

Muscle Imbalances Revealed – Assessment & Exercises for Personal Training

Muscle Imbalances Revealed Assessment & Exercise

with John Izzo



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



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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!



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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

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Places you may have seen my material



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Who Do I Train?



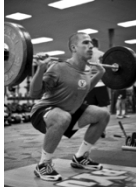
95% of my clients are of the General Population (GPC)

Goals:

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

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Who trainers wish they trained...



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But who they ACTUALLY train...



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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..)

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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

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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.

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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.

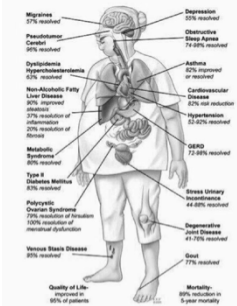


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Top 3 “WANTS”

- 1.) Quality of life improvement (95%)
- 2.) Sleep Apnea resolved (98%)
- 3.) Depression (55%)

When you lose fat...



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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”

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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.



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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

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Understanding Assessments

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

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



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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



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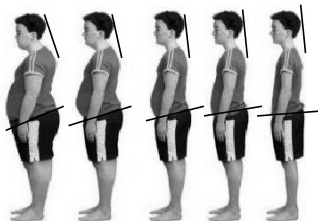
Simplify Assessments

Reverse the process.



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Waist and Head Position



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Work the Opposites

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

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

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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

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Adherence Dictates Corrective Strategy

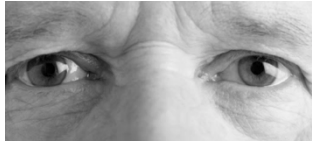
- Most GPC will become bored, unwilling, and subdued with corrective exercise
- Transition from "contemplators" to "preparation" to "action", still vulnerable
- Must begin to make activity fun, safe, and effective while continuously assessing.

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Your Best Assessment Tool?



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Spot the Obvious



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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!



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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?

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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

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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**



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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"

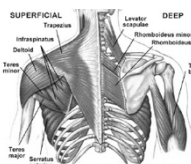


– Don't assess through a peep-hole...
eyes on everything!

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Scapular Region (Upper) Why is it important to assess?

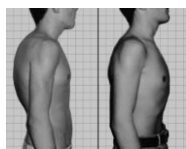
Muscle	Direction
<u>Pectoral Minor</u>	<u>insertion</u>
<u>Coracobrachialis</u>	<u>origin</u>
<u>Serratus Anterior</u>	<u>insertion</u>
<u>Triceps</u>	<u>origin</u>
<u>Biceps (short & long)</u>	<u>origin</u>
<u>Rhomboids Major & Minor</u>	<u>insertion</u>
<u>Levator Scapulae</u>	<u>insertion</u>
<u>Trapezius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



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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

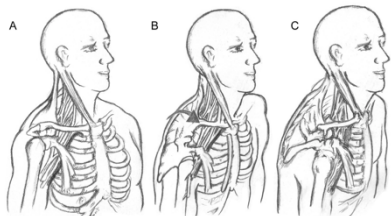


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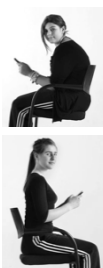
Scapular Region (Upper) Why it is important to assess?



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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



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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

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3-Point Quadruped Scap Assessment Video

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3-Point Quadruped Scap Assessment



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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.) Thoracic	Gleno-humeral (opp.) Scapular (opp.)	Trunk (Anti-Rot) Erector Spinae
Low Back	Lumbar/Pelvis	Hips	Core
Neck	Cervical		Isometric
Elbows			Isometric

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3-Point Quadruped Scap Assessment (angle view)

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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 each other	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

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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



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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



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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

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Sample Exercises That Can Improve Discrepancies



- Lots of Upper-back work:
 - Face-Pulls
 - Lat Pulldowns
 - Rear Deltas (use bands)
 - Low Trap Raises

- Serratus Anterior Activation



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

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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!

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3-Point Quadruped Scap to Plank Assessment (advanced)

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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

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B.F.Y.B.

• Observe many things at one time:

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



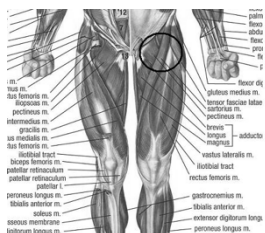
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Hip Musculature (Lower Body) Why it is important to assess?

• Like the scapula, there are many muscles that insert and originate from the pelvis girdle

• For most clients, this is a site of dysfunction

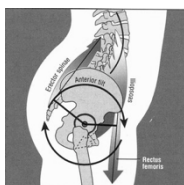
• Key central point for lower body movement



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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



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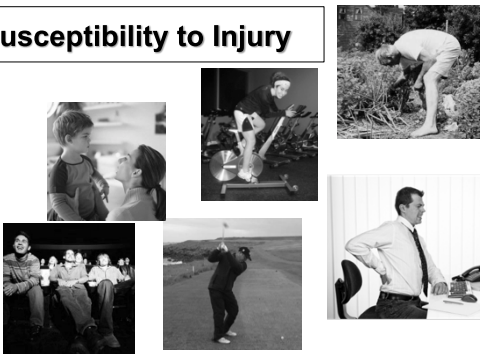
Hip Musculature (Lower Body) Why it is important to assess?



Age and excessive weight make dysfunctions more susceptible to injury.

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Susceptibility to Injury



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In the Weight Room

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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



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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

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T-Hip Mobility Drill Assessment

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T-Hip Mobility Drill Assessment



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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

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What if they feel pain?

Pain Site	Remedy/Modification/Outcome	Stop Test
Knees	Check history/bend knee more	
Wrists	Clasp hands and palms face each other	
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

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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

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Breaking Down Part #2 Observation



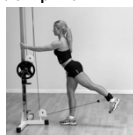
- Ability to fully extend leg?
- Hamstring tightness not always a bad thing (promotes stability)
- Can hips turn without shoulders losing square?
- Can foot of standing leg stay in place?
- Can elbows stay locked?
- Where is rotation coming from? (Knee? Hip? or Lumbar?)

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Sample Exercises That May Improve Discrepancies



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



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Sample Exercises That May Improve Discrepancies



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

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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

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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

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Thank You

- Send me your questions!

- John Izzo

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