


The Part Where I Spend a Day Talking About Shoulders

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Level IV Tracy Anderson Hater

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- Anatomy
- Inside look at CSP's Upper Extremity Assessment
- Static-Isolative-Integrated Assessment
- Corrective and programming strategies based off assessment and common upper/lower extremity dysfunction
- Try not to reference Star Wars too much



Outline/Overview

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Is This Good?


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And This? 4


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- Left Handed Pitcher
- Ulnar Pain
- Ulnar Neuritis

How About This? 5

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- More Than One Joint
- 17 Muscular Attachments to Scapulae Alone

The shoulder joint

Shoulder Joint Shenanigans 6

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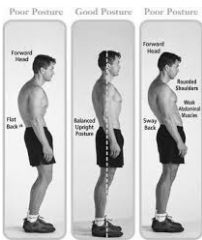
- Which is more important: Stability or Mobility?

- Alignment!
 - Stretch into misalignment = instability
 - Strengthen in misalignment = imbalance



CSP Static Assessment 7

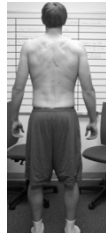
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- Straight lines & 90 degree angles.
- Spine and thorax should stack vertically over pelvis, with ribs in relative caudal position.
- Gentle kyphotic curve in t-spine, gentle lordotic curve in cervical & lumbar.
- Shoulder and pelvis "level."

Static Assessment 8

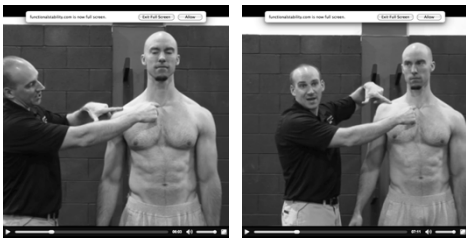
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Static/Isolative Posture Presentations



Static Downward Rotation



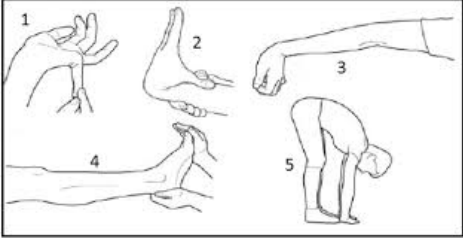
Clavicular Angle



Glenohumeral Anterior Glide


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Beighton Laxity 13

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LATS!!!

Massive muscle, with many insertion points.
 Intertubercular Groove of Humerus, Ribs, Scapulae (40%), Thoracolumbar Fascia (some on Ilium)

Think the lats don't play a role in shoulder function?

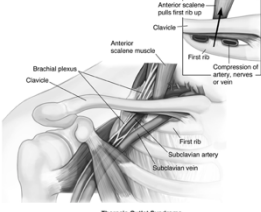
- Humeral Extension, Adduction, Internal Rotation, Horizontal Abduction
- Lumbar Extension, Lateral Flexion
- Respiration
- THINK: what do people have to do to get their arms over their head?

LATS

Not Packed




“Packing”



Thoracic Outlet Syndrome 17


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Left AIC 18

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The Left Anterior Inferior Chain




Anterior view Posterior view

A Quick PRI "Rabbit Hole" Break

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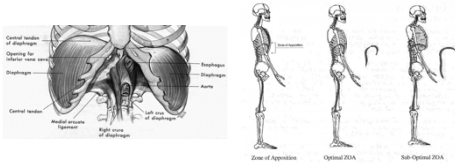
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- Diaphragm, iliacus, psoas, TFL, Vastus Lateralis, biceps femoris
- Have an IAC on both sides
 - Right foot lands = Left AIC engaged (and vice versa)
- Left side always "on" and "pushes" us into right side dominance.

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Central tendon of diaphragm
Opening for inferior vena cava
Diaphragm
Central tendon
Right crus of diaphragm
Left crus of diaphragm
Diaphragm
Aorta

State of depression Optimal ZOA Sub-Optimal ZOA

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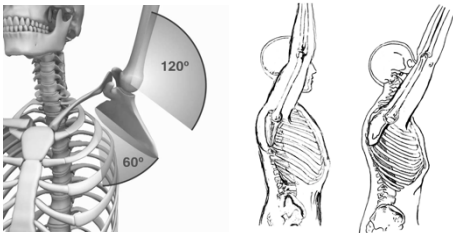
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- Airflow drives the nervous system.
- Respiration you learned in school is gas exchange. Breathing is movement.
- Canister vs. Scissors
- Chest Breather = dominant “accessory” breathing muscles.
- LAIC = stronger, what feels normal. (NOT OPTIMAL)
- Left Stance = changes pelvic floor, diaphragm better aligned, STRONGER POSITION.

