Plyometric Classification and Periodization

Multijump Basics

Why Multijumps?

- Development of Reactive Strength
- Improved Elasticity
- Technical Improvements and Skill Acquisition
- Potentiation and Stimulation

Basics

- Tension as a Periodization Variable
- Personal Historical Perspectives
  - Volumes/Intensity Valuation and Indexing
  - Unit – Based Volume Selection

Categorizing Multijumps

Classifying Multijumps - Going Farther

- In Place Jumps
  - Lower Leg Conditioning
  - Volume Establishment Work
- Short Bounds
  - Short Horizontal Bounds
  - Hurdle Hops
- Extended Bounds
  - Vertical Bounds
  - Power Sustenance Work
- Depth Jumps
  - Double Leg
  - Single Leg

Lower Leg Conditioning

Simple LLC Exercises

Mercury

Ankle Bounces
Side Straddled Hops
Front Straddled Hops
Crossover Hops
Diagonal Hops
Bunny Hops
Zig-Zag Bunny Hops

Lower Leg Conditioning - Parameters

- Simple Jumps
- 20-30 Seconds Work
- Work to Rest Ratio 1:1 to 2:1
- 10-12 Total Sets
- Surface Variations, Scrambles and Barefoot Work Possible
- Maybe High-End Jumps for Low-End People

Lower Leg Conditioning

- Periodization
  - Early Season Usage
  - Typical Misapplications

In Place Jumps

In Place Jump Training

- Purposes
  - Fundamental Elastic Strength and Fitness
  - Building Multijump Volumes
  - Diversity

Venus	Mars
Line Hops	Tuck Jumps
Buttkick Jumps	Ski Jumps
180's	Single Leg Lateral Tums
Rocket Jumps	Straddle Jumps
Speed Skaters	Single Leg Medial Tums
Wideouts	Lane Hops
Squat Freeze Jumps	Single Leg Squat Jumps
Stepup Jumps	Lunge Jumps

In Place Jump Training - Parameters

- Circuit Design
- 12-16 Total Sets
- 12-20 Second Workbouts
- Work to Rest Ratio 1:2

Short Horizontal Bounds

Short Horizontal Bounds

Short Horizontal Bounds

- Purposes
  - Elastic Strength Development
  - Horizontal Force Application Improvements
  - Specific Postural Maintenance
  - Acceleration Enhancement

Saturn	Uranus
Standing Long Jump	RRR
3 Double Leg Bounds	LLL
Standing Triple Jump	RRLL
Double-Double	LLRR
	RLRL
	LRLR

Short Horizontal Bounds - Parameters

- Remedial or Intermediate Circuits
- Limit to 5 Takeoffs
- Remedial
  - Mix Double and Single Leg Work
  - 4-5 Repetitions of 4-5 Exercises, 60-120 Takeoffs
- Intermediate
  - Single Leg Work
  - 2-3 Repetitions of 5-6 Exercises, 50-100 Takeoffs

Vertical Bounds

Vertical Bounds

- Purposes
  - Elastic Strength Development
  - Enhances Speed By Improving Vertical Pushing Qualities
  - Improves Lateral Movement and Directional Change
  - Improves Rotational Components
  - Feature Hip Dominant Movement
  - Foundation for Bounding Teaching Progressions

Pluto

LLL...
RRR...
LLRR...
Medial Hops (L-R)
Lateral Hops (L-R)

Vertical Bounds - Parameters

- Done Conservatively
- 2-3 Repetitions of 6-8 Exercises
- 10 – 15 Meters Per Repetition
- Forward, Lateral, Possibly Backwards
- Double Leg Remediation Possible

Hurdle Hops

Hurdle Hop Exercises

Hurdle Hops

- Purposes
  - Elastic Strength Development
  - Vertical Force Application
  - Unique Contact Times
  - Safety Factor - The Governor Effect

Hurdle Hop Exercises

Hurdle Hops
Step-Hops
Static-Elastic Hops
Elastic-Static hops

Hurdle Hops - Parameters

- Work Over 4-6 Hurdles
- 30 - 60 Total Contacts
- Hurdle Height and Technical Problems

Extended Bounds

Extended Bounds

- Purposes
  - Elastic Strength Development
  - Training Sustained Force Production

Extended Bounds

- Concerns
  - For High Training Ages
  - Specificity Concerns and Misapplications
  - Extended Nature Limits Tension Development

Bounding Series A

RRR...
LLL...
RRL...
LLR...
RRLL...
RLRL...

Bounding Series B

Straight Leg Bounds
LRLR...
RRLL...

