulder Injury Prevention Seminar

### Presentation

<https://bit.ly/shoulder-injury-seminar-presentation-2023>

### Video

<https://youtu.be/RMEzUU4P22E>



# Shoulder: Injury Prevention

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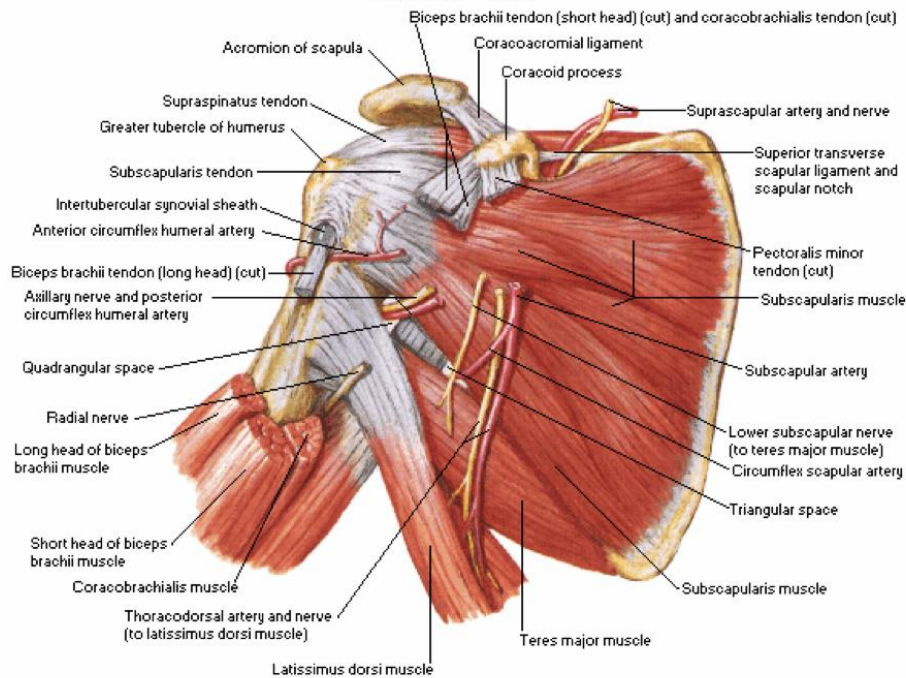


# Learning Objectives / Table of Contents

- Shoulder Anatomy
- Shoulder Motion
- Common Injuries and causes
- Functional Screening of Shoulders
- Prevention
  - Posture
  - Stretching
  - Strengthening
- Exercise Handout
- Resources

