Functional Training: Myths & Mystique

- **Specific joints and individual muscles were not designed to work in isolation and should not be trained in isolation.**
- **Functional Movement Patterns:**
  - Walking, jogging, running
  - Level Changes:
    - Squatting, Lunging, Lifting, Climbing
    - Pushing and pulling
    - Rotational movements

Functional Training Myths

- **Effective vs. Functional**
  - Bicep curls will result in bigger biceps (effective), but may not improve functional capacity.
  - Leg extensions will make stronger quads but may not significantly improve running or jumping ability
- **Balance vs. Stability**
  - Balance training creates a stable base
  - Stability training creates control on an unstable base

Balance vs. Stability

- Stable & balanced.
- Balanced, not stable.

J.C. Santana’s Favorite Functional Equipment

- Dumbbells
- Elastic tubing
- Medicine balls
- Stability balls
- Kettlebells
- Suspension equipment

Foundations of Human Movement

- **Locomotion**
  - Walking, running
- **Level Changes**
  - Squats, lunges, deadlifts
- **Pushing & pulling**
  - Punching, throwing, rowing
- **Rotation**
  - Agility, changes in direction
  - Explosive strength

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**Practical Applications for Functional Programs**

<table>
<thead>
<tr>
<th>6 Functional Exercises</th>
<th>4 Functional Goals</th>
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<tbody>
<tr>
<td>Squat / Lunge</td>
<td>Power</td>
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**Improving Function**

- Step 1
  - Mobility
- Step 2
  - Movement Correction
- Step 3
  - Integrating upper body, lower body & core movements.

**Mobility 1st**

- Address mobility restrictions 1st
  - Soft Tissue Work
  - Assisted Stretching
  - Self Stretching

**The Joint-By-Joint Approach to Mobility**

<table>
<thead>
<tr>
<th>Joint</th>
<th>Mobility</th>
<th>Stability</th>
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<tbody>
<tr>
<td>Ankle</td>
<td>X</td>
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<tr>
<td>Knee</td>
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<td>X</td>
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<tr>
<td>Hip</td>
<td>X</td>
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<tr>
<td>Lumbar Spine</td>
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<tr>
<td>Thoracic Spine</td>
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<tr>
<td>Cervical Spine</td>
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- Stability & mobility are different sides of the same coin.
- Increasing flexibility at joints that need mobility improves stability in adjacent joints.
- Improving stability where it is essential increases flexibility in adjacent joints.

**Hip & Shoulder Mobility: Pendulums**

**Hip & Shoulder Stretch Variations: Pectorals & Hip flexors**
Thoracic Spine Stretches

Ankle Mobility Drills

Movement Correction

Squat Compensations
- Knees falling in/valgus position
  - Add a band to force Glute Med to fire 1st
- Excessive forward lean
  - “Suspender” squat

Squatting Corrections

Deadlift Compensations
- Knees drift forward
- Client is trying to squat instead of deadlift
- Back rounds
Deadlifting Correction: The 30 degree Hip Hinge

- Have the client stand approximately 6” from a wall.
- Cue them to kiss the wall with their glutes.
- Teaches the initial movement of the deadlift is pushing the hips back.

Lunge Compensations

- Cannot complete full ROM lunge
- Internal rotation of the femur with over pronation of the foot
- Likely caused by lack of proper knee stability from the glute medius
- Lateral instability

Lunging Corrections

- Bottoms Up Method
- Improving the hardest portion of the movement, improves the whole movement
- Add a kettlebell or dumbbell on one side

Push-up Compensations

- Shoulders rounding forward or forward movement of the head of the humerus.
- Most common cause include anterior shoulder instability

Push Up Correction

- Bottoms Up Method with restricted ROM
- Only allow ROM that they can control
- Work to improve mobility, but until then shorten their push up distance

Rowing Compensations

- Cannot maintain neutral spine during a bent over row
- Likely caused by poor posture or unaware of how to get into neutral spine
- Bicep Dominance
- Caused by poor scapula stability and inability to retract shoulder properly
Correcting the Row
- Have them show they can protract/retract with light resistance.

Rotation Compensations
- Leg movement during upper body rotation.
- Inability to separate upper and lower body movement.
- Should be able to keep legs/hips stable during thoracic rotation.
- Flexing/Extending lumbar spine
- Caused by poor posture or lack of core stability

Integrating Upper Body, Lower Body & Core
- Increase resistance
- Work in multiple planes
- Add balance challenges
- Integrate level changes
- Teach reaction time and deceleration

Mini Band In & Out Hops

Single Leg Box Drill
- Start slow
- Must demonstrate stability on landing
- Hop in one direction first then repeat opposite direction

Clock Hops
- Start in the center and hop from one leg to other
- Must “stick” the landing before hopping back
- Increase speed to challenge more
Monster band Walking Drills

Resisted Lunges

Deceleration Lunges
- Band increases the demand to decelerate
- Increased eccentric forces
- Improve knee stability and strength

In and Out Hops To Balance

Forward & Lateral Hop to Single Leg Stick

Neural Activation Drills:
Quick Step, Pogo Feet, Jab
Try these with rotation to left or right
Level Changes:
*Double leg & Single leg Cup Catching Drills*

Walk The Line
*Try this with a kettlebell too!*

MB Pivot & Fetch
*Agility & Deceleration Drill*

“Get Up And Go” Deceleration Drill

Start behind starting line; on cue get up, sprint to finish line; stop with both feet behind line.

The Mine Field

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*1943: US Army, Army WAVS Boot Camps,*