

- Rationale for corrective exercise for the shoulder complex
- Anatomical review
- Discuss common impairments
- Practice movement assessments
- Present interventions to remedy movement impairments

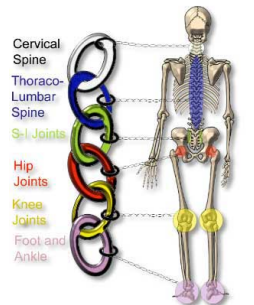


Anatomical Review

- Kinetic Chain
- Shoulder "Complex"
 - Skeletal/articular
 - Muscular and Fascial Systems
 - Passive
- Common Dysfunctions

THE KINETIC CHAIN

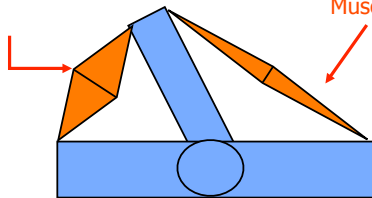
- Articular System
 - Joint alignment and function
- Nervous System
 - Force couples and coordination
- Muscular System
 - Length-tension relationships and function of muscles
- Site of chronic stress, pain and injury is often not the cause.



Muscular Imbalance

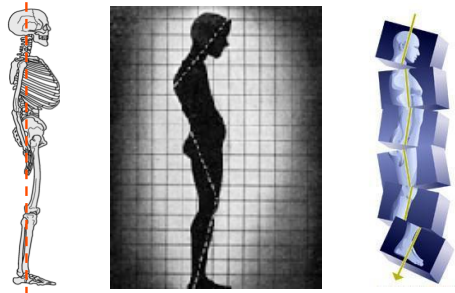
Short/Tight Muscle

Lengthened/Weak Muscle can feel "tight"



MUSCLE IMBALANCE

Don't Break the Chain!



Five Kinetic Chain Checkpoints

- **Feet**
 - Straight ahead w/ neutral position at the ankle
- **Knees**
 - Straight ahead in line w/ 2nd and 3rd toes
- **L-P-H-C**
 - Neutral spine, slight anterior "neutral" tilt
- **Shoulders**
 - Neutral, center of shoulder in line with center of hip joint
 - scapulae @2" from the spine
- **Head**
 - Neutral, center of ear in line with center of shoulder

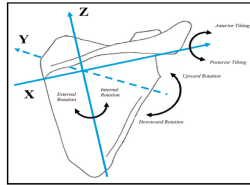


Glenohumeral Joint

- | | |
|---------------------|------------------------|
| ■ Sagittal Plane | ■ Horizontal Plane |
| □ Flexion | □ Horizontal abduction |
| □ Extension | □ Horizontal adduction |
| ■ Frontal Plane | ■ Scapular Plane |
| □ Abduction | □ Scaption |
| □ Adduction | |
| ■ Transverse Plane | |
| □ Internal rotation | |
| □ External rotation | |

Scapulothoracic Joint

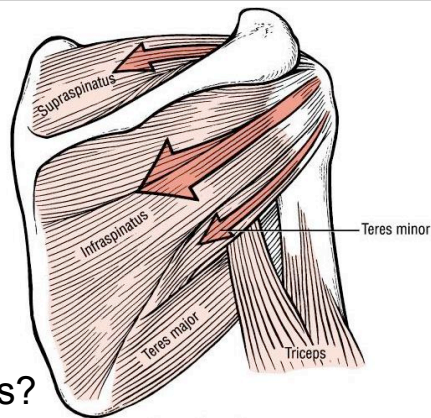
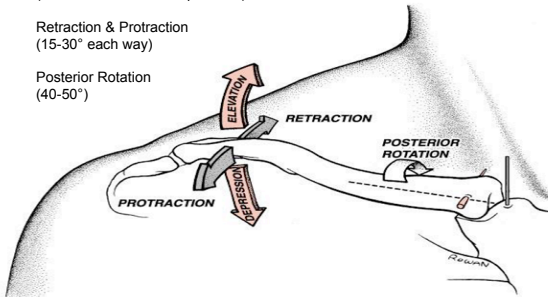
- Elevation
- Depression
- Protraction
- Retraction
- Upward rotation
- Downward rotation
- Abduction (Internal)
- Adduction (External)
- Anterior Tilting
- Posterior Tilting



