

Muscle Imbalances Revealed Assessment & Exercise

with John Izzo



Exercises For Injuries
The Fitness Professionals Source for Exercises and Injuries.

Muscle Imbalances Revealed Assessment & Exercise

Assessments for
Optimal Health



Presentation Objectives

- Identify the GPC seeking better health
- “When” and “If” assessments are appropriate
- Simplifying assessments
- Identifying key central areas on the body for assessment (scapular & pelvis regions)
- “Bang for Your Buck” Assessments
- What exercises may help certain discrepancies

Who Am I and Why Should You Listen?

- This is what I do for a living.
- If I wasn't good enough to deliver results, I'd be out of business, and would not be hired by any gyms. I'd be doing something else!



Resume

- **Personal Trainer – 1999 - present**
- **Fitness Director – 2005 – present**
- **Private Business Owner**
- **Educator for Personal Training Organization**
- **Trained clients in commercial, private, non-profit, and corporate facilities**
- **NASM CPT and PES**
- **Co-Author – “Foundations of Personal Fitness Training” text and “Business Management Skills Course”, NASM**
- **Noted author, blogger, and fitness professional**

Places you may have seen my material

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Chris Mason's
WANNABEBIG
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Who Do I Train?



95% of my clients are of the General Population (GPC)

Goals:

- Losing Fat
- Become Healthier
- Getting Stronger
- Feeling Better

Who trainers wish they trained...



But who they ACTUALLY train...



Breaking Down Goals for the GPC

- **“Lose Fat”** – become aesthetically pleasing to spouse, opposite sex, and/or society
 - increase self-efficacy
 - increase self worth
 - decrease health risk factors
- **“Become Healthier”** – delay death and avoid disease
(*decrease blood pressure, increase cardio-respiratory, increase bone mass, etc, etc..*)



Breaking Down Goals for the GPC

- **“Get Stronger”**
 - Function better in ADLs
 - Feel more confident for life’s unexpected tasks
 - Increase muscle tone
- **“Feel Better”**
 - Be comfortable in own skin
 - Have more energy
 - Pain free
 - Discomfort free

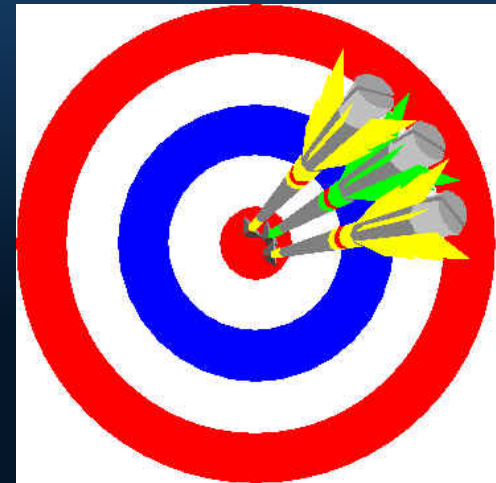


Basically Clients want Better Health

- The GPC population is one big mixed bag of nuts.
- Assessments are helpful, but not always crucial for program success when the goal is improving general health and quality of life.

Basically Clients want Better Health

- Why?
- Achieving better health is not a specialized goal like increasing vertical jump, increasing 1RM, or preparing for a 5K race.

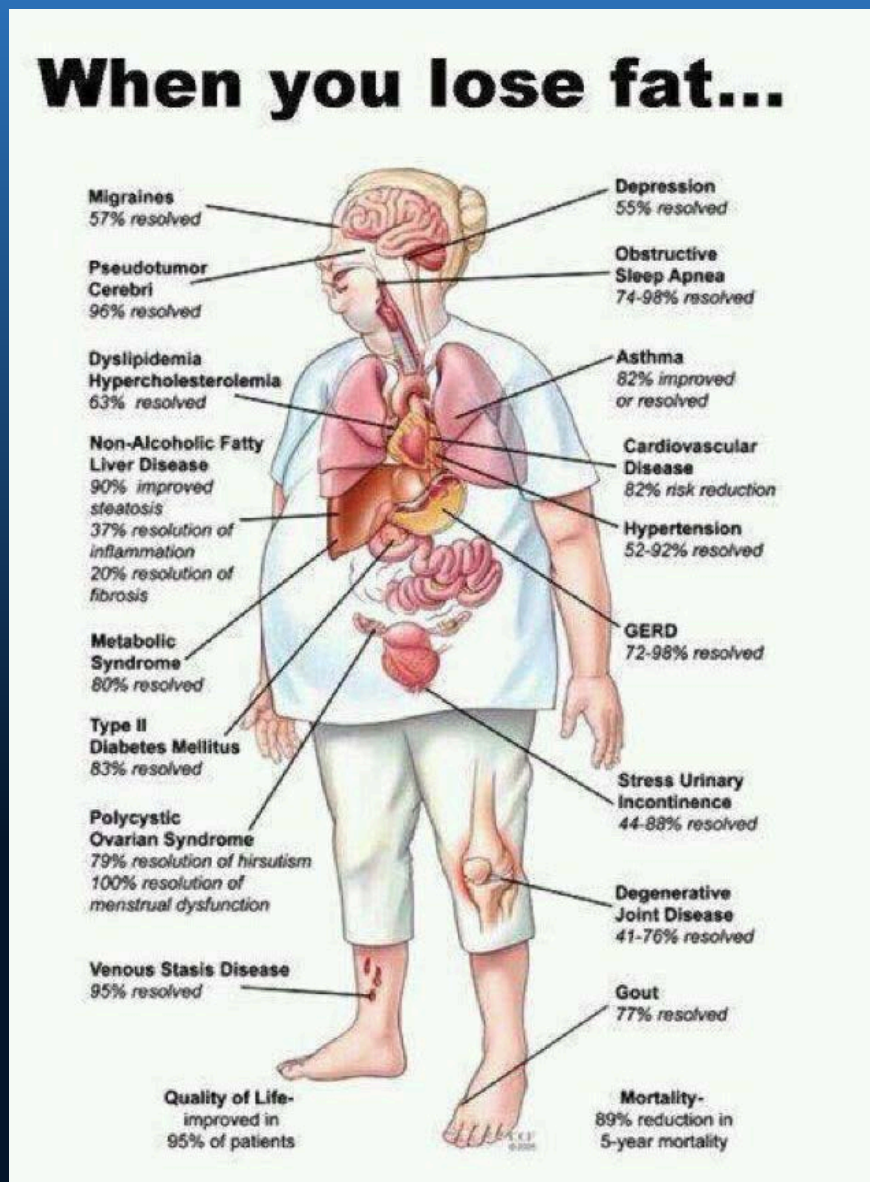


Top 3 “WANTS”

1.) Quality of life improvement (95%)

2.) Sleep Apnea resolved (98%)

3.) Depression (55%)



Why Assess GPC?

