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3416 - HYPERICE Mobility - ACTIVATED GLUTES & HEALTHY LOW BACKS

Friday, August 16 from 4:00 pm to 5:30 pm

Presented by: Chad Benson

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	<p>VYPER</p>  <p>HYPERSPHERE</p>  <p>HYPERVOLT</p> 
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Glute & Low Back Anatomy

Isolated: both the spine and hip are capable of triplanar movement & must be trained accordingly.

	<p>Erector Spinae</p> <p>Serratus Posterior Inferior</p> <p>External Oblique</p> <p>Internal Oblique</p> <p>Latissimus Dorsi</p> <p>Thoracolumbar Fascia</p>
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Integrated		Integrated	
	<p>Superficial Back Line</p> <ul style="list-style-type: none"> • Flexor digitorum • Brevis • Gastrocnemius • Hamstrings • Sacrotuberous ligament • Erector spinae • Scalp fascia 		<ul style="list-style-type: none"> • Peroneus longus and brevis • Anterior ligament of the fibular head • IT band, TFL, glute max • Lateral abdominal • External and internal intercostals • Splenius capitis and sternocleidomastoid

How is vibration & traditional from foam rolling different? Vibration foam rollers are the best of 2 worlds, inhibiting overactive tissue and activating weak movement. The vibration stimulates:

1. a naturally built in human reflex designed to **activate muscular contraction**.
2. The nervous system to **upregulate neural drive** to the tissue being vibrated
3. The nervous system to increase blood flow to support muscular contraction

Mobility Defined?

Mobility is often used interchangeably with flexibility. For the purposes of this course mobility is defined as “active ROM”. It represents a range of motion achieved via active muscular contraction. In this sense, mobility requires neural drive and activation.

What is Glute Amnesia & Why is it Major Pain in the “Ass”? In simple terms, glute amnesia means the glutes have forgotten how to fire or activate. Why?

1. Sitting disease
2. Tight hip flexor or low back complex
3. Weak hip extensors
4. Synergistic dominance – overactive helper muscles (i.e. low back and hamstrings)

Common Glute & Low Back Training Mistakes

Not assessing hip extension



Modified Thomas Test



Glute Strength:

Position the client in a prone lying neutral spine position. Ask client to bend / flex knee to 90°

Trainer: cup one hand around the low hamstring above the knee. The client's line of drive is towards the ceiling

Hip Flexor / Psoas ROM:

Position client supine lying w a neutral spine. Ask client to pull knee to chest. Observe the amount of thigh lift / gap from floor. Compare sides.

Commented [1]: need

Mobility Assessments ($ROM + Stability = Mobility$)

The first step in reactivating the nervous system is assessing the individual's ROM and ability to recruit muscles.

Peripheral Muscle Strength and ROM Testing

Normal or functionally specific ROM and reactive strength in the muscles surrounding the ankle, knee, hip, scapula, elbow and wrist are extremely important when performing any functional performance task or exercise.

1. Assessment complexity is not important. Keep the movement patterns relatively simple and quick.
2. Combine great observation and coaching skills with your baseline assessment.
Note: exercise correctives can be modified as movement compensations are noticed or change.
3. Assessment should be broken down from the whole into the parts:
 - a) Dynamic posture / during movement (i.e. FMS - not covered)
 - b) Individual movements, mobility and strength at eROM (end range of motion)

Lacks ROM: when one muscle is not able to lengthen to the degree (i.e. comply) needed to produce the desired movement, compensations must occur to produce that movement. Compensations tend to create inefficient movement via several common mechanisms:

- a. Synergistic dominance of the secondary and assistance muscles.

- b. Force couple imbalances (i.e. overactive antagonist and synergists)
- c. Altered motor recruitment timing and coordination (i.e. QL fires before GM during abduction or low back before glute during hip extension).

Not correcting hip extension asymmetries

Improved mobility and active ROM: *the benefits of activation and glute training depends on active muscular contraction not passive ROM*

To understand how training eROM improves mobility, we need to understand the difference between active and passive ROM.

