

## Training with Chronic Shoulder Conditions

EXERCISE  
ETC. INC.



## Laura Abbott, MS, LMT



- Master's Degree, Sports Medicine
- Licensed Massage Therapist
- Undergraduate degree in Exercise Science
- Instructor of Kinesiology, Georgia State University
- ACE Certified Personal Trainer
- Guest speaker at Atlanta area massage schools and at the Georgia State University Physical Therapy department.
- Owner of Premier Performance, Atlanta, GA

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## PLEASE NOTE:

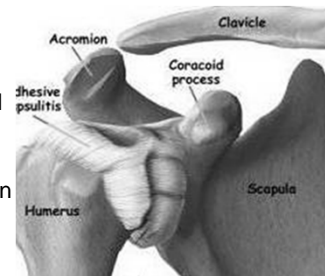
- Remember to complete this webinar and print the certificate by December 31 of *this year*.
- Certificates with *next year's* date may not be accepted by your credentialing organization.

## REMINDER

Obtain medical clearance and physician's release prior to beginning an exercise program for clients with medical or orthopedic concerns

## What is a "healthy" shoulder?

- Is it having the capacity for pain-free movement?
- Is it having optimal range of motion?
- Is it being functional based on personal needs?
- Is there such a thing as a healthy shoulder?



## Shocking Shoulder Statistics



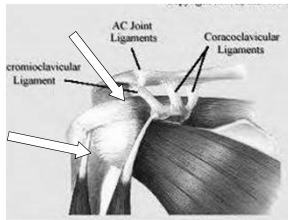
- > 50% of adults over 60 have rotator cuff tears
  - Sher et al (1995)
- MRI's of 30 asymptomatic shoulders resulted in “no completely ‘normal’ rotator cuffs”
  - Miniaci et al (1995)

## Common Shoulder Conditions

- Impingement
- Rotator Cuff Tears
- Labrum Tears
- Dislocation
- A-C Joint Separation



## Shoulder Impingement Syndrome



- Supraspinatus
- Long head of the biceps tendon
- Subacromial bursa

## Causes of Shoulder Impingement

- Anatomical or bony abnormalities
  - type 3 or hooked acromion
  - arthritic changes
- Muscle imbalances
- Scapula dyskinesia
- Poor exercise technique
- Overuse Overhead
- Secondary due to anterior shoulder laxity

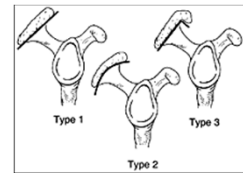


Figure 2  
Three types of acromion process  
Magee D. Orthopedic Physical Assessment.  
3rd ed. Philadelphia: W.B. Saunders; 1997.

## Impingement Screening



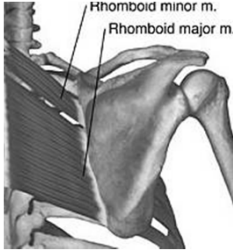
- The Painful Arc
  - 40 to 120 degrees of shoulder abduction or flexion

## Preventing Impingement

- Reduce Scapula Winging
- Improve Scapula Stability
- Balance Push-Pull Strength
- Avoid Excessive Overhead Exercise
- Use Smart Exercise Technique



## Address Imbalances That Lead to Unstable Scapulae



- Stretch/Lengthen
  - Pec Minor
  - Posterior Capsule
  - Subscapularis
- Tighten/Activate using scapula stabilization drills
  - Rhomboids
  - Serratus Anterior
  - Lower & Middle Trapezius

## Stretching Pectoralis Minor

- On a corner wall or door jam place the shoulder at 90/90 (abduction/external rotation)
- Rotate the torso away, increasing horizontal abduction
- Retract and tilt scapula posteriorly



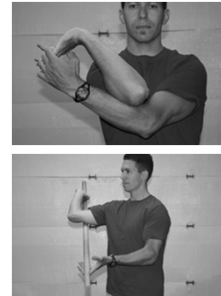
## Stretching the Posterior Joint Capsule



- Fixate the scapula while horizontally adducting the shoulder
- Stretch should be felt on the posterior shoulder

## Stretching Subscapularis

- If client has limited external rotation OR internally rotated posture subscapularis may be tight



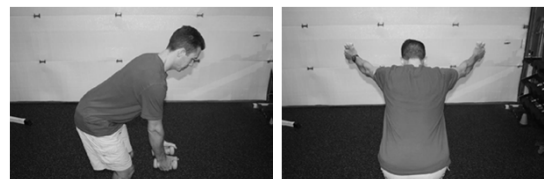
## Scapula Stabilization Drills

- Exercises to improve stability of the shoulder girdle
  - Blackburns
    - Y-T-W-L
  - Serratus Anterior