- Want to gauge level of physical capability
- Want to gauge level of exercise commitment (goal)
- Feedback for program design
- Project professionalism and demonstrate “concern for service”

Why Assessments May Be Different

- Because of the generalizations in healthy goals, we must approach clients with a different attitude.
- We can't assess for athletic ability or optimal function. We have to assess for sites that are susceptible to injury and present dysfunction.
- The key is to keep clients healthy and feeling good enough to exercise consistently.



Need Some Slack?

- **Assessments for Health**
 - Focus on client comfort
 - Focus on compound movement
 - Watch the entire body and observe facial expressions
 - Don't pigeon hole client into assessment

Understanding Assessments

Gives the trainer an idea of the client's degree of:

- **Muscular control**
- **Joint Mobility**
- **Body Awareness**
- **Movement Limitations**
- **Comfort Level**



Mistakes Typically Made

- Trainers tend to look at the body in 2D
- Apply textbook anatomy, instead of functional anatomy
- Look for absolute outcomes, rather than process
- Do not take fatigue into consideration

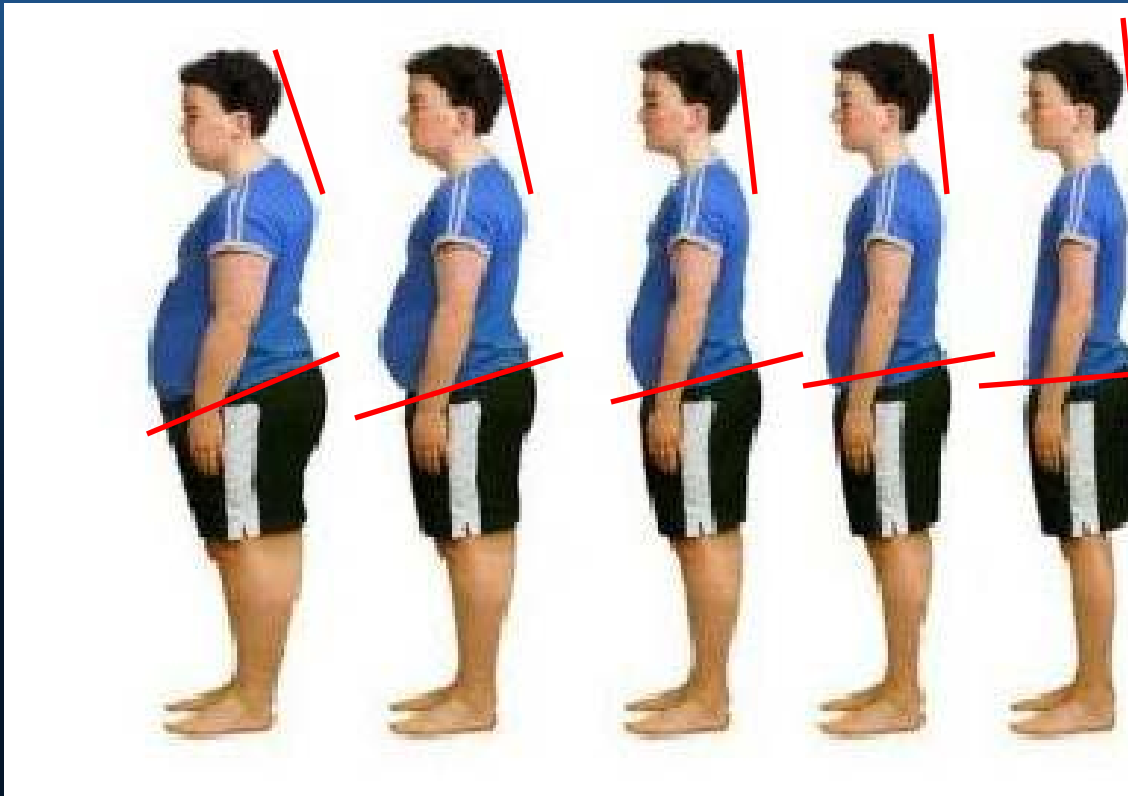


Simplify Assessments

Reverse the process.



Waist and Head Position



Work the Opposites

<u>Frequent Body Position</u>	<u>Opposite Position</u>
<u>Seated (10 hours)</u>	<u>Standing</u>
<u>Supine (6-8 hours)</u>	<u>Prone</u>
<u>Hunched Forward (10-14 hours)</u>	<u>T-Spine Extension</u>
<u>Bi-Lateral Stance (2-3 hours)</u>	<u>Staggered Stance</u>

Exercise programs should focus on compound movements that are safe and calorie burning!

Exercises ARE Assessments



- Assessments like FMS or OHS can make clients feel uncomfortable.
- Can't stay in a “corrective” state for long periods in a GPC program

Adherence Dictates Corrective Strategy

- Most GPC will become bored, unwilling, and subdued with corrective exercise
- Transition from “contemplators” to “preparation” to “action”, still vulnerable
- Must begin to make activity fun, safe, and effective while continuously assessing.

Your Best Assessment Tool?



Spot the Obvious



Assessments Don't Make the Trainer

- The best assessment in the world is not fail-proof. That is dependent on the administrator.
- You will not know everything Gray Cook knows just because you can administer the FMS.
- What separates you from Gray Cook is what is in HIS brain!



Keep It Simple Summary

- Look for obvious, don't assume, don't diagnose
- Rocks Vs. Pebbles - What will make or break the movement)
- What can be coached?
- Communicate with client during assessment. – Don't make them feel like a lab rat.
 - What is painful? What is discomfort?

