

Corrective Strategies for Overhead Athletes (and Meatheads, Too!)

Tony Gentilcore, CSCS

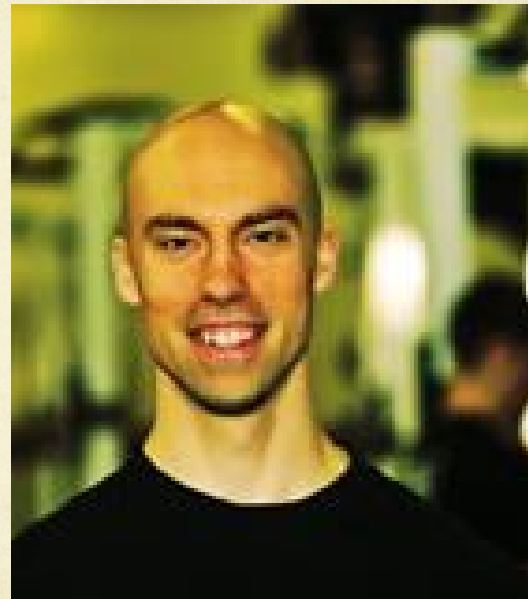
Thank You to People Who Are Smarter Than Me

- Eric Cressey, Mike Robertson, Mike Reinold, Dean Somerset, Mark Young, Bret Contreras, Mike Boyle, Gray Cook, Optimus Prime
- My Girlfriend, PhD!
- Also, thank YOU!!!!



Who Is This Gentilcore Guy?

- Brief History – AKA, the boring stuff
 - BA in Health Ed
 - CSCS
 - Former competitive athlete
- Co-Founder of Cressey Performance
 - Hudson, MA
 - Variety of clientele



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Goals/Overview

- Discuss common upper body pathologies and imbalances seen in overhead athletes, as well as Weekend Warriors
 - Shoulder Impingement (primary vs. secondary)
 - AC Joint issues
- Assess, correct, and program around said issues
- Troubleshoot common exercise technique
- Learn to make lemonade out of lemons
 - Learn to elicit a training effect



A Little Taste of CP

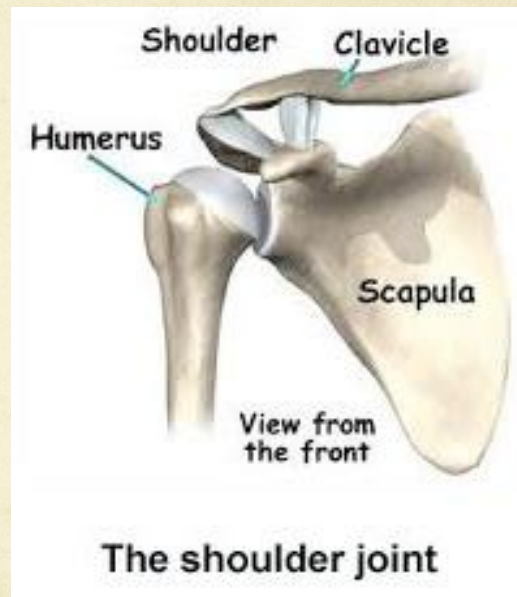


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Shoulder Joint Shenanigans

- It's kind of a big deal
 - More than one joint
 - GH, scapulothoracic, AC, sternoclavicular
- Lots of “stuff” happening
- 17 muscular attachments alone



Shoulder “Impingement”

- Garbage Term?
- No shoulder is the same.
- Many root causes, which makes assessment all the more imperative.



