



WHAT IS THE CATCH? CLARIFYING WEIGHTLIFTING EXERCISES AND TERMINOLOGY

JEREMY GOUGH, MS, CSCS, RSCC, TIM DOMBROWSKI, MS, CSCS, USAW-ASPC, AND SAMUEL GARDNER, MS, CSCS, RSCC, USAW, USATF

Weightlifting (often referred to as Olympic weightlifting or Olympic-style weightlifting) is a highly used form of training by sport performance professionals. The benefits of weightlifting movements include increased balance, coordination, strength, speed, and rate of force production (2). Two of the most desired physical qualities in athletes are speed and strength, because most sports require quick and explosive movements. The amount of force an athlete can apply to the ground, and how fast they can apply that force, will help determine how fast they can run, how high they can jump, or how quickly they can change direction, all of which are required in most sports. Powerlifting incorporates lifts that require heavy loads, but lower velocity of movements; whereas weightlifting uses loads performed at a much higher velocity. As a result, weightlifting and weightlifting variations in conjunction with powerlifting movements may be better suited for developing strength, power, and speed due to the utilization of a greater rate of force production (1,4,5,6). Although weightlifting movements are commonly utilized in the field of sport performance for the development of enhanced physical qualities, the terminology frequently varies between coaches. A consistent use of vocabulary is needed for greater application and understanding between coaches and programs (7). The purpose of this article is to present commonly used terminology from USA Weightlifting and common verbiage from sport performance coaches in numerous athletic settings, as well as describe the basic positions and terminology for the weightlifting exercises (9,10,11,12).

WEIGHTLIFTING

The competitive movements of weightlifting are the snatch and the clean and jerk. The snatch is a movement where the bar starts on the floor and, through proper technique, finishes with the bar over the lifter's head in either the power position (hips and knees unlocked and slightly flexed with a ridged back) or a squat position (full movement). The power position catch is commonly referred to as a "power snatch." The clean and jerk is two separate movements in one attempt. The clean portion of the lift starts with the bar on the floor and, through proper technique, finishes (first movement) with the bar in the rack position in either the power position or at the bottom of a front squat. Upon standing up with the bar still in the rack position, the lifter will then jerk (second movement) the bar overhead. These two movements are very technical and therefore may require extended time to learn. A detailed review of the desired technique for the competitive weightlifting movements and their derivatives is outside the scope of this article.

The use of the weightlifting movements and their variations are popular within the world of sport performance professionals at all levels of training. The purpose behind the use of weightlifting movements for developing athletic performance is based on the production of force and power while performing the lifts, and how that will transfer to the force and power that is used on the playing field. The use of weightlifting and their variations can be used to help improve strength for those movements, as well as transferring power from a static or supported position to maximum power

production to complete the movement. The use of triple extension (ankles, knees, and hips) has been shown to help create maximum rate of force production (8).

STARTING POSITIONS

Commonly used starting positions for both the snatch and clean movements are performed from either a hang position (power position, mid-thigh, above knee), from blocks (mid-thigh, above knee, below knee), or from the floor. The use of blocks is used in order to reinforce technique and proper starting positions. Additionally, research has shown that the partial weightlifting movements and movements from blocks can help to facilitate a transition to full weightlifting movements (3). Figures 1 – 18 provide illustrations and descriptions of the starting positions for the snatch and clean movements.

FIGURE 1. POWER POSITION FOR SNATCH MOVEMENTS



FIGURE 2. POWER POSITION FOR CLEAN MOVEMENTS



FIGURE 3. MID-THIGH POSITION FOR SNATCH MOVEMENTS (BLOCKS)



FIGURE 4. MID-THIGH POSITION FOR SNATCH MOVEMENTS (HANG)



FIGURE 5. MID-THIGH POSITION FOR CLEAN MOVEMENTS (BLOCKS)



WHAT IS THE CATCH? CLARIFYING WEIGHTLIFTING EXERCISES AND TERMINOLOGY

FIGURE 6. MID-THIGH POSITION FOR CLEAN MOVEMENTS (HANG)



FIGURE 9. ABOVE KNEE POSITION FOR CLEAN MOVEMENTS (BLOCKS)



FIGURE 7. ABOVE KNEE POSITION FOR SNATCH MOVEMENTS (BLOCKS)



FIGURE 10. ABOVE KNEE POSITION FOR CLEAN MOVEMENTS (HANG)



FIGURE 8. ABOVE KNEE POSITION FOR SNATCH MOVEMENTS (HANG)



FIGURE 11. BELOW KNEE POSITION FOR SNATCH MOVEMENTS (BLOCKS)



FIGURE 12. BELOW KNEE POSITION FOR CLEAN MOVEMENTS (BLOCKS)



NOTE: The authors believe in teaching a below knee position from the blocks only for athletes that have not developed the trunk stability to maintain and hold proper form to perform the below knee starting position from hang. It is believed the risk of injury is minimized by using and teaching the below knee position from blocks only.