RPE Scale

Perceived Exertion	Description
0	Nothing at all
0.5	Extremely weak
1	Very weak
2	Weak (light)
3	Moderate
4	Somewhat Strong
5	Strong (Heavy)
6	
7	Very Strong
8	
9	
10	Extremely Strong

Distinguish Pain Vs. Discomfort

- Clients tend to confuse discomfort with pain
- If it is outside of “normal”, it may be classified as pain.
- GPC do not possess same degree of physical awareness & feedback
- RPE scale is important during assessing
- Interaction is **important during assessing**



B.F.Y.B. - Upper Body

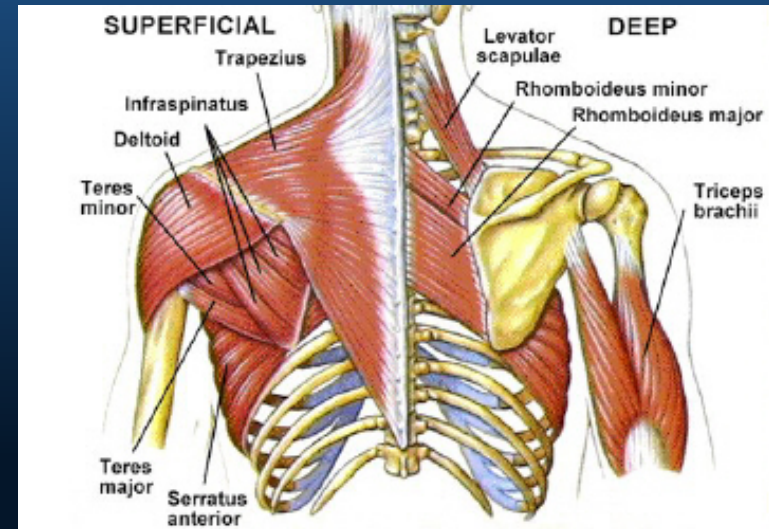
- **Bang for your buck assessments**
- Observe many things at one time:
 - - stability
 - - mobility
 - - strength & coordination
 - - breathing
 - - balance
 - - “coach-ability”
- **Don’t assess through a peep-hole...eyes on everything!**



Scapular Region (Upper)

Why is it important to assess?

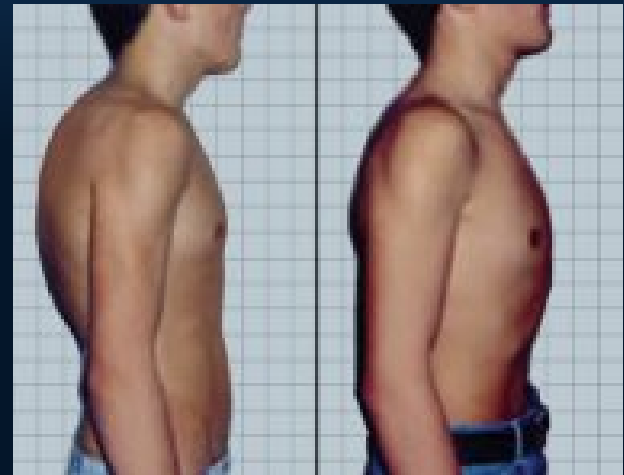
<u>Muscle</u>	<u>Direction</u>
<u>Pectoral Minor</u>	<u>insertion</u>
<u>Coracobrachialis</u>	<u>origin</u>
<u>Serratus Anterior</u>	<u>insertion</u>
<u>Triceps</u>	<u>origin</u>
<u>Biceps (short & long)</u>	<u>origin</u>
<u>Rhomboids Major & Minor</u>	<u>insertion</u>
<u>Levator Scapulae</u>	<u>insertion</u>
<u>Trapezius</u>	<u>insertion</u>
<u>Deltoid</u>	<u>origin</u>
<u>Teres Major & Minor</u>	<u>origin</u>
<u>Infraspinatus</u>	<u>origin</u>
<u>Supraspinatus</u>	<u>origin</u>
<u>Subscapularis</u>	<u>origin</u>



Scapular Region (Upper)

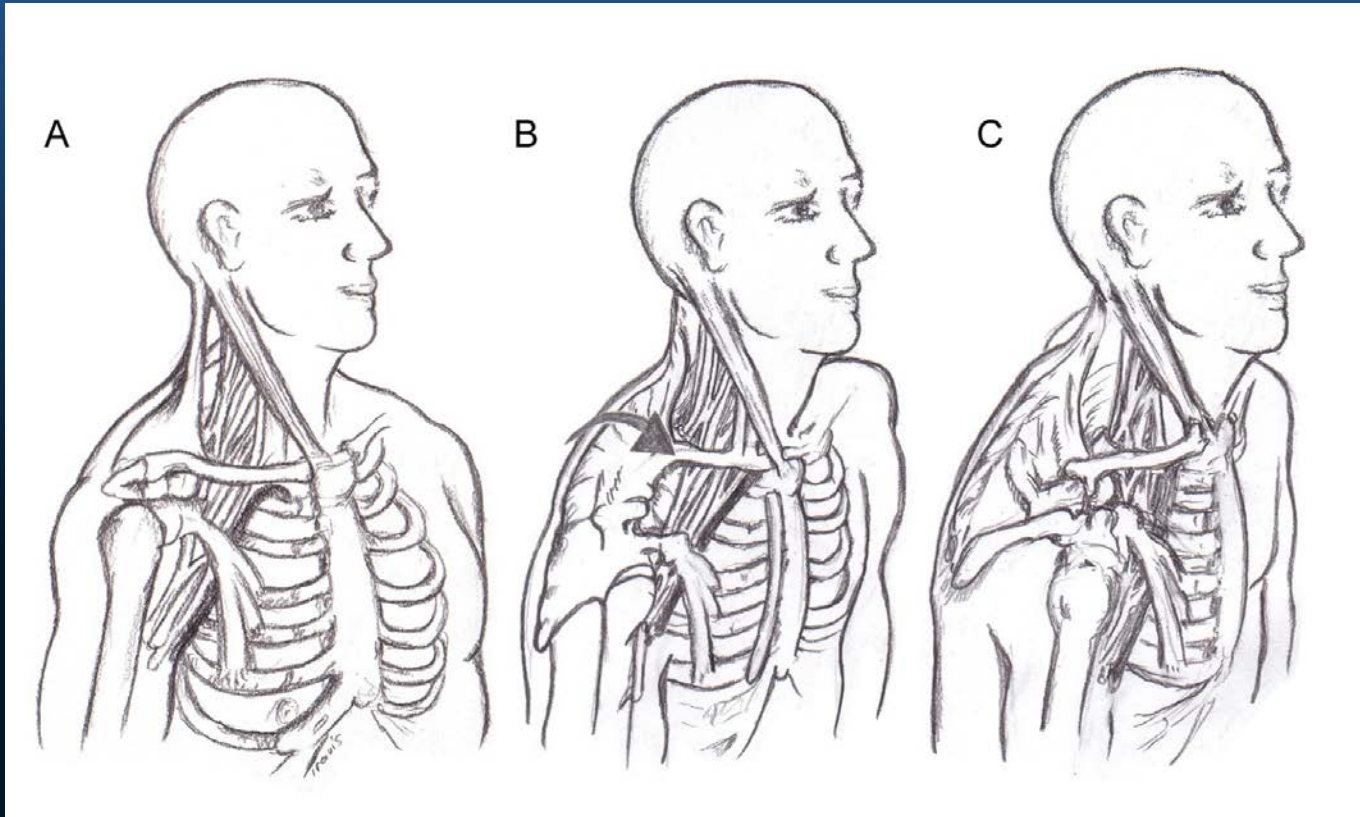
Why it is important to assess?