The Bigger Picture

12 Shoulder Health Factors

(courtesy of Cressey & Reinold)

- Overuse
- Rotator Cuff Weakness
- **Scapular Stability**
- Poor GH ROM
- **Soft Tissue Restrictions**
- **Poor T-Spine Mobility**
- Type 3 Acromion
- **Poor Exercise Technique**
- Poor Cervical Spine Function
- Opposite Hip-Ankle Restrictions
- Poor Programming Balance
- Faulty Breathing Patterns



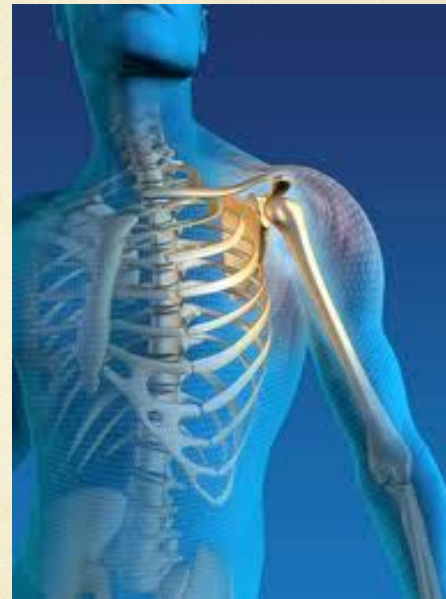
Internal Impingement

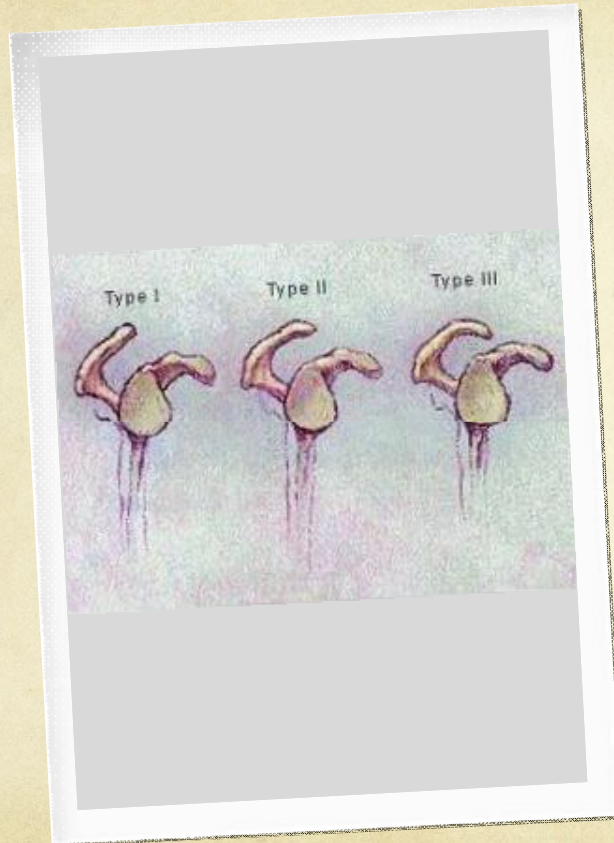
- Namely, posterior shoulder pain
- Supra and infraspinatus “pinned” against Posterior-Superior glenoid and labrum
 - EC: shoulder stability sacrificed for mobility
 - EC: 7,200+ degrees IR per throw (20 full revolutions per second)
 - Humeral head migrates superiorly = ouchie
- Seen most often in overhead athletes



External Impingement (Meathead-itis)

- Most common pathology in lifters and “computer guy”
- Anterior Pain
- Pain with bench pressing, overhead activities, as well as approximation
- Primary vs. Secondary





External Impingement

Primary

Morphological
change

Acromion Type – I, II,
and III

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External Impingement Secondary

Structural

Poor Scapular positioning, T-Spine, Tissue Quality, Technique, Programming

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External Impingement (Poor Scapular Positioning)

- When in doubt – look at scapulae
 - Culprit of most (not all) shoulder pathology
 - Canoe from cannon
- Poor positioning = FUBAR joint kinematics



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External Impingement (Poor Scapular Positioning)

- Downward Rotators: Upper traps, levator, rhomboids
- Upward Rotators: upper traps, lower traps, serratus anterior
- Tug-of-war between force couples
- When upward rotators weak – often leads to impingement. **Unfortunately, many think it's the rotator cuff that's the issue. LEAKY ROOF SYNDROME.**

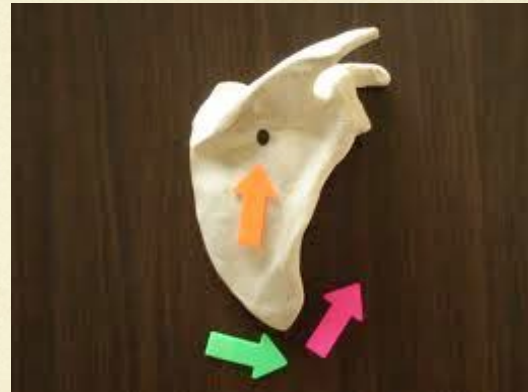
Leaky Roof Syndrome

- Treating symptoms and not cause.
- Shoulder hurts? Must be rotator cuff, right?