FIGURE 13. SNATCH MOVEMENTS FROM THE FLOOR



FIGURE 14. CLEAN MOVEMENTS FROM THE FLOOR



FINISHING POSITIONS

The finishing positions for the snatch and the clean are going to vary on how it is described in the training plan. The term power refers to a position with the feet flat on the ground, knees bent, trunk erect, and weight evenly distributed on the feet. If the movement is described as simply a snatch or a clean, it refers to catching the bar in the bottom position of the overhead squat or front squat.

FIGURE 15. POWER SNATCH RECEIVING POSITION



FIGURE 16. SNATCH RECEIVING POSITION



FIGURE 17. POWER CLEAN RECEIVING POSITION



FIGURE 18. CLEAN RECEIVING POSITION



CONCLUSION

Weightlifting is a valuable form of training for sport performance professionals to help develop rate of force production in athletes. The proper use of terminology should be included in the name of the movement. For example, power position power clean indicates starting in the power position and catching in the power position. Another common example of proper terminology use is the power clean or power snatch, which would indicate the movement starting from the floor and being caught in the power position. Table 1 offers several examples that could help a coach or athletic performance staff use proper terminology.

A consistent use of terms is vital to understand training programs and exercises between coaches and programs. This understanding and consistency in terminology will help alleviate confusion with both athletes and coaches alike.

REFERENCES

1. Carlock, JM, Smith, SL, Hartman, MJ, Morris, RT, Ciroslan, DA, Pierce, KC, and Newton, RU. The relationship between vertical jump power estimates and weightlifting ability: A field test approach. *The Journal of Strength and Conditioning Research* 18(3): 534-539, 2004.
2. Cissik, JM. Teaching the Olympic-style lifts to college students. *Strength and Conditioning Journal* 21(3): 9-14, 1999.
3. DeWeese, B, Serrano, A, Scruggs, S, and Burton, J. The mid-thigh pull: Proper application and progressions of a weightlifting movement derivative. *Strength and Conditioning Journal* 35(6): 54-58, 2013.
4. Haff, GG. Current research: Training for strength, power, and speed. *Strength and Conditioning Journal* 34(2): 76-78, 2012.
5. Hoffman, JR, Cooper, J, Wendell, M, and Kang, J. Comparison of Olympic vs. traditional power lifting training programs in football players. *The Journal of Strength and Conditioning Research* 18(1): 129-135, 2004.
6. Hori, N, and Stone, MH. Weightlifting exercises enhance athletic performance that requires high-load speed strength. *Strength and Conditioning Journal* 27(4): 50-55, 2005.
7. Newton, H. Weightlifting? Weight Lifting? Olympic Lifting? Olympic Weightlifting? *Strength and Conditioning Journal* 21(3): 15-16, 1999.
8. Tricoli, V, Lamas, L, Carnevale, R, and Ugrinowitsch, C. Short-term effects on lower-body functional power development: Weightlifting vs. vertical jump training programs. *The Journal of Strength and Conditioning Research* 19(2): 433-437, 2005.
9. *USA Weightlifting and Sports Performance Coaching Course Manual*. N.p.: USA Weightlifting; 2013.
10. *USA Weightlifting Coaching Accreditation Course Club Coach Manual*. N.p.: USA Weightlifting; 1991.
11. *USA Weightlifting Level 1 Sports Performance Coaching Course Manual* (Revised ed.). N.p.: USA Weightlifting; 2010.
12. *USA Weightlifting Coaching Accreditation Course Sports Performance Coach Manual*. N.p.: USA Weightlifting; 2001.

ABOUT THE AUTHOR

Jeremy Gough is the current Director of Sport Performance at Kennesaw State University for Olympic Sports, where he oversees all aspects of training for 15 teams competing at the National Collegiate Athletic Association (NCAA) Division I level in the Atlantic Sun Conference. Previously, Gough has worked in the field of sport performance with the United States Olympic Committee (USOC) and Valdosta State University. He is an active Member of the National Strength and Conditioning Association (NSCA), is certified as a Certified Strength and Conditioning Specialist® (CSCS®) and is a Registered Strength and Conditioning Coach (RSCC).