- Key central point for many upper-body movements
- Symptoms from scapular problems are felt in multiple areas of upper-body
- Position is important
- Can affect breathing
- Eventually energy levels
- Eventually quality of life



Scapular Region (Upper)

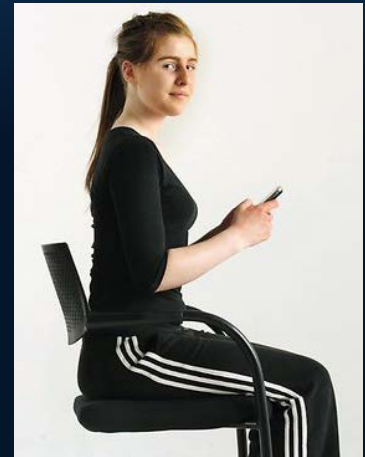
Why it is important to assess?



Scapular Musculature (Upper Body)

Why it is important to assess?

- Observe head position
- Find out what client does a majority of the day (sit, desk, computer work, etc)
- Observe seated posture
- Observe breathing
 - (chest vs. belly)
- Observe degree of fat distribution vs. muscle



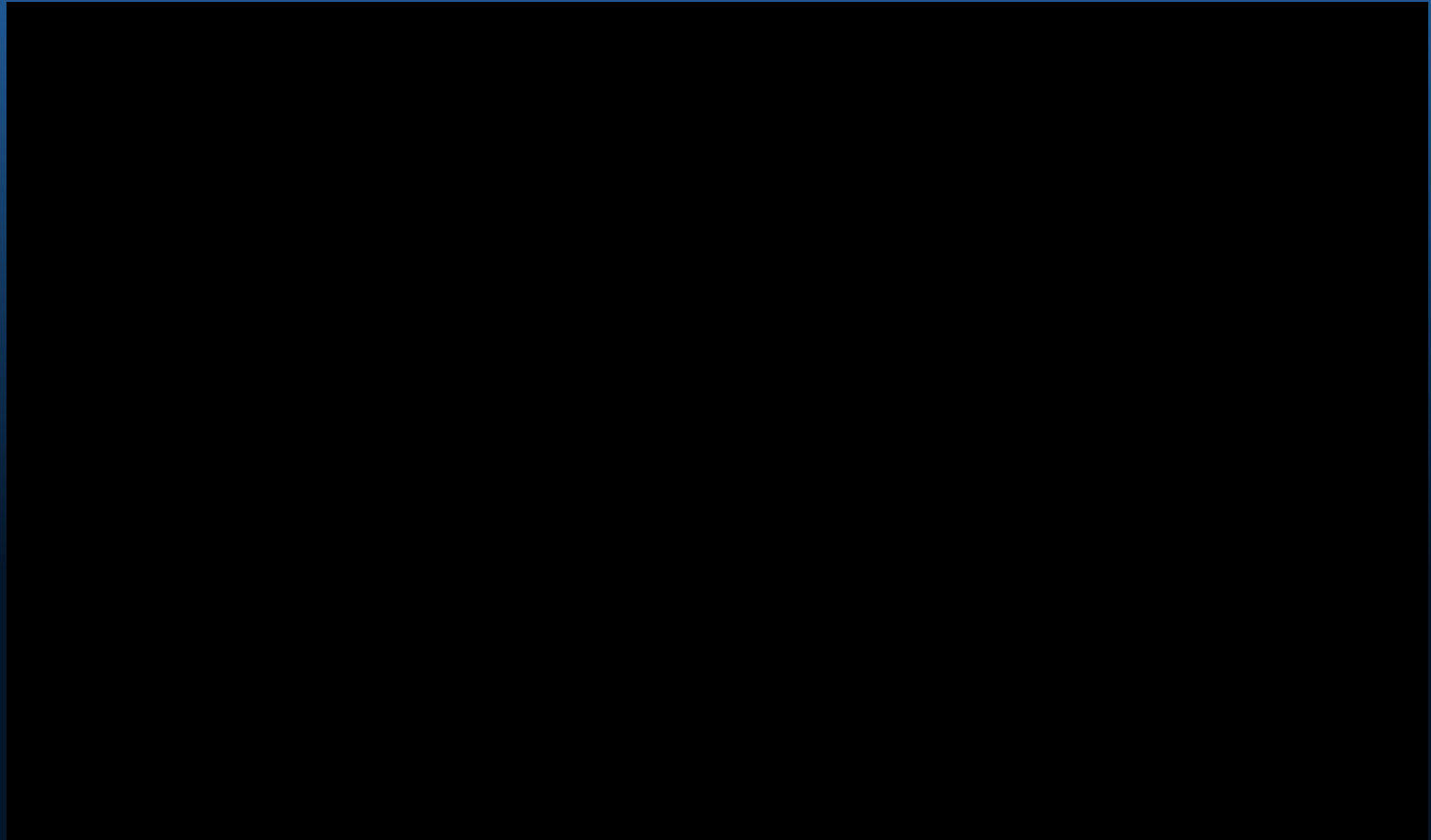
3-Point Quadruped Scap Assessment

How To Perform:



- 1.) Client gets on all 4's on floor/mat
- 2.) Client is instructed to shift the bodyweight forward onto the shoulders/hands with feet perpendicular with floor
- 3.) If client can hold position, they are instructed to raise 1-arm upwards as high as possible.
- 4.) Client is instructed to keep arm raised without shifting weight backwards, or losing balance

3-Point Quadruped Scap Assessment Video



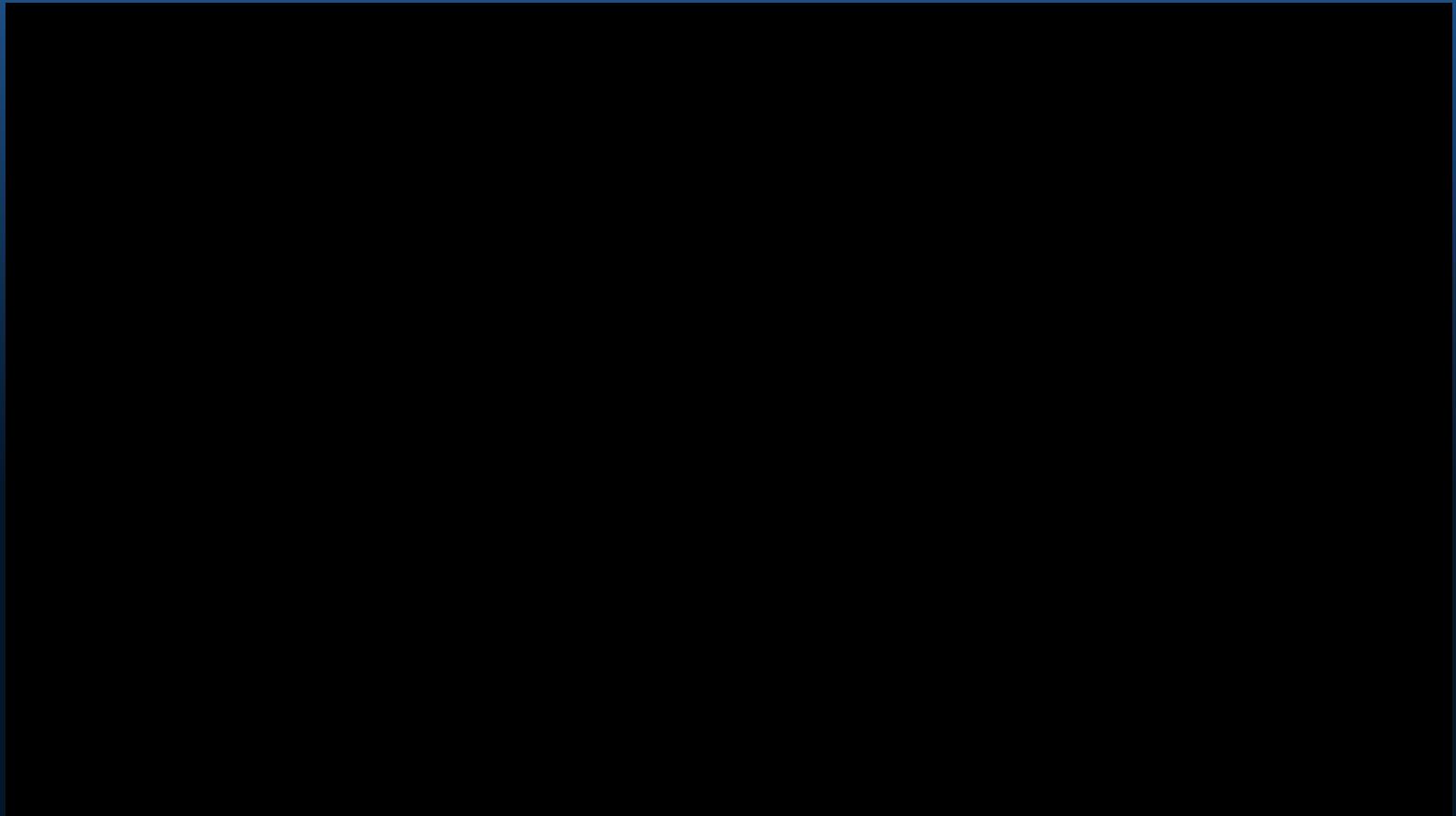
3-Point Quadruped Scap Assessment



What are we looking for?

Pain Sites	Stability	Mobility	Strength/ Coordination
Knees			
Wrists			Thoracic/Scap Region
Mid/Upper Back Shoulders	Gleno-humeral (opp.) Scapular (opp.) Thorasic	Gleno-humeral (opp.) Scapular (opp.)	Trunk (Anti-Rot) Erector Spinea
Low Back	Lumbar/Pelvis	Hips	Core
Neck	Cervical		Isometric
Elbows			Isometric

3-Point Quadruped Scap Assessment (angle view)



What if they feel pain?

Pain Site	Remedy/Modification/Outcome	Score Low	Stop Test
Knees	Use thicker mat or Airex pad under	X	
Wrists	Clasp hands and palms face eachother	X	X
Shoulders	Limit ROM	X	X
Low Back	Limit shift forward & core	X	X
Mid-Upper Back	Limit shift forward	X	
Neck	Adjust head tilt to decrease discomfort	X	
Elbows	Bend elbows; limit shift forward	X	X
	Unable to hold 3-point position/Fall forward		X

Breaking Down Part #1 Observation

- Quadruped position without pain
 - wrist
 - knees
 - low back
- Chin/Neck retracted (not “tucked”)
- Flex the feet?
- Square the shoulders/depress
- Lock elbows
- Ability to distribute bodyweight evenly
- Ability to shift bodyweight forwards onto upper-body (and maintain)
- Stabilize the spine/core brace



Breaking Down Part #2 Observation

- Ability to maintain weight shifted
- Ability to lift 1 arm
- Stabilize on 3-point contact
- Anti-rotation of trunk
- Can shoulder move freely?
- Achieve full extension without bending elbow?
- Achieve full extension without losing scapular stability?
- Tightly packed scapula?
- Over-active upper traps?
- Ability to pause in top portion