Extended Bounds - Parameters

- Session Guidelines
  - 2-3 Repetitions of 4-8 Exercises
  - 20-40 Meter Repetitions
  - Session Volumes < 400 m

Depth Jumps

Depth Jumps

Depth Jump Work

- Purposes
  - High End Elastic Strength Development
  - Specificity

Depth Jump Work

- Concerns
  - For High Training Ages
  - Cautions Against "Over" Specificity
  - Vertical Jump/Box Height Relationships
  - Single Leg Usage

Jupiter	Ancillary Depth Jumps
Box-SLJ	Box Rebounds
Box-Hurdle	Lateral Box Rebounds
Box-Box-SLJ	Twisting Box Rebounds
Box-Box-Hurdle	Single Leg Box Rebounds

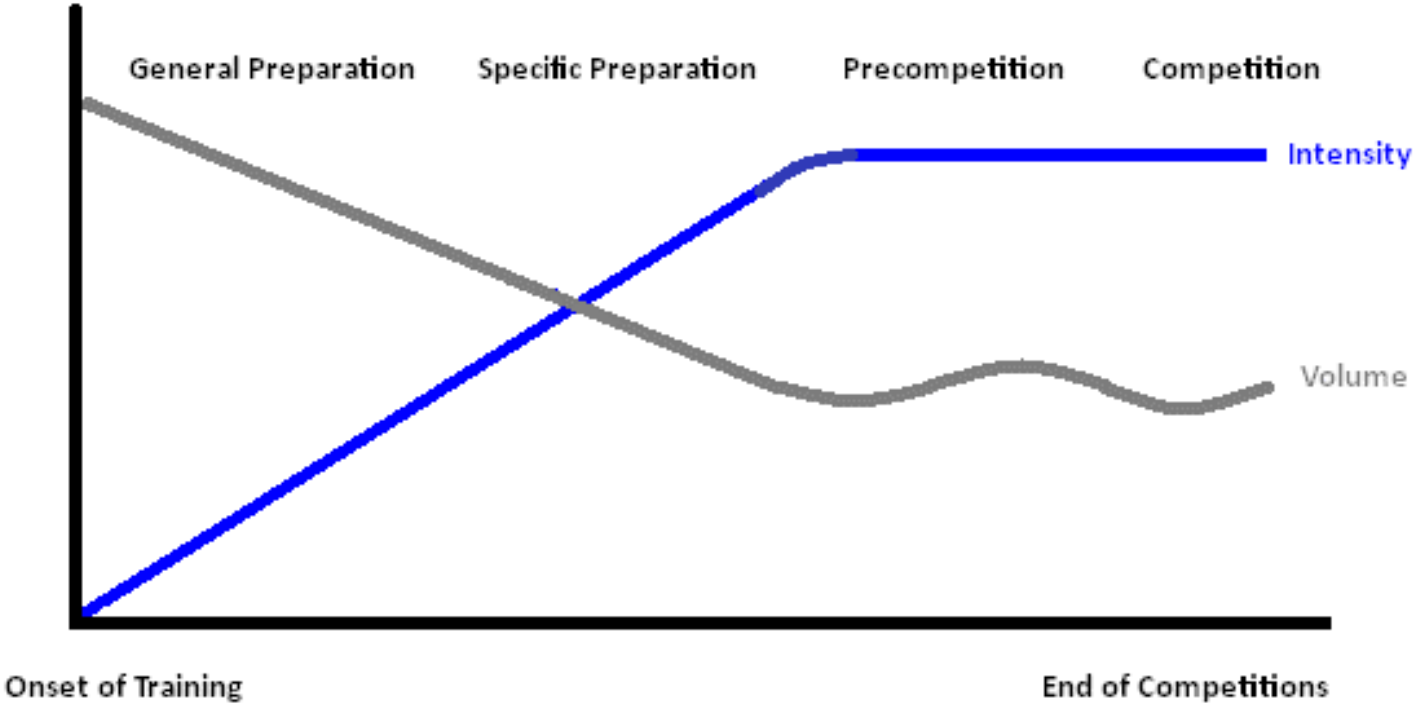
Depth Jump Work - Parameters

- Box Height
  - Vertical Jumps Relationships
  - Periodization and Progression
- 3-5 Repetitions of 4-6 Exercises
- Session Volumes < 20 Contacts of High-End Work
- Up to 50 Contacts Per Session
- Box Jumps as an Introduction

Program Design

Key Principles

- Maintaining Power Output
- Tension as a Periodization Variable
- Volume and Intensity Relationships
- Elasticity - Frontloading Mesocycles and Microcycles
- Horizontal/Vertical Balance



Simplified Graph of Typical Volume & Intensity Manipulation Over a Macrocycle

Sequencing Guidelines

- Specific Progression Phases

1. In Place Jumps, Short Horizontal Bounds, Vertical Bounds
2. Extended Bounds and/or Depth Jumps, Review
3. Opportunity, Reversion, and Hurdle Hops

Inseason Multijump Management

- Training Management Principles
  - Training Readiness and Power Output
  - Aggregate Intensities
- Subjective Evaluation of Competitive Schedule

Purposeful Training

- Clear Identification of Training Goals
- Targeting Specific Variables
  - Tension Levels
  - Direction of Force Application
  - Diversity
- Common Traps
  - Mistaken Specificity
  - Fallback Workouts

