

2017 Coaches Clinic



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Strength Development for Athletes

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Olympic Weightlifting

Implementation & Progression

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Olympic Weightlifting

- Snatch
- Clean & Jerk

- “Applying external load to a plyometric movement”
- Total Body
- Recruit 90% of fast twitch muscle fibers
- Technique is critical; especially controlling the path of the bar
- Do first in lifting session while CNS is fresh

Why Olympic Weightlifting & Sports Performance?

- Majority of sports require explosive power (strength + speed) to play up to full potential
 - Power = ability for body to produce the greatest amount of force in as little time as possible
- The 2 Olympic lifts and their variations have been shown to increase velocity of movement & rate of force production
- Maximum strength (force) can be enhanced by performing Olympic variations; such as, heavy squats, deadlifts, and presses
- The Universal Athletic Position (UAP):
 - Standing in quarter-squat, also known as Base Stance
 - Most common position in sports – a static, “ready” position
 - Olympic Weightlifting – when performed correctly – move through the UAP during the first and second pulls = hip extension & ground reaction forces to explode!

What Does Research Say?

- Carlock et al. concluded that weightlifting ability and vertical jump performance were strongly linked together (5, 10).
- Channel et al. indicated that Olympic lifts as well as power lifts provide improvement in vertical jump performance. Additionally, Olympic lifts may provide a modest advantage over power lifts for vertical jump improvement in high school athletes (11).
- Chiu et al. offered advice for strength and conditioning specialists for successfully implementing the “stop snatch” and “stop clean” into a conditioning program for improved athletic performance (7).
- Hori et al. concluded that high performance in the “hang power clean” is significantly related to jumping and sprinting (12).
- Hori, Newton et al. illustrated that Olympic Weightlifting improves the development of power, high-load speed strength and athletic performance (2).
- Waller et al. offered advice for strength and conditioning specialists for successfully implementing the “power snatch” into a conditioning program for improved athletic performance (3).

What Does Research Say? (Citations)

- 2. Hori N, Newton R, Nosaka K, Stone M. Weightlifting Exercises Enhance Athletic Performance That Requires High-Load Speed Strength. *Strength & Conditioning Journal*. August 2005;27(4):50-55.
- 3. Waller M, Townsend R, Gattone M. Application of the Power Snatch for Athletic Conditioning. *Strength & Conditioning Journal*. June 2007;29(3):10-20.
- 5. Carbone J, Takano B. Olympic Lifting for Performance Enhancement. In Clark M, Lucett S. *NASM's Essentials of Sports Performance Training*. Baltimore, MD Lippincott Williams & Wilkins; 2010.
- 7. Chiu L, Schilling B. The stop clean and stop snatch: alternatives to the hang. *Strength & Conditioning Journal*. June 2004;26(3):10-12.
- 10. Carlock J, Smith S, Hartman M, et al. The Relationship between Vertical Jump Power Estimates and Weightlifting Ability: A Field-test Approach. *J Strength Cond Res*. August 2004;18(3):534-539.
- 11. Channel BT, Barfield JP. Effect of Olympic and traditional resistance training on vertical jump improvement in high school boys. *J Strength Cond Res*. September 2008;22(5):1522-1527.
- 12. Hori N, Newton RU, Andrews AW. Does performance of hang power clean differentiate performance of jumping, sprinting, and changing of direction? *J Strength Cond Res*. 2008; 22:412-18.

What to teach first?

- #1 priority when learning Olympic movements is controlling the path of the bar!
- Step-by-step, simple-leading-into-complex method; better known as progressions
- Flexibility Assessments:
 - Snatch Deadlift & Overhead Squat = Snatch
 - Deadlift & Front Squat = Clean
 - Overhead Press & Split Squat = Jerk

Progressions – Snatch

- Power Position
 - Most vital part of the Olympic movements
 - Only way to produce optimum velocity on the bar
 - Keeps the bar in close proximity to the hips and legs!
- Power Position Hop & Land (Jump Shrug)
 - Emphasizes how important leg drive is to the movement; ***Triple Extension***
 - Triple Extension = EXPLOSIVE
- Power Snatch (Power Position)
 - First time the “catch” is introduced; pulling barbell into overhead position
 - Elbows lock overhead simultaneously with the feet landing on the floor
 - Barbell is received in a quarter squat position
 - Keep barbell in vertical plane of the body, high & wide arms

Progressions – Snatch (continued...)