PRI For Dummies

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Dynamic Assessment

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Rotation


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Lumbar Locked Rotation 25

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- 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 of scapulae

Scapulohumeral Rhythm 26

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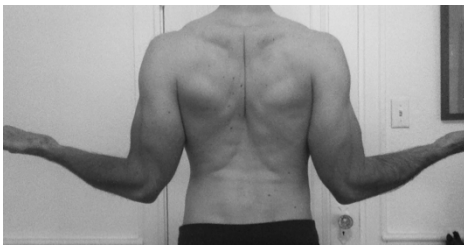
Houston, We Have a Problem (Photo: Mike Reinold) 27

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Poor Eccentric Control 28

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"No-Money" Assessment 29

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Shoulder Flexion (Active) 30


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**Shoulder Flexion
(Passive)**

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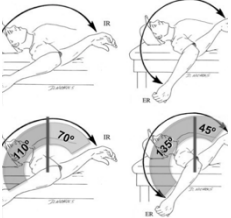
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Push-Up

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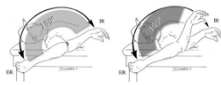
• Posterior Capsule tightness?

GIRD?

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Loss of side-to-side IR is actually a normal anatomical adaptation in overhead athletes and SHOULD NOT be considered pathological GIRD unless there is a subsequent loss of TOTAL rotational motion in the dominant arm as well.
- Mike Reinold

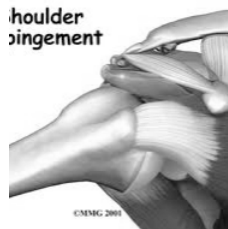


New GIRD

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- Garbage Term.
- No two shoulders are the same.
- Many root causes, which makes assessment all the more imperative.



Shoulder "Impingement"

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

The Bigger Picture. 12 Shoulder Health Risk Factors

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1. Overuse

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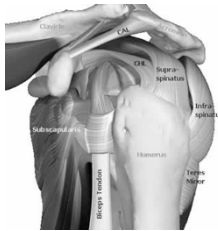
2. Rotator Cuff Weakness

Band work isn't always the answer

No need to get fancy.

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- Role of Rotator Cuff:
 - External/Internal Rotation?
 - Elevate arm in scapular plane?
 - Humeral Depression.
- It's TRUE Function
 - Center humeral head within glenoid fossa

Rotator Cuff Training

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- High-Reps = superior humeral migration
- FATIGUE!




Is Band Work REALLY the Answer?

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- Most common pathology in lifters and "computer guy"
 - Standard sub-acromial "impingement"
- Anterior Pain; bursal side
- Pain with bench pressing, overhead activities, as well as approximation
- Primary vs. Secondary




External Impingement (Meathead-itis)

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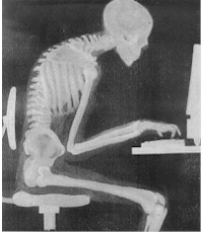
- Morphological/ Structural



Primary

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- Lifestyle Factors
 - Poor Scapular Positioning
 - T-spine Mobility
 - Poor Tissue Quality
 - Watching 50 Shades of Grey

Secondary 43

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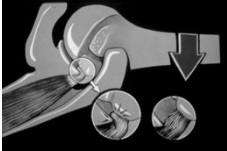
- Namely, posterior shoulder pain; articular side (inside)
- Supra and infraspinatus “pinned” against Posterior-Superior glenoid and labrum
 - shoulder stability sacrificed for mobility
 - 7,200+ degrees IR per throw (20 full revolutions per second)
 - Humeral head migrates superiorly = ouchie
- Seen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



Internal Impingement 44

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- Unless you're an overhead athlete you don't have this.
- Don't get it from sitting at your desk
- As you move into ER, sometimes you “pinch” Posterior-Superior aspect of glenoid
- Contact b/w articular side of supra/infraspinatus & posterosuperior rim of glenoid.
- Late Cocking: max abduction + ER



Internal Impingement 45

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Internal Impingement
Proposed Mechanisms

- Microinstability
- Anterior laxity / posterior tightness
 - Thrower's ROM (excessive ER, limited IR)
- Hyperangulation mechanics
- Muscle imbalance
 - Fatigue
 - Weakness, ER/IR
 - Loss of dynamic stability

IR in Action (Courtesy: Reinold) 46

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Red = Bursal. Green = Articular

Why It Occurs	What Makes it Worse?
<ul style="list-style-type: none"> • It's normal (in overhead athletes) • However, more excessive the ER = more risk 	<ul style="list-style-type: none"> • Scapular Position <ul style="list-style-type: none"> • Affects position of glenoid • Decrease in ability to rotate scapulae • Thorax position affects scap position • Anterior Laxity <ul style="list-style-type: none"> • Ant. Translation = FAIL • Instability

Internal Impingement 48

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- Points to front of shoulder and it hurts all day = it's NOT Internal Impingement.
- Hurts in "cocked position," and points to back of shoulder = Ding, ding, ding.
- Can use "Apprehension Test" to ascertain things.