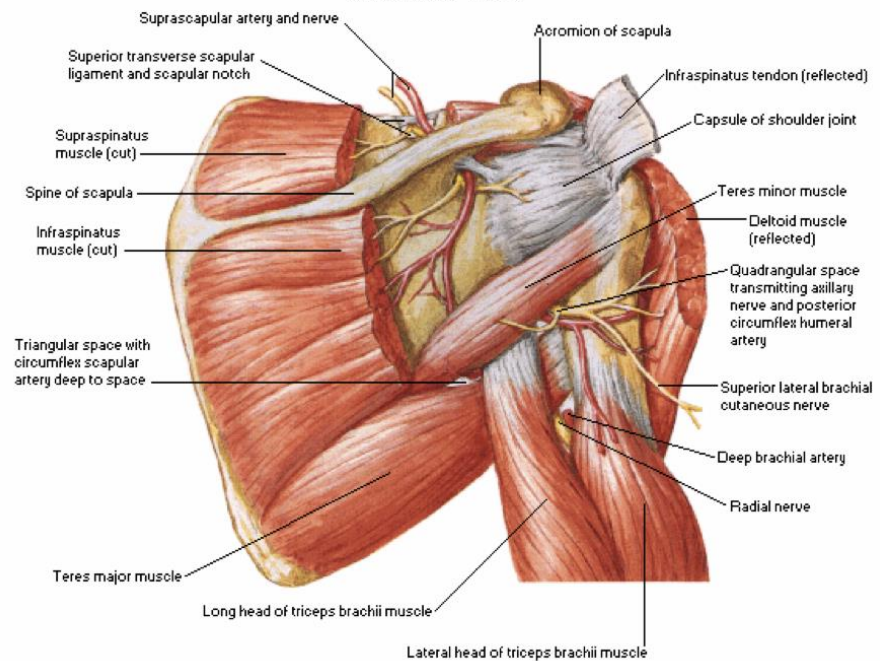
# Shoulder Anatomy

**Anterior View**



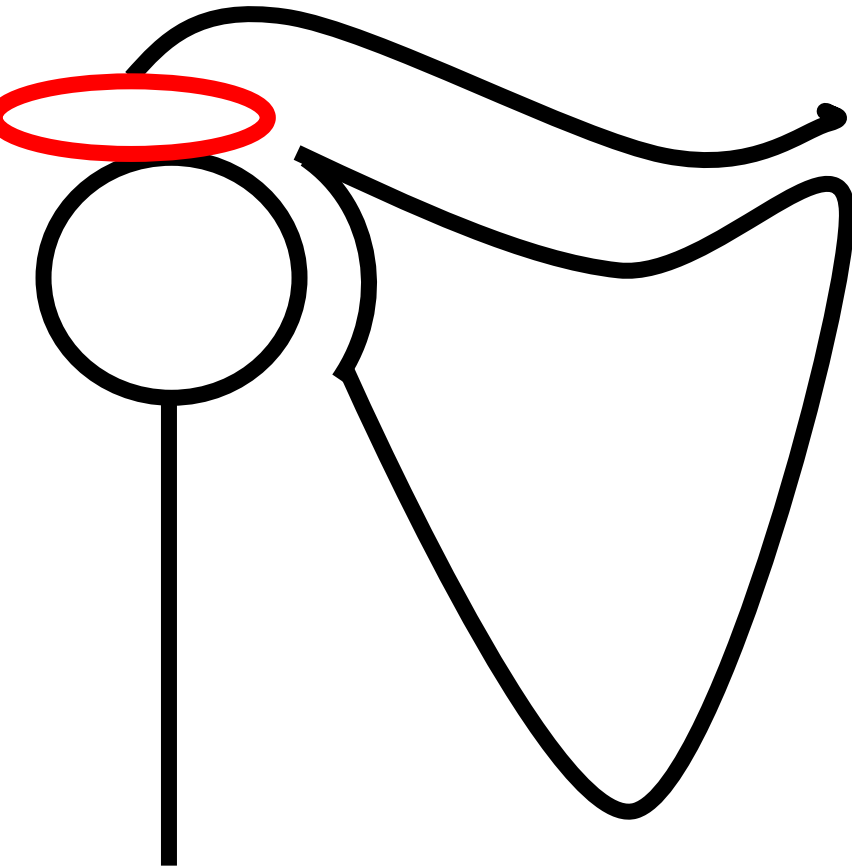
**Front**

**Posterior View**



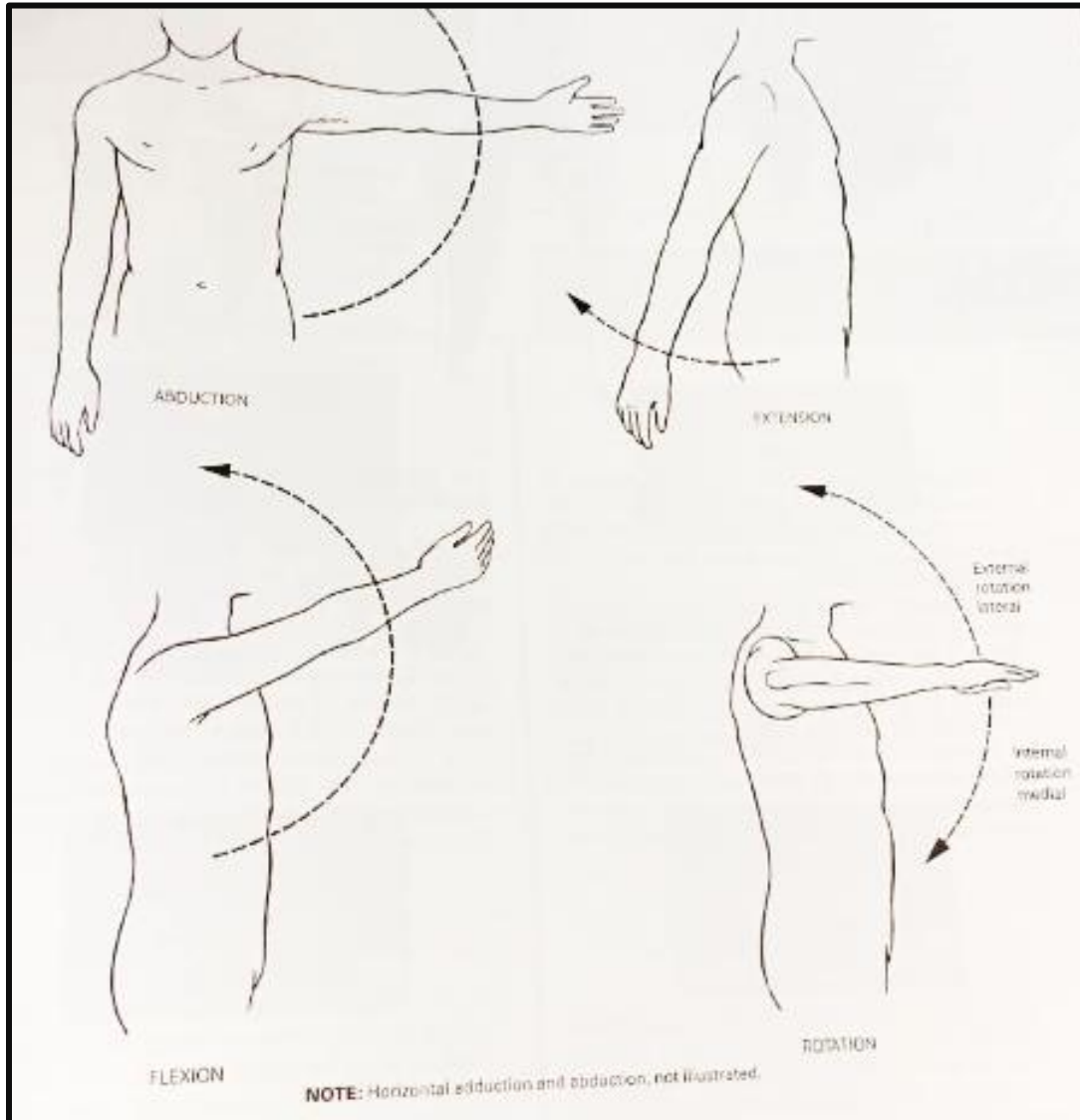
**Back**

# Shoulder Anatomy Summary



- Bones
  - Humerus
  - Scapula
  - Clavicle
- Subacromial Space (red)
  - 4 Rotator Cuff Tendons
  - Biceps Long Head
  - SA Bursae

# Functional Shoulder ROM



- Abduction: 180degrees
- Extension: 45degrees
- Flexion: 180degrees
- Internal Rotation: 70degrees
- External Rotation: 90degrees

# AAOS – Common Shoulder Issues

- 4 major categories of injury
  - Tendon inflammation/tear
  - Instability
  - Arthritis
  - Fracture/trauma
  
- Most Common Injuries
  - Bursitis
  - Tendonitis/tendon tearing
  - Impingement
  - Instability
  - Arthritis
  - Fracture/trauma

# Common Causes of Shoulder Injury

## Bad Posture

- Closes available space to move arm
- Creates muscle tightness in neck and shoulders that restrict movement
- Contributes to pain in shoulders, neck, and back
- Becoming more common with technology