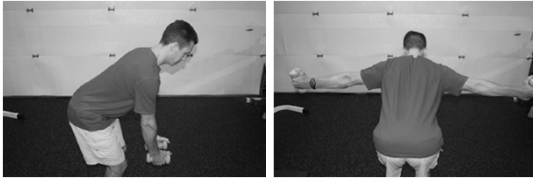
## Prone 'Y' Exercise

Strengthens Lower Trapezius



## Prone 'T' Exercise

Strengthens Rhomboids, Middle Trapezius, and Rear Deltoid



External Rotation is NOT necessary

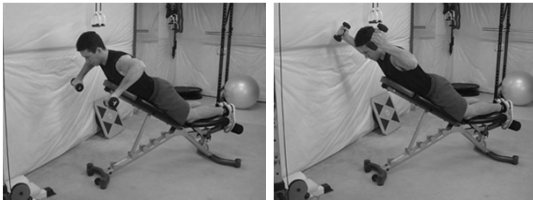
## Prone 'W' Exercise

- Strengthens Middle & Lower Trapezius, Rhomboids, and External Rotator Cuff muscles
- May use increased elbow flexion with this exercise



## Incline 'L' Exercise

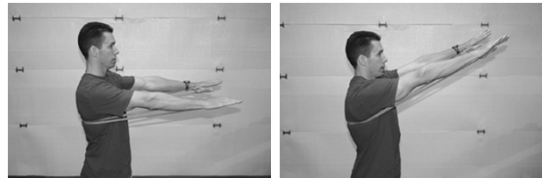
External Rotation at 90/90 Shoulder Position



Dynamically Strengthens Infraspinatus and Teres Minor/Major while Isometrically Strengthening Middle & Lower Trapezius and Rhomboids

## Scapula Protraction with Bands

Strengthens Serratus Anterior  
Use Shoulder Angle of 100-110 Degrees



## Scapula Protraction Push-Up

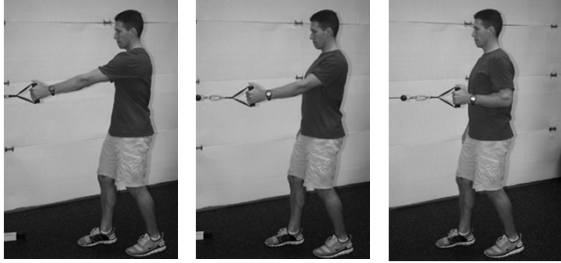


## Rhythmic Stabilizations

- With Client in Supine Lying Position Trainer Presses on Wrist in Various Directions to Challenge Reactive Stabilization of the Shoulder Girdle



## Single Arm Retraction - Row



Teaches Client to Retract the Scapula without Flexing the Elbow or Extending the Shoulder Simultaneously

## Use the Plane of Scaption (The plane of the scapula)

- 30 to 45 degrees anterior to the frontal plane



## Contraindicated Exercises

- Avoid all resisted "behind the neck" movements



Behind the neck lat pull



Behind the neck military press

## Safe and Effective Alternatives

Wide-grip Lat Pull-down to the Sternum



Decline Press



## Rotator Cuff Strain / Tears

- Supraspinatus
- Infraspinatus
- Teres Minor
- Subscapula



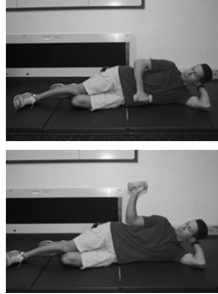
## What Does the Cuff Do?



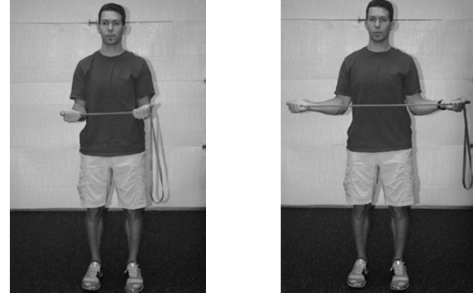
- Maintains the position of the humeral head against the glenoid during movement
- Balanced strength & flexibility is essential
- External Rotators are typically weakest link
- Supraspinatus is most common to tear

## Side Lying DB External Rotation

- Trains infraspinatus & teres minor, external rotators
- EMG Studies have shown this to be best exercise for the external rotators of the cuff
  - Reinhold et al



## Bilateral Tubing External Rotation



## When Should You Train the Cuff?



- Mobility & Activations Drills **BEFORE** Training
  - Shoulder Stretching
  - T-Spine Mobility
  - Non-fatiguing RC Warm-Ups
- Supplementary Strength Exercise **AFTER** Training

