

the **CrossFit** JOURNAL ARTICLES

The Scoop and the Second Pull

Greg Glassman



Olympic weightlifters have been found to have higher vertical leaps and quicker 25-meter sprint times than any other athletes, including Olympic high-jumpers and sprinters.

The technical explanation for this is that the weightlifters have better “speed strength” than any other athletes. Speed-strength is defined as a combination of starting strength (ability to fire many muscle units instantaneously) and explosive strength (ability to keep these motor units firing once turned on).

The more useful explanation as to why they can out sprint and out leap all others is, quite simply, because they weightlift. (Weightlifting, remember, is the sport of Olympic lifting: the clean and jerk, and the snatch.)

So, weightlifting is unsurpassed in developing lightning-quick athletic movement and has enormous carryover to all explosive sport.

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The Scoop and Second Pull (continued...)

The Olympic lifts are complex compound movements, but we can drill down to one little piece of the lifts that is generating most of the speed strength – the second pull.

The “first pull” of the clean is essentially a deadlift with the shoulders forward of the bar in the setup. As the bar comes off the ground and travels along the shin, the torso’s angle of inclination remains constant.

As the bar passes the knees, the athlete rotates his torso until it is perpendicular to the ground without elevating the bar; this re-bends the knees some and is called the “scoop” or “double knee bend.”

At the instant the torso is perfectly erect, the hips and legs are violently extended. This is the “second pull.” The second pull puts the trajectory of the athlete and bar directly upward.

When the torso is perpendicular, the forces on the spine are entirely compressive and there are essentially no shear forces acting. Only from this posture can we effect maximum hip-leg extension power.

If the second pull were initiated with the torso forward-inclined, the spine may not withstand the shear force of the violent hip and leg extension. It is that powerful.

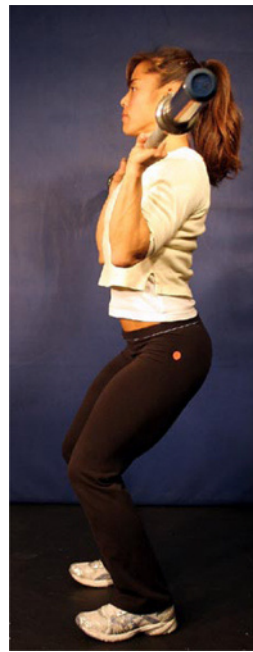
The second pull is so powerful that without a hook grip, where the thumb is held tightly against the bar by the fingers, the grip cannot be maintained.

The setup of the hip, legs, and torso for the second pull, readied by the scoop, is identical to the bottom position of the dip in the “dip-drive-press” cycle of the push-press or jerk.

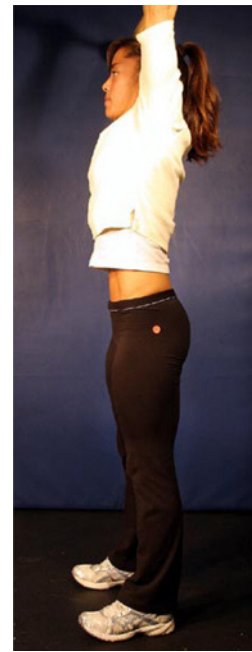
We teach the feel and posture for the launch point of the second pull by having the athlete find the bottom of the dip in the push-press and then, without moving anything except the arms, bring the bar down from the shoulders to the hang and back several times to demonstrate the identical hip, leg, and torso position used for both the second pull and the drive of the push-press.

The depth of the dip is determined by finding where the athlete can maximally accelerate the bar on the drive without dropping the chest at all going up or down. This is generally about six to eight inches.

Explosiveness is a learned phenomenon. Speed-strength, being a compilation of speed and power, is developed through both training and practice.



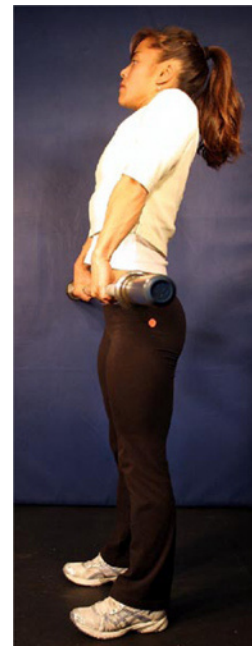
In the bottom of the “dip” of the push-press, the torso is upright.



Completion of the push-press.



At the beginning of the second pull, the torso is upright. Notice, this is the same posture of the dip of the push-press.



Completion of the second pull.

The Scoop and Second Pull (continued...)

By contrast, coordination, accuracy, agility, and balance are developed through practice alone while cardiorespiratory endurance, stamina, flexibility, and limit strength are developed largely through training.

This has two direct implications. First, when the technique of the scoop and second pull “click” for the athlete, the return in performance can be immediate. Second, absent the precise neurological stimulus required of speed-strength, it will not fully express.

The violent hip-leg extension of the second pull has great application to explosive sport movement, but those sporting movements are not going to develop maximal hip-leg explosiveness.

Only weightlifting can develop this explosiveness due to the unique posture and dynamics of the second pull, though fans of the Swiss Ball, Pilates, and kettlebell training claim otherwise.

The kettlebell exercises (snatch, swing, and clean), while excellent for developing aerobic and anaerobic strength endurance, are inadequate to the task of developing speed strength.

We cannot explosively extend the hip and leg unless the torso is upright. With the kettlebell exercises the torso is upright only after the hips and legs are fully extended. This line of action precludes the explosiveness of the second pull.

The kettlebell movements are really first pulls to full extension – no scoop, no second pull, and limited power.