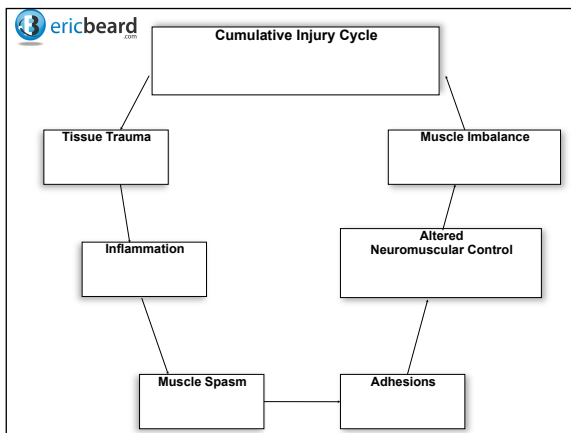
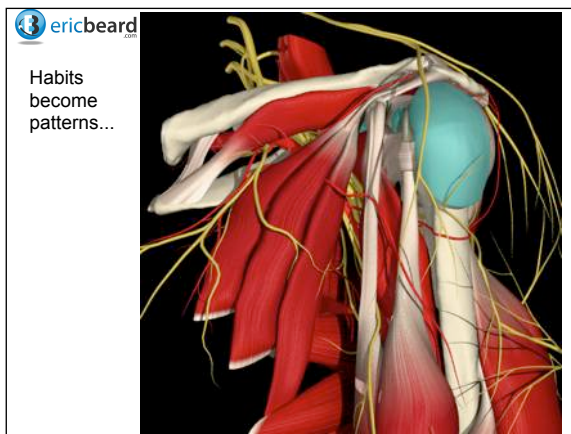
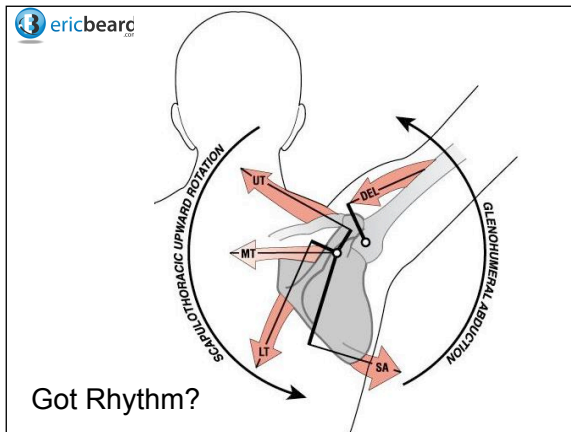
Elevation & Depression
(45° Elevation & 10° Depression)

Retraction & Protraction
(15-30° each way)

Posterior Rotation
(40-50°)



Got
Muscles?



S.I.C.K. Scapulae

- **S:** Scapular malposition on the rib cage
- **I:** Inferior medial border winging from weak serratus anterior, middle and lower trapezius muscle
- **C:** Coracoid pain and malposition from the attachment of a tight Pectoralis minor muscle pulling on the coracoid
- **K:** Scapular dyskinesis from alterations in muscle recruitment patterns

Do You Have the G.I.R.D?

- G.I.R.D.-GHIR = less than 70 degrees
- It has been shown that this loss of IR predisposes throwers to shoulder injuries such as labral tears and rotator cuff tears in addition to increasing forces on the ulna collateral ligament

Assessments

- Static postural
 - Standing
 - Prone
 - Supine
- Passive Range of motion
- Active Range of Motion (Movement)
 - Breathing
- Specific testing

Movement Assessments

- See a licensed professional if pain persists
- These techniques are designed to identify asymmetries and to record improvements in a corrective program

Impingement Test or Shoulder Crossover Test



Standing Shoulder Flexion Test

- Compensation of low back arching may indicate tightness in the lats
- Elbows bending may indicate primarily tightness in the pectoral complex
- Elevation of scapulae may indicate over-activity in the levator scapulae

The Rotation Test

- Joint movement; external rotation and internal rotation from 90 degrees of horizontal abduction
- External rotation places stretch on latissimus dorsi, distal and sternal portions of pectoralis major, pectoralis minor and subscapularis
- Internal rotation places stretch on posterior capsule, infraspinatus and teres minor

Self Care and Exercise

- Self Care and Exercise
 - Soft Tissue Work & SMR
 - Stretching and Joint Mobilization Techniques
 - Activation (Isometrics) and Active Isolated Strengthening
 - Integration (Strength Training) and Plyometrics

Program Design

- Frequency-how often
- Sets-group of repetitions
- Reps-one complete movement
- Tempo-pace/speed of repetition
- Rest-between sets
- Timing-before, after or on “off days”
- Minimum/maximum # of bouts per week
- Total Volume- sets x reps

Corrective Strategies

- Research supports the use of ischemic pressure (SMR), stretching and strengthening exercises for improved posture and function of muscles.

In Summary

21st century living creates dysfunction
Dysfunction eventually drives injuries
Use assessments to identify the root cause of dysfunction
Use results of assessments to sell your program and services to members and clients
Retain clients, produce clients help members reach results!!!



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Thank you!

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