Final Say 49

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- Acute Phase
 - Refrain from throwing (2-6 weeks)
 - Reduce pain and inflammation.
 - Re-establish dynamic stabilization
 - Manual therapy
- No aggressive stretching.

Treatment/Training 50

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**Horizontal Abduction/
CrossBody Stretch** 51

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Strength Training	Dynamic Stabilization
<ul style="list-style-type: none"> • Posterior Cuff • Scapular Retraction • Scapular Posterior Tilt 	<ul style="list-style-type: none"> • Wall Dribbles • Half Kneeling Rhythmic Stabs. • Band Rhythmic Stabs. • Ball to Wall Rhythmic Stabs. • Deceleration Flips • 90/90 ER, ER Holds, and IR/ER Holds • Bottoms-up Carries

Training Emphasis 52

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3. Scapular Stability 53

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- Scapular Stability?
- Nothing about the scapulae is meant to be stable.
- Controlled Mobility

Stability →

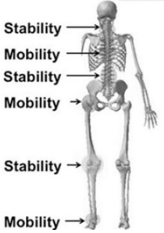
Mobility →

Stability →

Mobility →

Stability →

Mobility →



Joint By Joint Approach 54

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<p>Computer Guy</p> <ul style="list-style-type: none"> • EMG of lower vs. upper traps with and w/o impingement <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Upper trap 3x more active than lower trap in subjects with impingement. 	<p>Meathead/Athlete</p> <ul style="list-style-type: none"> • Prioritize <u>UPWARD ROTATION</u> • Strengthen eccentric action of upward rotation. • Improve shoulder flexion?
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Different Strokes, Different Shoulders 55

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How To Improve Overhead ROM (Photo: Mike Reinold) 56

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- Shoulder
 - Capsule → least common. Soft Tissue (muscle)
- Scapula
 - Upward Rotation (imbalance or motor control?)
- Thoracic Spine
- Lumbo-Pelvic Control

FOUR Most Common Things to Look At 57

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- Foam Roll Lats
- Teres Minor/Major
- Pecs
- Extension of T-Spine

Attack Tissue Quality

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- Want to improve UR, but also strengthen eccentric control of upward rotation.
 - Band Ws
 - Band Windshield Wiper
 - Band Wall Walk
 - Plank to Downward Dog, Yoga Push-Up Variations
 - Plank Rolling/Bodysaw
 - Dolphin
 - Serratus Upward Jab
 - Serratus Wall Slide w/ Foam Roller, Wall Slide Variations
 - TRX Serratus Slide

Upward Rotation

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Supine 90/90 Floor Slide



Seated Wall Slide



Upper Cross Syndrome

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- Quadruped Variations
- Cat-Camel
- Side Lying Windmill
- KB Pullover w/ Foam Roller
- Side Lying Extension-Rotation
- Prone Sphinx

T-Spine

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Deadbug w/ KB



Prone Plate Switches



Lumbo-Pelvic Control

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Bear Crawl w/ Plate Glide



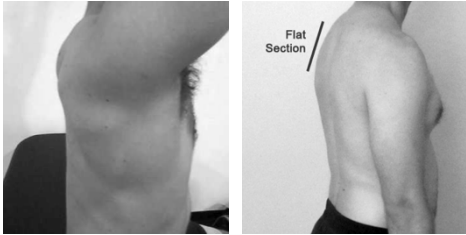
Core Engaged ASLR



Lumbo-Pelvic Control

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Flat T-Spine? 64


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All 4s Belly Breathing **Deep Squat Belly Breathing**




Flexion is Necessary! 65

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4. Poor Exercise Technique 66

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- Have to earn the right!
- What's the cue for OLY Lifting?
- A TON of anterior instability
- More bicep tendon issues

Should People Overhead Press? 67

<p>Overhead Athlete</p> <ul style="list-style-type: none"> • Let the scapulae move! <ul style="list-style-type: none"> • Landmine Variations • Push-Ups • Off-Center DB Press • Cable Press • Turkish Get-Up • Short Lever KB Rotation 	<p>Computer Guy</p> <ul style="list-style-type: none"> • Reduce benching volume. • Learn to bench correctly • Improve Pull-up strength • Reduce benching volume.
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5. Poor Programming 68

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- Positional Breathing
- T-Spine/Core Control
- Shoulder Flexion ROM
- Scapular Control (Wall Slides)
- Glenohumeral Motor Control (Prone/Supine ER/IR)
- Glenohumeral ROM (only when indicated!)

Programming Considerations (Warm-Up) 69

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- Eliminate overhead activities – have to earn the right (lower back considerations).
- Modify or eliminate Horizontal pressing
- Lots of horizontal pulling
- Hammer t-spine mobility
- Avoid “at risk” position – front squat over back squat

Programming Considerations

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- 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)

Programming Considerations Continued

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- (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!!!!

Bench Press Progression

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Thank You!

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