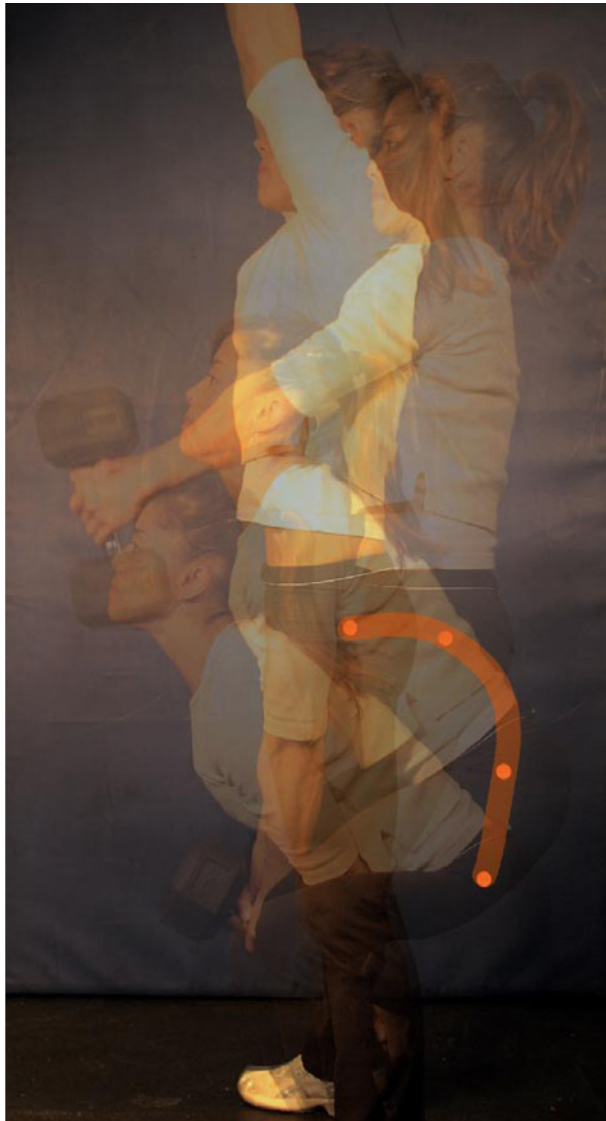
We must lift heavy (dead, squat, bench) to optimally develop limit strength, and we can use kettlebell training (snatch, swing, clean) to develop aerobic and anaerobic strength endurance, but we must train and practice the Olympic lifts if we want to develop explosiveness.



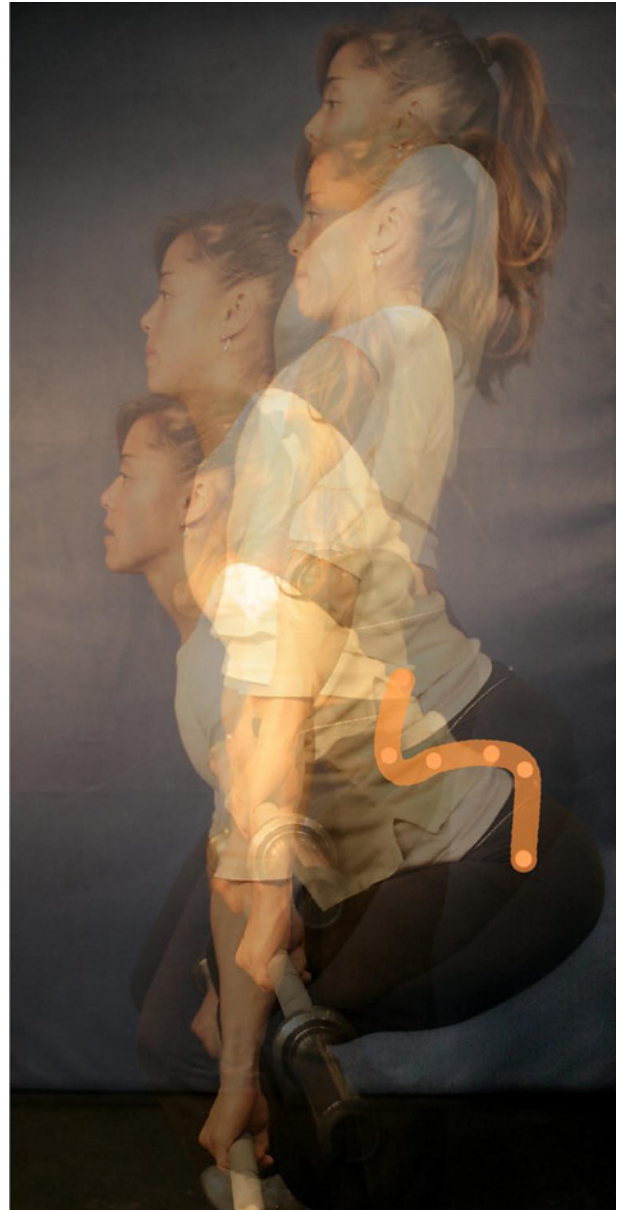
Scoop and second pull

- Annie rises with a fixed angle of inclination and as she passes the knees...
- her torso rotates to perpendicular after which she...
- can violently extend her hips and legs...
- to triple extension.

The Scoop and Second Pull (continued...)



The trace follows Annie's hip through a dumbbell swing. Never is the hip's trajectory directly upward and so the hip-leg extension will be, relative to the second pull, low-powered, no matter how hard the hip is thrust.



The trace follows Annie's hip from the end of the first pull, to the scoop, and through the second pull. The horizontal sweep of the trace is the scoop, whereas the vertical components are the 1st and 2nd pull. You can see where the term "scoop" comes from.

Greg Glassman is the Founder of CrossFit, Inc. and Crossfit Santa Cruz and is the publisher of the CrossFit Journal. He is a former competitive gymnast and has been a fitness trainer and conditioning coach since the early 1980s.