## Overuse

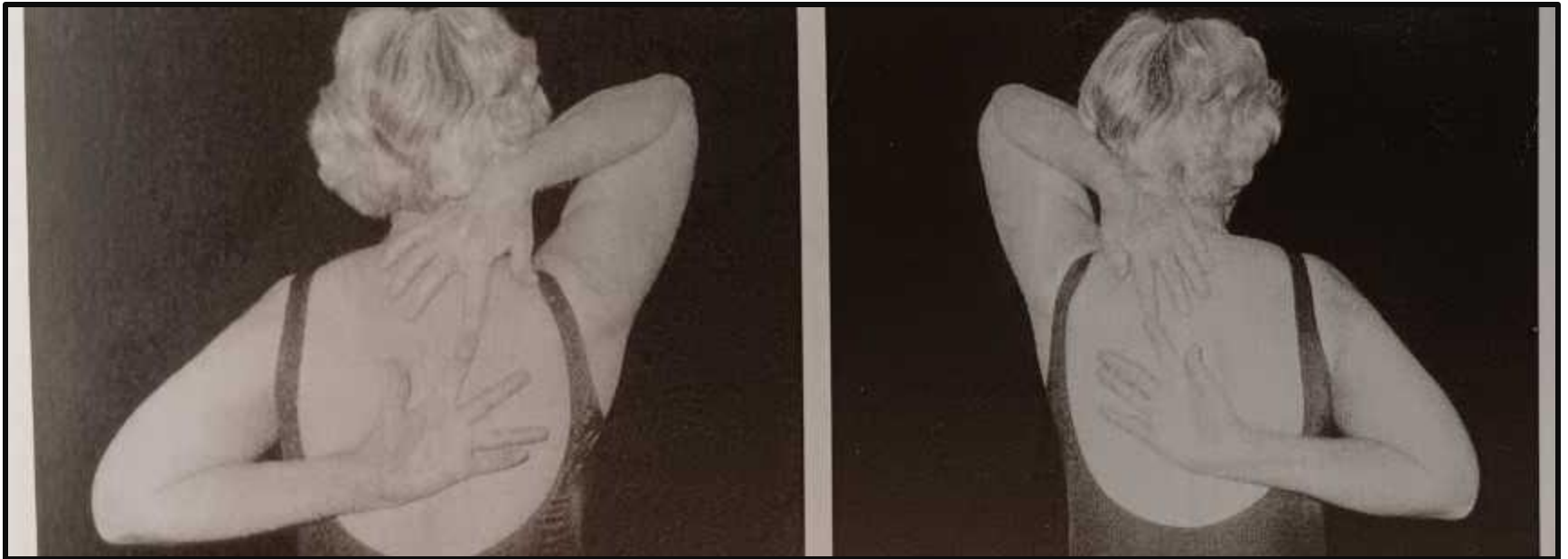
- Often seen in “weekend warriors”
- Slow developing with low amount of pain over long time
- Associated with bad movement form and/or fatigue with repetitive motions
- Can be related to work and posture

## Trauma

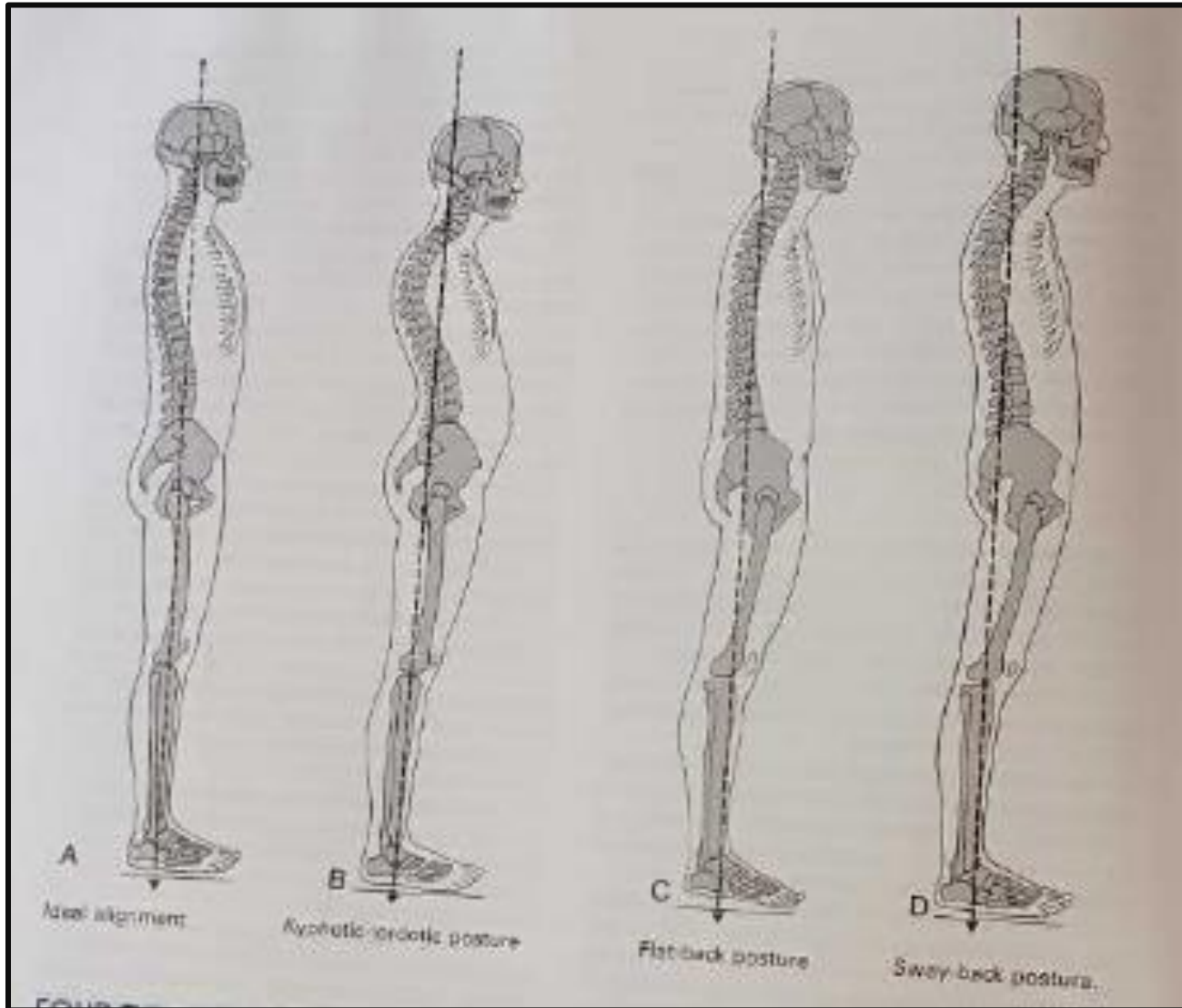
- Sudden onset
- Usually from known incident
- Can be result of overuse over years if goes untreated