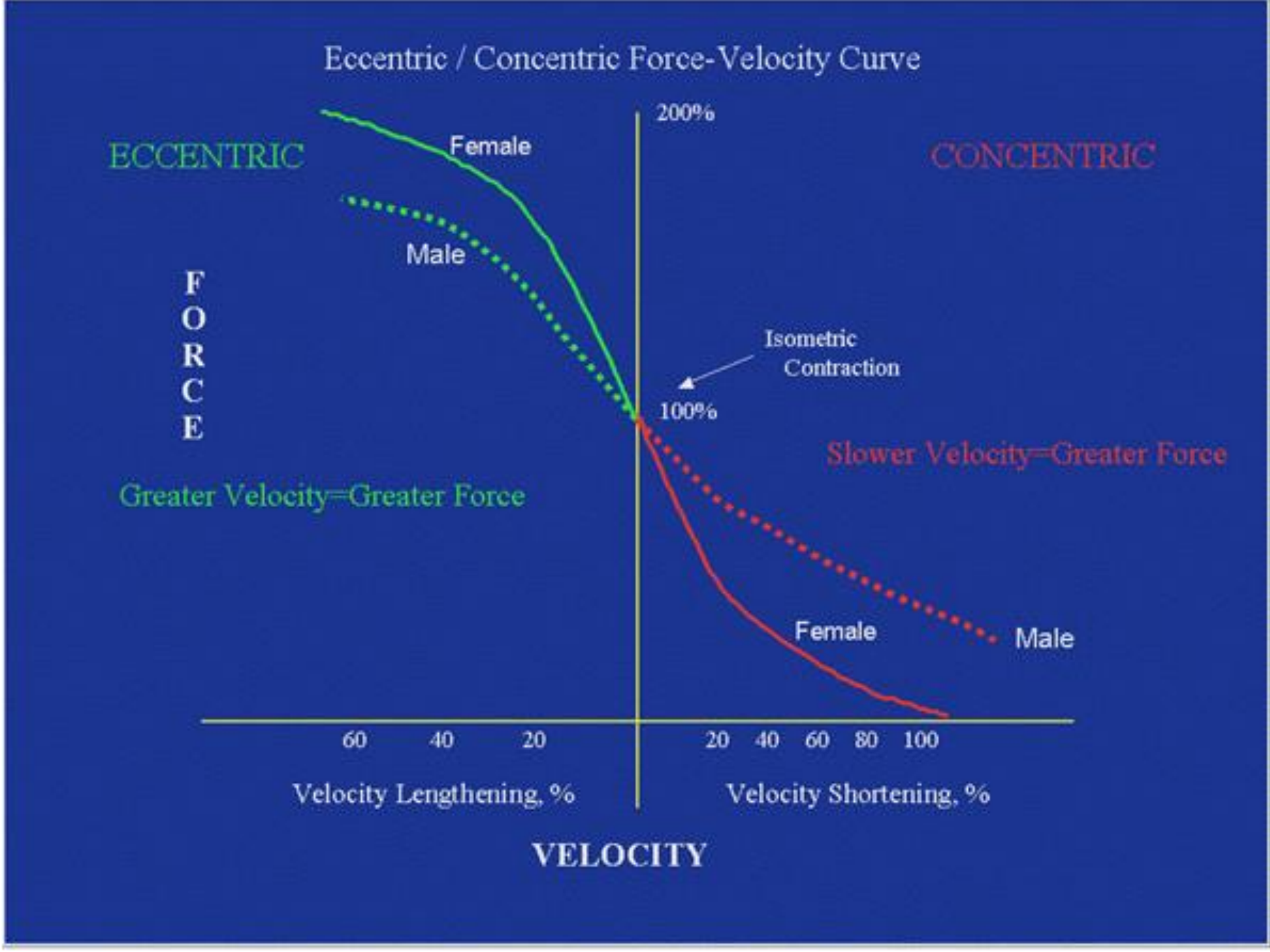
Compatible Training

- Compatible Training Principles – Grouping
- Common Examples
  - Acceleration Development & Short Horizontal Bounds
  - Resisted Accelerations and In Place Jumps
  - Speed Development & Depth Jumps
  - Speed Endurance / Maintenance & Hurdle Hops
  - Agility and Lateral Movement & Vertical Bounds
- Confusion Combinations

Using Multijumps in Rehabilitation

Rehabilitation Concerns

- An Extension of Purposeful Training
- Rehabilitation - Subject to the Governing Principles of Training
- The Goal - Progressively Approach Competition Intensities
- Understanding Concentric and Eccentric Work
- Potentiation as a Prerequisite to Strength Development
- Progression Curve/Stimulus Curve Relationships


Eccentric / Concentric Force-Velocity Curve
ECCENTRIC
CONCENTRIC
200%
Female
Male
FORCE
Isometric
Contraction
100%
Slower Velocity=Greater Force
Greater Velocity=Greater Force
Female
Male
60
40
20
20
40
60
80
100
Velocity Lengthening, %
Velocity Shortening, %
VELOCITY

SAC

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