External Impingement (Poor Scapular Positioning)

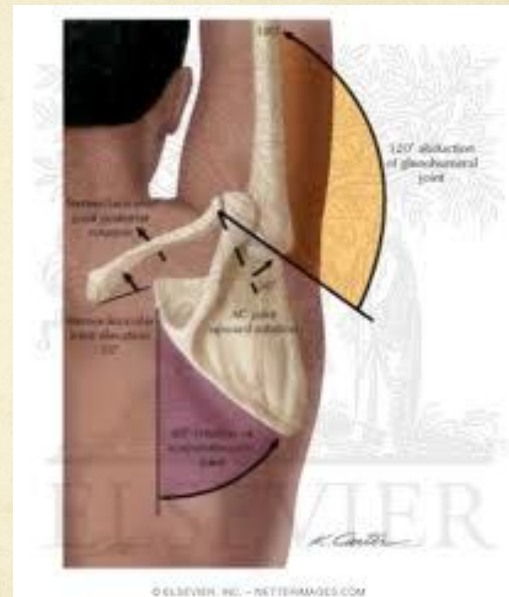
- Scapular downward rotation syndrome = downward rotators dominant
 - due to poor training, behavioral demands, and atrocious posture, become short and stiff.
- Also, poor upward rotation = lower back pain



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How to “Assess” Scapular Positioning

- Scapulohumeral Rhythm
- After first 30 degrees of scapular elevation, both GH and scapula move in a 2:1 ratio
- Watch for shrugging
- Landmarks: base of spine, inferior angle



Hammer Low Traps!!!

- *Smith, M., Sparkes, V., Busse, M., & Enright, S. (2009). Upper and lower trapezius muscle activity in subjects with subacromial impingement symptoms: Is there imbalance and can taping change it? Physical Therapy in Sport, 10 (2), 45-50 DOI: [10.1016/j.ptsp.2008.12.002](https://doi.org/10.1016/j.ptsp.2008.12.002)*
- EMG of lower vs. upper traps with and w/o impingement
 - WITH impingement = greater ratio of upper to lower trap dominance
 - Asymptomatic: UT to LT ratio of 1.80
 - Symptomatic: UT to LT ratio of 3.15
 - Upper trap 3x more active than lower trap in subjects with impingement.
 - How you like dem apples!!!!

Hammer Low Traps (some more)

- No need to get cute in the beginning
- EMPHASIZE technique with the basics
 - COACH your athletes and clients
 - Seated Rows, TRX Rows, Face Pulls, Chin-Ups
- As a result, they'll learn to promote a more advantageous position for the scapulae – posteriorly tilted (retracted, depressed).



Half Kneeling Cable Row



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Seated Cable Row



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Half Kneeling Cable Pulldown



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Chin-Up

- Coaching Cues
 - Shoulder blades in back pocket
 - Pull through elbows – NO SHRUGGING
 - Pull to sternum
 - Don't dive bomb
 - Limit Body English



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Hammer Low Traps and Serratus!!!!