- Power Snatch (Mid-Thigh)
 - First time athlete taught how to bend over with barbell while maintaining a neutral spine
 - Mid-Thigh position is directly above the knee caps
 - Shoulders in front of the plane of the barbell, knees remain bent
 - Allows athlete to understand that tension in the hamstrings is important
 - Emphasizes patience, control, and the necessity for keeping bar close to body
- Power Snatch (Low-Hang)
 - Barbell is lowered below the knee caps
 - Knees must be pulled back (not straightened completely) while bar passes

Progressions – Snatch (continued...)

- Power Snatch (Floor)
 - First time athlete exposed to starting position from the ground
 - Starting position:
 - Feet directly under the hips
 - Toes slightly turned out
 - Knees flaring out – contact with the arms is permitted
 - Arms straight
 - Elbows facing outward
 - Hook-grip utilized
 - Shoulders slightly higher than the heights of the knees
 - Back flat or extended
 - Eyes focuses straight ahead

Progressions – Snatch (continued...)

- Power Snatch + Overhead Squat
 - Adding the OHS will expose possible limitations in the athletes mobility
- Snatch
 - Athlete, in one motion, and without hesitation, lift the barbell from the floor into the overhead position and squat
 - Lift off the floor with control
 - Immediately begin acceleration the bar to its maximum velocity, in the power position
 - Athletes tend to perform lift from the hang due to flexibility

Progressions – Clean

- Power Position
- Power Position Hop & Land (Jump Shrug)
- Receiving Position
 - Proper rack position:
 - Elbows High
 - Feet in wide stance in preparation for the squat
 - Slight bend at the knees
 - Hold until fatigue = teaches body awareness
- Power Clean
 - Elbows as high as possible at the same time the feet land
 - Athlete receives barbell in quarter-squat position

Progressions – Clean (continued...)

- Power Clean (Mid-Hang)
- Power Clean (Low-Hang)
- Power Clean (Floor)
- Power Clean + Front Squat
- Clean

*Movements are taught in same progression as Snatch

Progressions – Jerk

- Jerk = Power, Push, Split, or Squat
- Dip, Drive, and a re-dip or “catch”
- Foot Stance – Determining
 - Push Method; athlete is pushed forward from behind, dominate leg braces
 - Drop Method; athlete leans on coaches extended arm & lets go
- Foot Placement & Recovery
 - Front shin vertical, back leg bent with heel off the ground, torso vertical
 - Step back with front leg, step forward with rear leg (2 step process)
- Foot Splitting
 - Both legs = 50% weight

Progressions – Jerk (continued...)

- Footwork:
- Split with Dip
- Split without Dip
- Split with OH with Dip
- Split with OH without Dip
- Split Jerk with PVC, Barbell

Complex Training

- Snatch
 - Snatch RDL
 - Jump Shrug
 - High & Wide
 - Muscle Snatch
 - Power BTN Jerk Drops @ 2,4,6' + Overhead Squat
 - Power Snatch + Overhead Squat
- Clean
 - RDL
 - Jump Shrug
 - High & Wide
 - Muscle Clean
 - Front Rack Drops @ 2,4,6' + Front Squat
 - Power Clean + Front Squat

Example Program (with Oly Lifting)

- Warm-up; goal is to achieve current mobility level
- Technique building exercises – the Olympic lifts (footwork, empty barbell, etc.)
- Strength and power exercises – the Core lifts; squats, pulls, presses
- Auxiliary and Accessory exercises
- Flexibility and cool-down

REPITIONS AND SETS

- Olympic lifts = 3-5x3's, 2's, or Singles
- Strength = 3x5

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