Tim Dombrowski is currently the Assistant Sport Performance Coach at Kennesaw State University for Olympic Sports. His primary responsibilities include creating and implementing programs for the women's basketball, women's lacrosse, men's tennis, and women's golf teams, as well as being the internship coordinator for the Kennesaw State University Olympic Sport Performance Internship Program. Dombrowski also has experience working at Ann Arbor Huron High School, the University of Michigan, and Bethany College. Dombrowski is certified through the National Strength and Conditioning Association (NSCA) as a Certified Strength and Conditioning Specialist® (CSCS®) and United States of America Weightlifting (USA) as an Advanced Certified Sports Performance Coach.

Samuel Gardner has been a strength and conditioning coach with the United States Olympic Committee (USOC), the Golden State Warriors National Basketball Association (NBA) organization, and most recently with United States Special Forces working with the 1st Marine Special Operations Battalion. He is an active member of the National Strength and Conditioning Association (NSCA) and serves on the Editorial Review Panel for NSCA Coach, is a Board Member of the NSCA Special Interest Group (SIG) for Weightlifting, is a Registered Strength and Conditioning Coach (RSCC), and Certified Strength and Conditioning Specialist® (CSCS®).

WHAT IS THE CATCH? CLARIFYING WEIGHTLIFTING EXERCISES AND TERMINOLOGY

TABLE 1. TERMINOLOGY FOR STARTING AND FINISHING POSITIONS

EXERCISE NAME	STARTING POSITIONS	FINISHING POSITIONS
POWER POSITION POWER SNATCH	Power Position	Power Position
POWER POSITION SNATCH	Power Position	Bottom of Overhead Squat
POWER POSITION POWER CLEAN	Power Position	Power Position
POWER POSITION CLEAN	Power Position	Bottom of Front Squat
MID-THIGH POWER SNATCH (BLOCKS)	Bar at mid-point of thigh from blocks	Power Position
MID-THIGH POWER SNATCH (HANG)	RDL bar to mid-point of thigh	Power Position
MID-THIGH POWER CLEAN (BLOCKS)	Bar at mid-point of thigh from blocks	Power Position
MID-THIGH POWER CLEAN (HANG)	RDL bar to mid-point of thigh	Power Position
MID-THIGH SNATCH (BLOCKS)	Bar at mid-point of thigh from blocks	Bottom of Overhead Squat
MID-THIGH SNATCH (HANG)	RDL bar to mid-point of thigh	Bottom of Overhead Squat
MID-THIGH CLEAN (BLOCKS)	Bar at mid-point of thigh from blocks	Bottom of Front Squat
MID-THIGH CLEAN (HANG)	RDL bar to mid-point of thigh	Bottom of Front Squat
ABOVE KNEE POWER SNATCH (BLOCKS)	Bar just above knee from blocks	Power Position
ABOVE KNEE POWER SNATCH (HANG)	RDL bar to just above knee	Power Position
ABOVE KNEE POWER CLEAN (BLOCKS)	Bar just above knee from blocks	Power Position
ABOVE KNEE POWER CLEAN (HANG)	RDL bar to just above knee	Power Position
ABOVE KNEE SNATCH (BLOCKS)	Bar just above knee from blocks	Bottom of Overhead Squat
ABOVE KNEE SNATCH (HANG)	RDL bar to just above knee	Bottom of Overhead Squat
ABOVE KNEE CLEAN (BLOCKS)	Bar just above knee from blocks	Bottom of Front Squat
ABOVE KNEE CLEAN (HANG)	RDL bar to just above knee	Bottom of Front Squat
BELOW KNEE POWER SNATCH (BLOCKS)	Bar just below knee from blocks	Power Position
BELOW KNEE POWER CLEAN (BLOCKS)	Bar just below knee from blocks	Power Position
BELOW KNEE SNATCH (BLOCKS)	Bar just below knee from blocks	Bottom of Overhead Squat
BELOW KNEE CLEAN (BLOCKS)	Bar just below knee from blocks	Bottom of Front Squat
POWER SNATCH	From floor	Power Position
POWER CLEAN	From floor	Power Position
SNATCH	From floor	Bottom of Overhead Squat
CLEAN	From floor	Bottom of Front Squat