# Functional Screen Questions

- How high can you reach overhead?
- How far can you reach front/side?
- Can you touch opposite shoulder?
- Can you reach behind your head?
- Can you reach behind your back?
- Quick Screen via Apley scratch test



# Injury Prevention



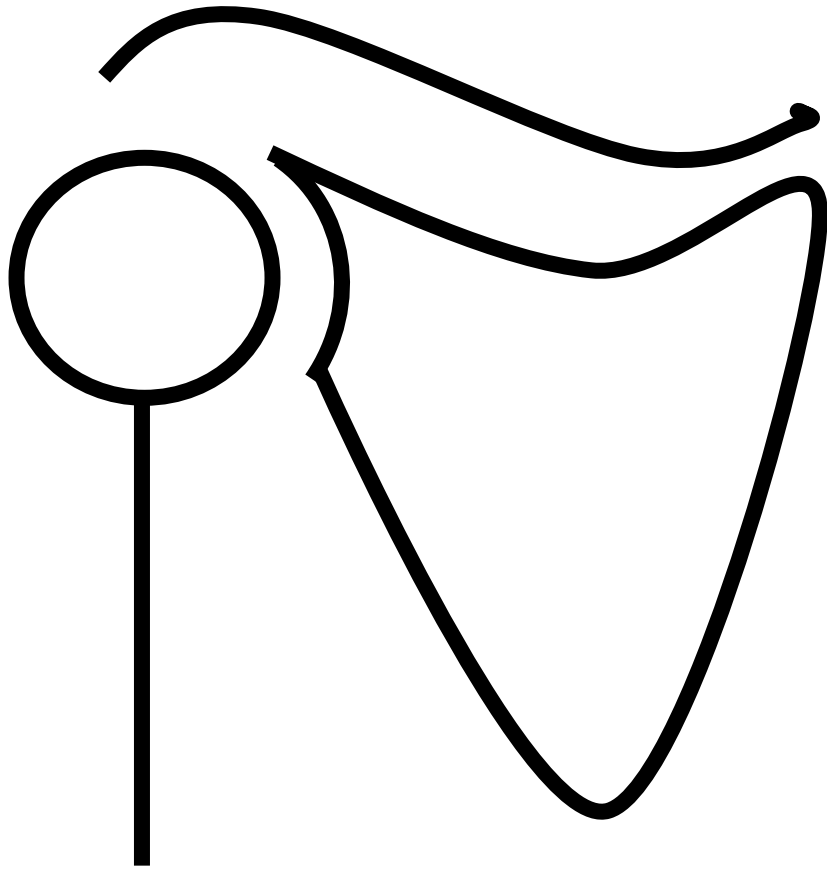
- Fastest thing you can do is fix your posture!