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Forearm Wall Slides



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Forearm Wall Slide – 135 Degrees



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1-Arm Prone Trap Raise



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TRX Ys



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Other Favorites

- Scapular Wall Slides
- Standing Shoulder Ws
 - Mike Reinold



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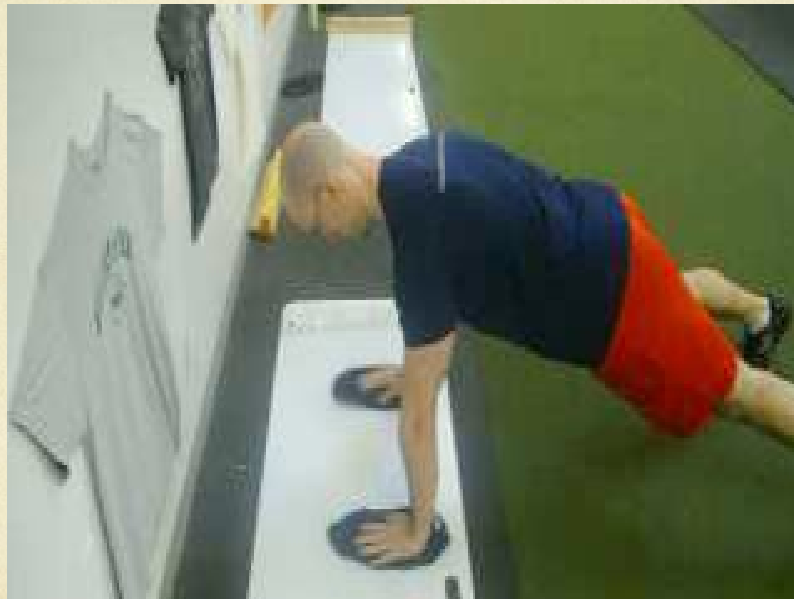
Hand Switches



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Slideboard Miyagi's



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Programming Considerations



- Eliminate overhead activities – have to earn the right (lower back considerations).
- Modify or eliminate Horizontal pressing
- Horizontal pull your ass off
- Hammer t-spine mobility (addressed later)
- Avoid “at risk” position – front squat over back squat

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Programming Considerations Continued

- (feet-elevated push-up ISO holds>(feet-elevated) body weight push-up>stability ball push-up>weighted push-up>neutral grip DB floor press>neutral grip decline DB press>pronated grip decline DB press>barbell board press>barbell floor press>neutral grip DB press>low incline DB press>close grip bench press>bench press>barbell incline press>chicks will want to hang out with you. WIN!!!!!!



Programming Considerations Continued



- Limited ROM before full ROM
- Adducted before abducted
- Unstable (GASP!!!!) before stable
- Closed-chain before open chain
- DBs before barbells
- Isometrics before “regular” speeds
- Traction before approximation (pull-ups, before OH pressing)

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External Impingement (Thoracic Mobility)



- One could argue, everything starts and ends with T-spine mobility
- OH reach test
- Drastically effects scapular positioning, and quite frankly, this is of more importance
- Mike Boyle: "The important thing about t-spine mobility is almost no one has enough and it's hard to get too much."

External Impingement (Thoracic Mobility)

- Lumbar Locked Rotation – Greg Rose, Titleist Performance Institute
- A bit more advantageous because it doesn't allow for any cheating.
- By “locking” the lumbar spine into position, we can't use it to produce more range of motion.
- For general population clients, we're looking for anywhere from 50-70 degrees of rotation. Comparatively, for rotational sport athletes, we'd want to see 70-90 degrees – although 90 degrees is freaky.

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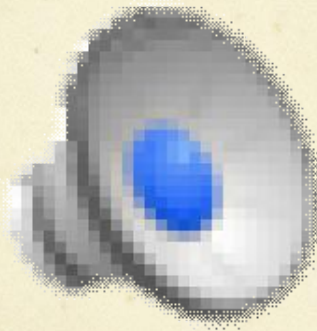
Lumbar Locked Rotation



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Side Lying Windmill



Yoga Push-Up Complex



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Supine No-Money Drill



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Bench T-Spine Extension Mobilization



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Recoiled, Rollover Throws



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Where to Place Them?

