

Introduction

I. Introduction:

- Life is a plyometric experience – to perform well and/or avoid injury, we must move quickly, yet efficiently.
- Give your clients a body that works to expand their world for sustainable performance.
- At the muscular level, you're doing a plyometric movement when...
 - ...there is a rapid pre-stretch, followed by rapid contraction
 - ...the speed of movement is sufficient to activate the stretch reflex
- The Coach/Athlete Connection: Motivator-Educator-Guide/Challenged-Empowered-Focused (C/A)

II. What Are Plyometrics Like in the Real World?

- Mobility for freedom of motion
- Stability for loading
- Movement skills
- Deceleration ability – apply the brakes (bigger ROM on landing makes the movement softer)
- Direction change

Stretch Reflex

- Plyometrics improve a muscle's proprioceptive function by eliciting an involuntary stretch reflex contraction.
- Stretch reflex lasts for 4 seconds.
- As muscle spindles are rapidly stretched, they elicit a stretch reflex that provides:
 1. Additional involuntary muscle force that complements voluntary force-production
 2. Reduces reaction time in the alpha-motor units
- But prerequisite for safe, efficient use of stretch reflex is proper deceleration and isometric strength – *train without the stretch reflex to enable successful training with it.*

III. Plyometric Readiness

- What must be trained/developed and how?
 1. Eccentric Deceleration
 2. Isometric Strength
 3. Concentric Acceleration
- Control/Coordination (Practical example of need for deceleration and isometric strength: side shuffle to single leg drop and hold)
- Exercise Progressions (this is also our warm-up): Break up 3 parts of movements and train them separately. Add one part at a time and train the pairs together.
 1. Eccentric Deceleration with Isometric
 2. Isometric with Concentric

The Big Mistakes of Box Jumps...and Plyometrics in General

- Hard landings
- Barely high enough landings
- Believing you need a higher and higher box

Lower-Body Plyometric Drills

- Jumping Jacks
 - Tri-Planar Options – choose sagittal, frontal, or transverse plane for both upper and lower body
 - Choose movement “in sync” or “out of sync”
- Alternating Box Push-Offs

- Standing Long/Vertical Jump s
- Front or Lateral Box Jump
- Knee Tuck Jumps
- Front/Lateral/Rear Cone Jumps
- Skater Hops
- Hops & Bounds
- Depth Jumps

REMEMBER to think of ways to REGRESS all of the above exercises to use with ANY population

Upper-Body Plyometric Drills

- Throws – solo or with partner
 - Bilateral – pass/throws/slams
 - Unilateral – pass/throws
- Catches – solo or with partner
 - Bilateral
 - Unilateral – lighter resistance; eccentrically loads throwing motion
- Plyometric Pushes and Pulls
 - Push-Ups – elevated >> floor >> BOSU >> Stability Ball
 - Pulls – bodyweight rows; pullups
 - Overhead Presses
 - Overhead MB Drive
 - Push Press

Core Plyometric Drills

- Plank Plyos
 - Ankle Rocking / Elbow Rocking
 - Tripod Plank w/Explosive Leg Switch
 - Reactive/Impulse Taps (anti-rotation)
 - Lateral Rolling Plank on SB
 - Single Leg Plank Leg Switch on SB
 - Mt. Climbers
 - Mt. Skaters

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