Sample Exercises That May Improve Discrepancies



- **Quadruped Anterior Weight Shift**
- **Planks** (Elbow or Push Up Style)
- **Side Planks**
- **Cat/Camel Stretch**
- **Child Pose Yoga Stretch**

Sample Exercises That Can Improve Discrepancies



- Lots of Upper-back work:
 - Face-Pulls
 - Lat Pulldowns
 - Rear Delts (use bands)
 - Low Trap Raises
- Serratus Anterior Activation

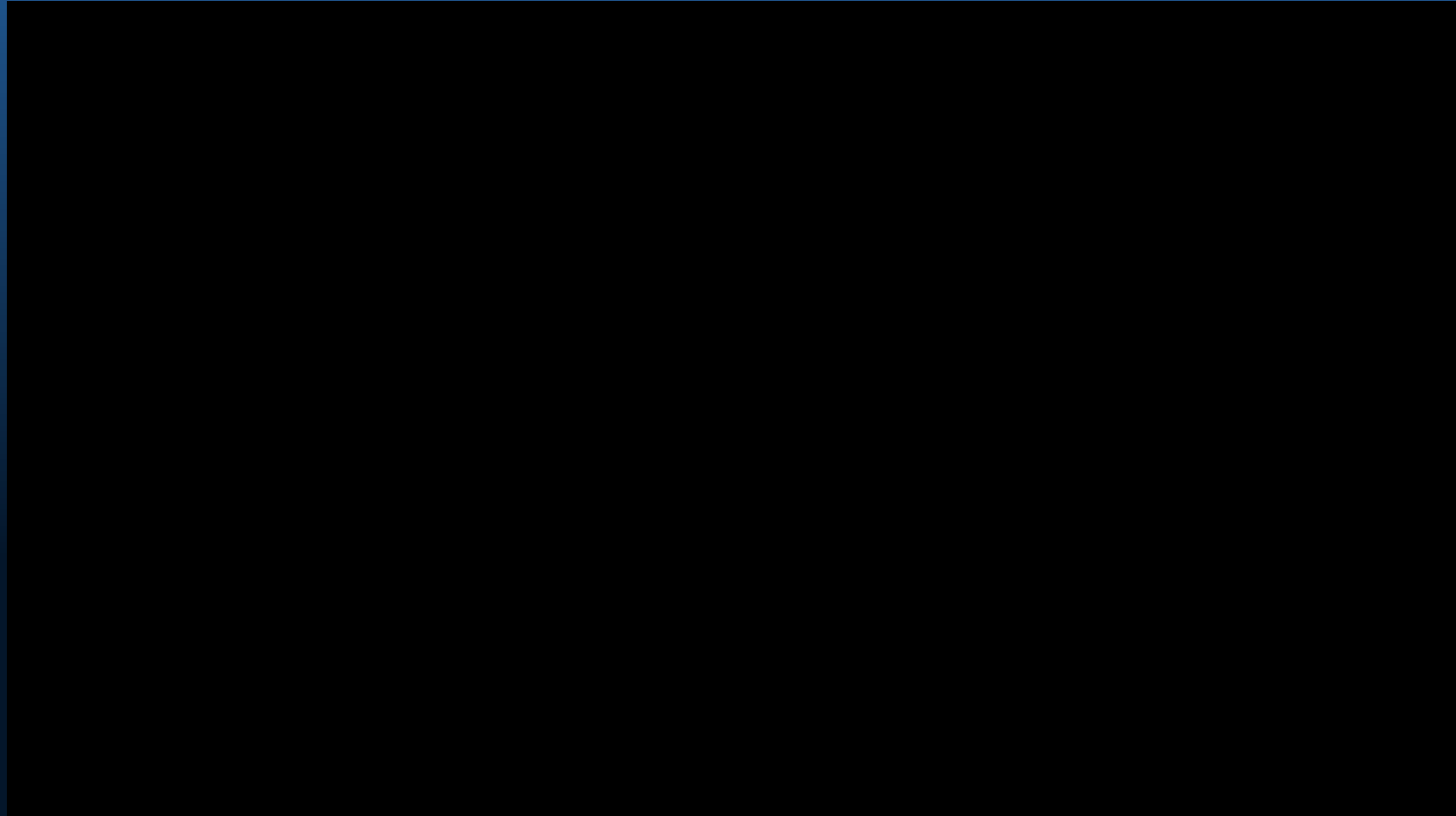


- Lat/ Chest Stretches
- Shrugs- Down Cue
 - Depressors

Progression, Not Perfection

- Remember, it does not have to look perfect.
- But you **NEED** to see it get better
- Takes more than 1, 2, or 3 sessions.
- Not the wrong exercise, just the wrong amount of patience on trainer's part
- Culmination is the **KEY!**

3-Point Quadruped Scap to Plank Assessment (advanced)



3-Point Quadruped Scap to Plank Assessment



- Used for more advanced clients (athletes, younger population)
- Look for same discrepancies with less “leniency”
 - anti-rotation
- Coordination is key, but strength and stability will make or break the assessment

B.F.Y.B.

- Observe many things at one time:

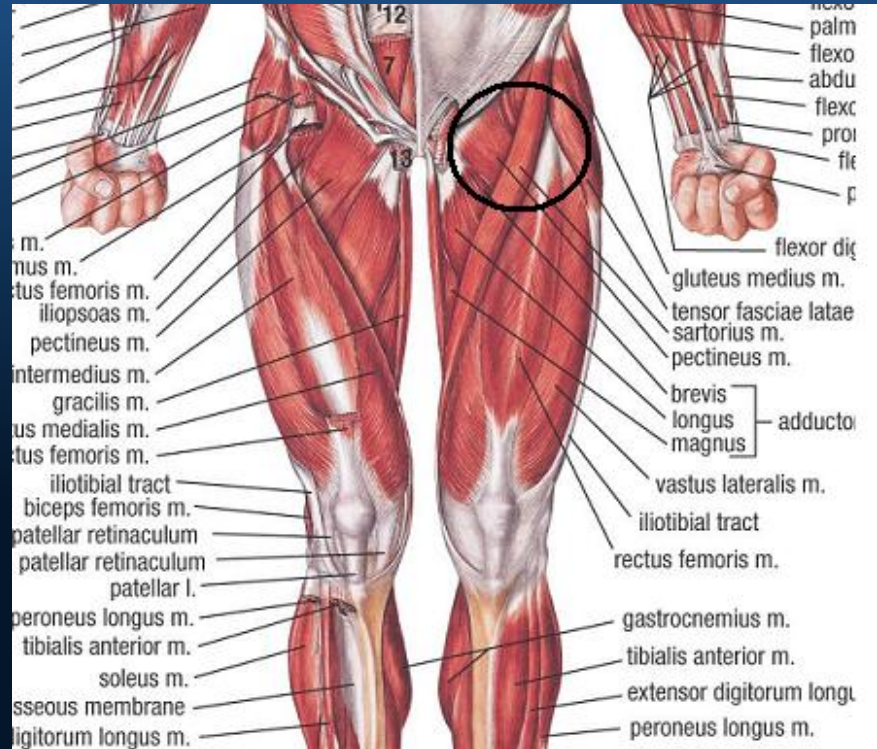
- stability
- mobility
- strength
- coordination
- balance
- “coach-ability”