- As part of a general warm-up
- Pre-Work – paired with med ball work
- “Fillers”
 - A1. Trap Bar Deadlift 4x5
 - A2. Bench T-Spine Ext-Mob 3x8

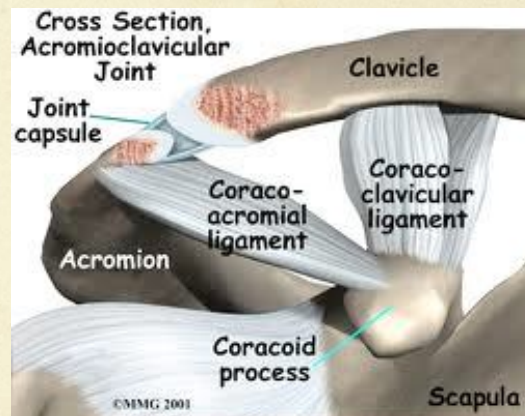
Sample Training Day

Exercises	Sets	Reps
A1. Trap Bar Deadlift * Irradiation of rotator cuff	4	2x3,2x5
A2. Bench T-Spine Ext-Mobilization	3	8
B1. 1-Arm Standing Cable Row	3	10/arm
B2. Push-Ups; Loaded	3	8
C1. Face Pulls w/ External Rotation	3	12
C2. 1-Legged Hip Thruster – off bench	3	10/leg
D. Scapular Stability Circuit: Hand Switches, Forearm Wall Slides	2	10/each

AC Joint Conundrum

(Acromioclavicular Joint for the non-nerds out there)

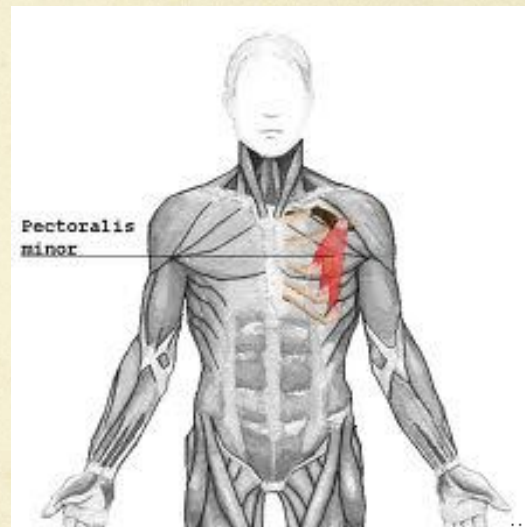
- Pain with palpation, horizontal ADD-uction, full extension, and approximation (usually)
- Party at the Coracoid Process
 - Pec minor, coracobrachialis, and SH of bicep



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AC Joint Conundrum

- Almost always, look at pec minor: computer guy (flexion)
- Signs?
 - Scapular Protraction
 - Loss of scapular posterior tilt (winging)
 - Decreased sub-acromial space (impingement)



BUT, Important to Make
Sure



Programming Considerations?



- Always start with soft tissue work, a close second would be ball SMR with a ball.
- When in doubt, improve upward rotation
 - Strengthen lower traps and serratus anterior, stretch pec minor, levator scapulae
- Behavioral Modifications
 - Tissue creep

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SMR with Ball



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Programming Considerations

- Lower body – really, only thing to avoid is front squats
 - Specialty bars, Draper top squat
 - Single leg work (except FSG), GHR, barbell bridges, deadlifts, free game
- Never, ever, ever, ever, never, and I mean ever....perform another dip – not worth it!
- Overhead Pressing may be okay – individual basis
- Push-Ups? Might be iffy.
 - Iso Holds, pain free ROM
 - Likewise, benching probably a no go. Board presses
- Avoid full extension on rowing variations
 - Pec Minor = scapular anterior tilt. Compensate retraction/posterior tilt with GH hyperextension (and forward lean with head)

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GCB Bar



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Dips

(*Seriously, Stop It!!!)

- Just asking for trouble
 - Maximal IR with GH extension
- Cost - Benefit



Elevated Push-Ups



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Push-Up ISO Hold with Perturbation



DB Floor Press



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Board Press



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Bad Row/Good Row



Sample Training Day

Exercises	Sets	Reps
A1. GCB Box Squats	4	3
A2. Supine No-Money Drill w. Band	3	3x(3x10s)
B1. 1-Legged Push-up ISO Hold (Pain Free!)	3	15s/leg
B2. TRX Inverted Row	3	8-10
C1. DB Reverse Lunge – from deficit	3	8/leg
C2. Pallof Press	3	10/side
D. SMR Ball Rolling on Wall	2	infinity

And That's About It

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