## T-Spine Mobility Drills

### T-Spine Flexion/Extension over Foam Roller



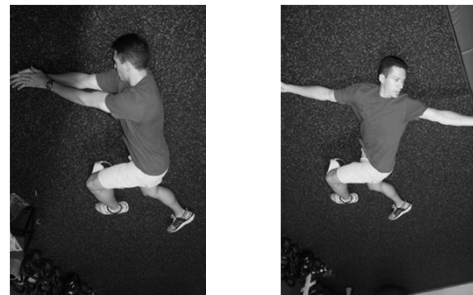
## Quadruped T-Spine Opener

Improves T-Spine Extension & Rotation

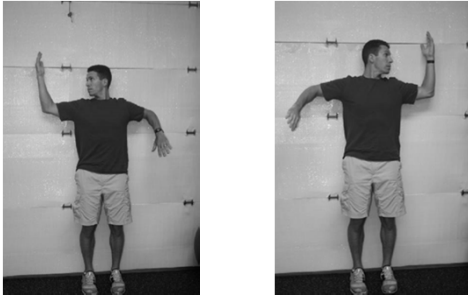


Can Alternate Head Position from Neutral to Right to Left

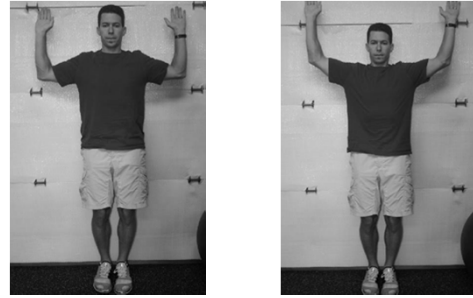
## T-Spine Rotation with Neutral Lumbar Spine



## The "Egyptian" Exercise

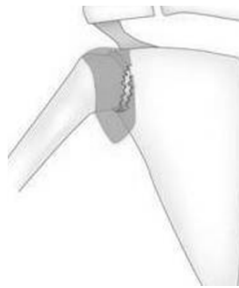


## 90/90 Arm Raise



## Anterior Shoulder Instability

- Hyper-mobility of the humeral head forward leading to possible subluxation or dislocation
- High risk positions:
  - External rotation with > 90 abduction, horizontal abduction



## Contraindicated Exercises

Push up with wide hand spacing



Bench press



Pec Deck



## Contraindicated Exercises

Behind the back lat pull down



Shoulder press



Chest Flye



## High Risk Stretches

- Shoulder extension
- Shoulder abduction



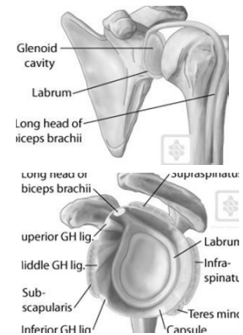
## Use a "Safety Block" for Pressing or Pushing

- A rolled up towel or ½ foam roll on or below the chest decreases range of motion w/out changing deceleration demands
- Forcing a stop before range of motion naturally terminates increases rotator cuff stress



## Labrum Tears

- SLAP Tear
  - Superior Labrum from Anterior to Posterior
- Bankart Lesion
- Posterior Labral Tear



## Exercise Goals to Prevent Symptoms from Labrum Tears

- Improve scapula stability
- Strengthen rotator cuff muscles



## Additional Tips & Modifications for Shoulder Injury Prevention

- Stick to DB's vs. Barbells
- Minimize Overhead Strengthening in Overhead Athletes
- Rotator Cuff warm-ups before all activities involving the shoulder



## Full vs. Empty Can Lateral Raises

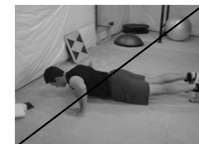
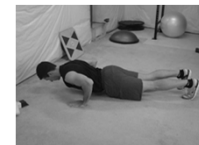
Full Can Lateral Lift



Empty Can Lateral Lift



## Push Up Modifications

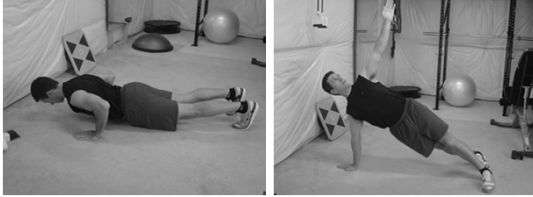


Shoulders should remain at 45 degree angles throughout with hands at level of the lower chest



## Integrated Scapula Stabilization

### Push Up with Rotation



Press into the floor and toward the ceiling simultaneously to engage the middle trapezius and rhomboids

## Seated Horizontal Row



The horizontal pattern (i.e. high elbows and pronated grip) is essential to target the middle trapezius and counteract the internal rotation imbalance caused by tight latissimus dorsi and pectoralis major

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