Hip Musculature (Lower Body)

Why it is important to assess?

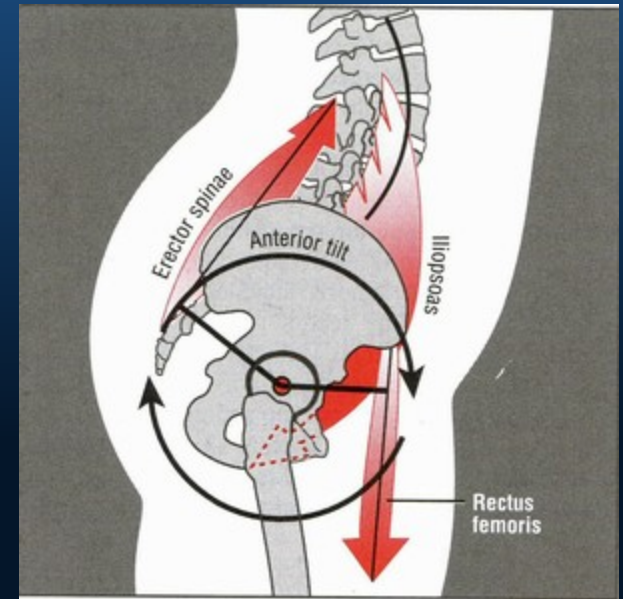
- Like the scapula, there is many muscles that insert and originate from the pelvis girdle
- For most clients, this is a site of dysfunction
- Key central point for lower body movement



Hip Musculature (Lower Body)

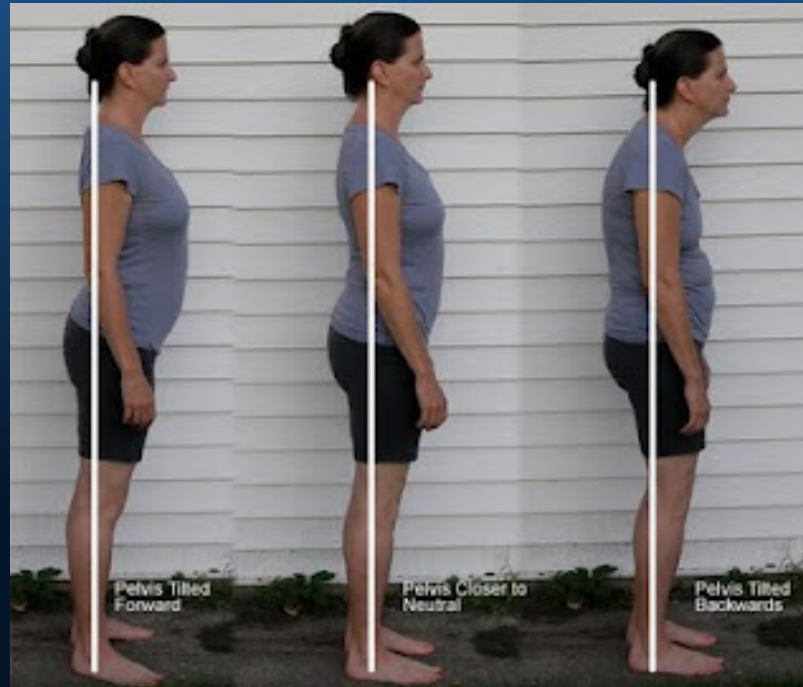
Why it is important to assess?

- Key central point for many upper-body movements
- Symptoms arising from hip musculature problems will affect other parts of body (knees)
- Position is important
- Can affect balance & coordination in ADLs.
- Generally weak in people



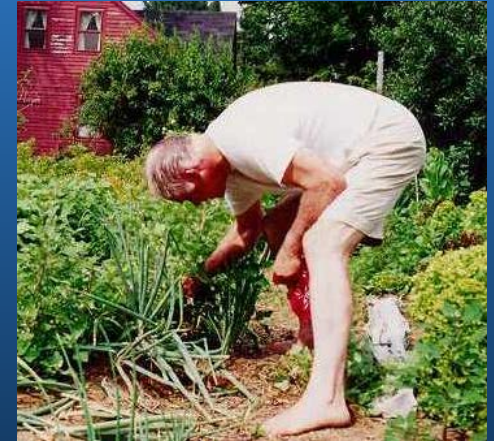
Hip Musculature (Lower Body)

Why it is important to assess?



Age and excessive weight make dysfunctions more susceptible to injury.

Susceptibility to Injury



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In the Weight Room



Hip Musculature (Lower Body)

Why it is important to assess?