- a. **Active** range of motion is when a joint is moved through its range with the person moving the joint him or herself.
- b. **Passive** range of motion is when something or someone helps or creates the movement. More importantly, it's essential we assess ROM and identify neurological "dead zones".

The traditional way to perform release in at home or in a gym is foam rolling or **SMR (self myofascial release)**. Recent evidence has indicated myofascial compression alone does not break or "release" fibrotic material commonly found even at the most superficial muscular layers.

Muscle activation via corrective exercise and movement:

- Manage
 - Posture / alignment
 - ROM
 - Speed of Motion (SOM)
 - Complexity
 - Load of Motion (LOM)
 - Fatigue of Motion (FOM)
- Use low threshold / slow twitch training methods before high threshold (i.e. LOM and SOM)
- Train in pain free ROM (i.e. avoid provocation patterns)
- All Core Activation movements should progress from floor to the specific actions required to function in life sport or workout.

Not increasing blood flow / properly warming

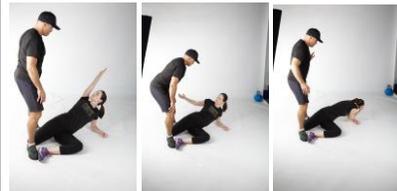
- Research has shown that increasing blood flow can have a significant impact on tissue extensibility, proprioception & injury risk (over traditional rolling).
- Poor blood flow to the thoracolumbar fascia has been associated with low back pain.
- thermal imaging has shown that vibration stimulates blood flow significantly more than traditional rolling



Rear Leg Banded Side Bend



Reach & Rotate



Bretzel



Tubing Shoulder & Hip Extension



Using too much weight

Technique matters. If the focus is on quantity vs quality, the degree of glute activation is significantly altered.

Errors commonly seen:

- Arching low back / maintaining neutral spine
- Not completing hip extension (i.e. "end" range)
- Using momentum



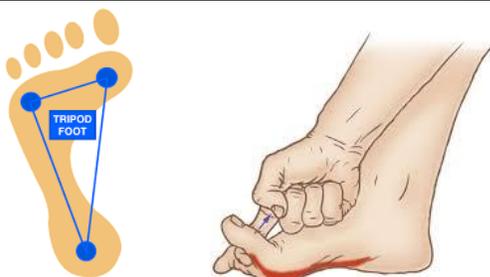
Not achieving core neutral or actual hip extension

- When the spine is neutral the peripheral nerves have greater CNS upregulation
- Less pressure / shear on the vertebral disc
- The exercise on the R only works glutes in the 1st 10-15°



Not loading big toe / proper base of support

- The 1st metatarsal. Both ROM & Strength of the FHL is essential to integrated glute activation
- Midfoot load during running, squatting & lunging



Not Integrating the glutes & low back into multijoint movements & propulsive force

	Hyperice Spinal Stim -Banded Hyperice Shoulder Ext & Bridge	Stims spinal nerves to arm and legs
	Hyperice GM Stim - Clamshell	Activates GM & therefore inhibits TFL (sitting disease)
	Rec Fem Stim -Side Plank w Hip Flex.	Activates Rec Fem & therefore inhibits TFL (sitting disease)
	Hyperice Mini Shoulder PNF w Band RNT Lunge	Activates functional line (opp shoulder & glute)
	Hyperice Mini Ankle Mobility - Loop Squat	Activates abd (frontal) and ext hip rotation (transverse). 10° of knee abd generated through midfoot loading increases FHL activation (arch of foot)
	Hyperice ft Sphere Stim -Banded 1 Hip Hinge / Thrust	Focus is on loaded asymmetric end ROM. Functional glute loading is most often associated w the strike & stance phase of gait
Hip Hinge Airplane		Teaches femur pelvis dissociation on stance leg
Loop Propulsive Drills		Front Side & Rotating Step, Lateral Bound