PLyometric quick tip sheet

# what is plyometrics?

* Exercise involving repeated rapid stretching and contracting of muscle to increase muscle power.

## Phases of plyometrics:

### Phase 1: Eccentric Pre-stretch – the pre-loading phase.

### Phase 2: Amortization (Time to Rebound) – time from the stretch to shortening of muscle.

### The Stretch-Shortening Cycle (SSC) for Athletes - Azide PerformancePhase 3: Concentric (Shortening phase) – resultant power production phase.

# Theoretical training benefits:

### Ability to increase average power and velocity

### Increased peak force and velocity of acceleration

### Increased time for force development

### Heightened levels of muscle activation

# clinical guidelines when beginning a plyo prograM:

## Essentrics® 101: The Power of Eccentric Muscle Contractions - EssentricsThings to be considered:

### Patient age

### Injury history

### Type of injury

### Foundational strength

### Resistance training experience

# Contraindications for plyo training:

### Pain

### Inflammation

### Acute or subscate sprains

### Joint instability

### Soft tissue limitations (from a surgery etc)

### Lacking foundational strength or training base

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# examples of testing prior to plyos as well as volume reccomendations:

# Using the length tension relationship of muscle for rehabilitation

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# Sources: this is a synthesized document, all concepts are from the citation below

# Blue and white text with letters Description automatically generatedDavies G, Riemann BL, Manske R. CURRENT CONCEPTS OF PLYOMETRIC EXERCISE. Int J Sports Phys Ther. 2015 Nov;10(6):760-86. PMID: 26618058; PMCID: PMC4637913.