- Key Players in Hips
- 1.) Gluteals – Extension
- 2.) Hip Rotation
- 3.) Hip Stability
- 4.) Posterior Chain Strength
- 5.) Thoracolumbar Tissue Quality
- 6.) Observe Posture & Gait



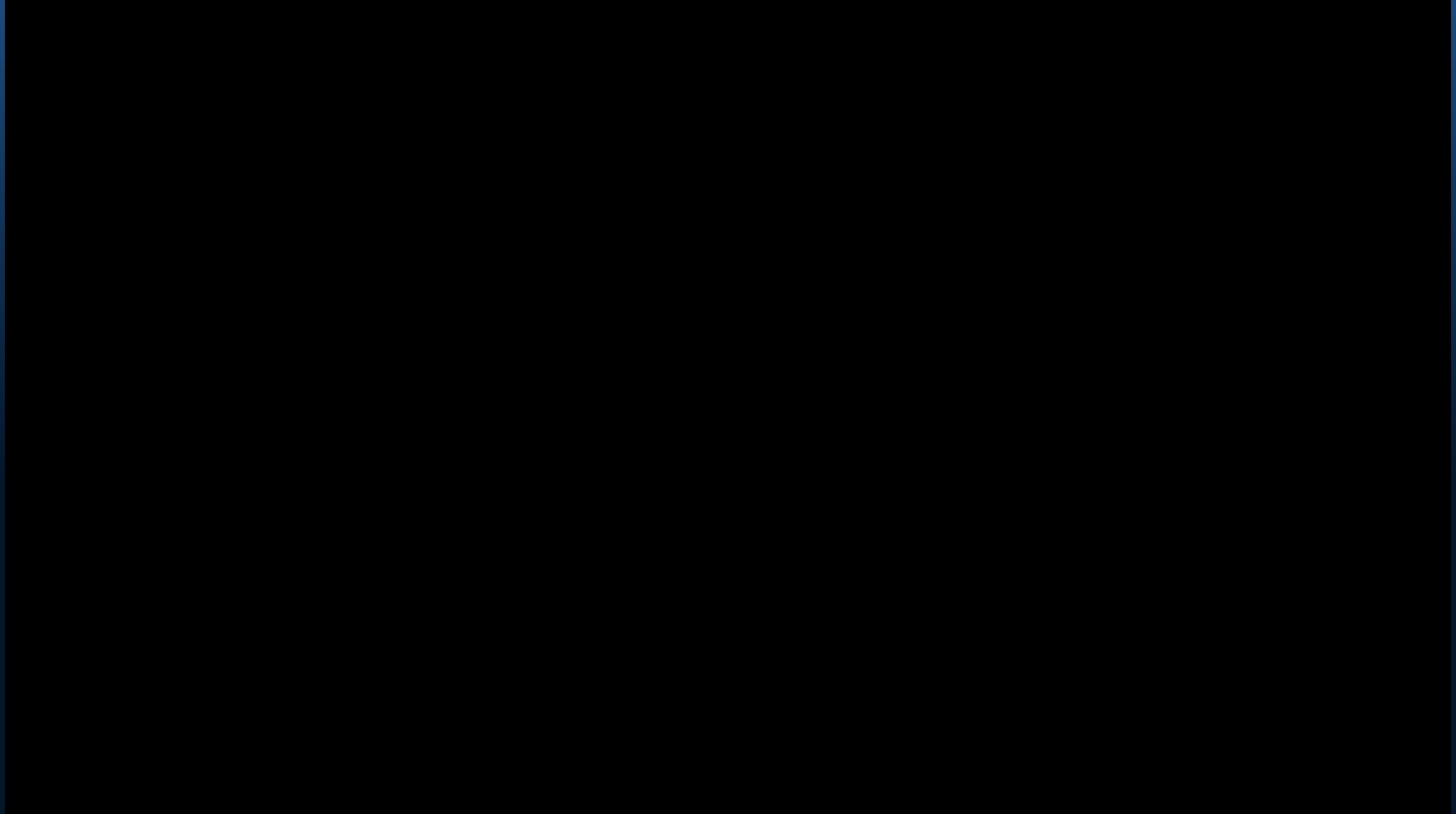
T-Hip Mobility Drill Assessment

How To Perform:



- 1.) Client places hands onto bench or chair (try to keep back level)
- 2.) Maintain a neutral spine and extend one leg back by driving foot.
- 3.) With full possible extension, rotate raised leg outwards from hip
- 4.) Continue rotation with neutral spine and tensed posterior musculature

T-Hip Mobility Drill Assessment



T-Hip Mobility Drill Assessment



What are we looking for?

Pain Sites	Stability	Mobility	Strength/ Coordination
Knees	Knee/Ankle/Hamstring	Hip Complex	Standing Leg
Wrists	Pelvis (opp.)	Thoracic	Isometric
Mid/Upper Back Shoulders	Gleno-humeral Scapular		Erector Spinae
Low Back	Lumbar		Core
Hips	Opp. Hip		Isometric
Neck	Cervical		Isometric
Elbows	Elbow		Isometric

What if they feel pain?

Pain Site	Remedy/Modification/Outcome	Stop Test
Knees	Check history/bend knee more	
Wrists	Clasp hands and palms face eachother	
Shoulders	Failure to stabilize mid back/ Bend elbows	
Low Back		x
Mid-Upper Back		x
Neck		x
Elbows	Bend elbows; limit shift forward	
Hips	Shorten lever (leg)/ omit rotation	x

Breaking Down Part #1 Observation



Chin/Neck retracted (not “tucked”)

Keep elbows locked comfortably

Square the shoulders/depress

Ability to lift 1 leg and extend
(drive)

Stabilize the spine/core (brace)

Note position of foot when leg
raised



Breaking Down Part #2 Observation



- Ability to fully extend leg?
- Hamstring tightness not always a bad thing (promotes stability)
- Can hips turn without shoulders losing square?
- Can foot of standing leg stay in place?
- Can elbows stay locked?
- Where is rotation coming from? (Knee? Hip? or Lumbar?)

Sample Exercises That May Improve Discrepancies



- Push-up style planks
- Bird-dogs
- RDLs
- Standing Cable Hip Ext.
- SL Squat



Sample Exercises That May Improve Discrepancies



- Same exercises mentioned....
- Stretch the following:
 - Hamstrings
 - Adductors
 - Gastrocs
 - Low Back

Progression, Not Perfection

- Remember, it does not have to look perfect.
- But you **NEED** to see it get better
- Takes more than 1, 2, or 3 sessions.
- Sometimes, doing the actual assessment drill over and over will make improvements
- These assessments are exercises/warm ups

When To Conduct Assessments?

- Beginning of program (1st or 2nd session)
- Every 2 weeks depending on client progress
- Whenever adjustments are made to exercise selection
- After a hiatus from regular training
- A noted injury or pain in client

Thank You

- **Send me your questions!**
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