# What is Good Posture?

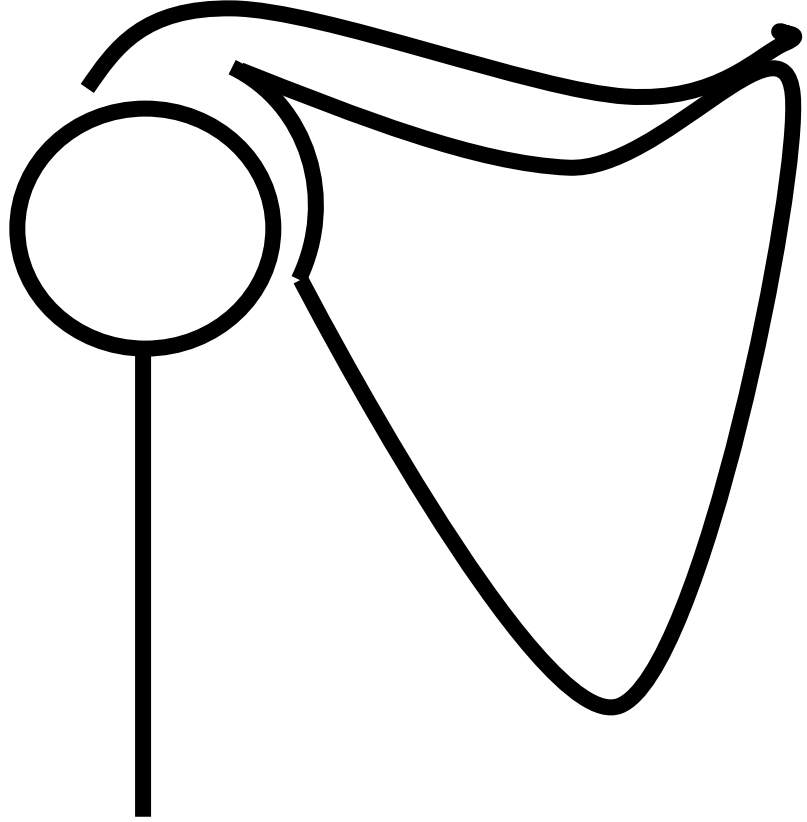


- Ears, shoulders, trunk, and hip in line in sitting.
  - Knees and hips both at 90 degs.
- Ears, shoulders, trunk, hips, knees, and ankles should be in a line when standing.

# Shoulder Anatomy Related to Posture



Good Posture



Bad Posture

# Stretching

- Goal of stretching: to increase ROM and lengthen muscles that are tight
  - ACSM states can take 3-4 weeks of stretching 2-3x/week to help chronic issues.
- Secondary goal: less pain with motion, comes from less nerve compression
  - Can also aid balance and posture stability if you are more flexible.
- Need to stretch all muscles (large and small) around the joint
  - Neck, mid back, shoulder, chest, and arm
- 10-30seconds hold during stretching, 30-60seconds for older populations
- Repeat stretches 2-4 times, often best after normal exercise program.

# Strengthening

- Goal of strengthening: to improve force for movement or joint stability
  - Also contributes to less pain, and reduced injury risk
- Should warm up muscles prior to resistance training 5-10mins
- 2-3days/week for weight training for all muscles, with 24-48hr rest between
- 2-4 sets of 8-12 reps, with 3mins rest between sets.
- This refers to resistance training – not cardio exercise.

# Specific Stretches/Exercises

See Handout

# Resources

1. Netter, Frank H., et al. *Atlas of Human Anatomy*. Elsevier, 2019.
2. Kendall, Florence P., et al. *Muscles: Testing and Function w/ posture and pain*. Lippincott, Williams, and Wilson, 2005.
3. ACSM, et al. *ACSM's Guidelines for Exercise Testing and Prescription*. Wolters-Kluwer, 2018.
4. "Shoulder Pain and Common Shoulder Problems - OrthoInfo - AAOS." *Aaos.org*, 2018, [orthoinfo.aaos.org/en/diseases--conditions/shoulder-pain-and-common-shoulder-problems/](https://orthoinfo.aaos.org/en/diseases--conditions/shoulder-pain-and-common-shoulder-problems/)

# Questions?

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