The scoop in olympic style pulling movements—
Is it a teachable commodity?

Bruce Walsh, C.S.C.S.
Executive Director
Australian Weightlifting Federation
Concord, New South Wales

The virtues of the power clean as an explosive total body exercise have been extolled by a variety of authors in the NSCA Journal over the past decade. To briefly reiterate, it is a “power producing” movement which involves all the major muscle groups of the body. Moreover, when performed correctly, it requires the athlete to exert large multiple muscle group forces while in a standing position, and, together with the speed of movement involved, develops balance and muscle coordination (a part of neural efficiency) in addition to power. In terms of specificity, it is ultra specific to some power sports and specific in a general sense to most sporting movements with total body involvement.

Unlike core movements such as the squat which, depending on repetitions, speed of execution and resistance intensity, can be used either as a strength, power and/or muscle builder, the power clean has little effect on muscle hypertrophy and is very much a neural system exercise (muscle fiber recruitment enhancement). Also, because of the multiple major muscle group involvement, it is an excellent station for general circuit training when higher repetitions are utilized, inducing considerable stress to the cardiopulmonary system. As the power snatch is a biomechanically similar movement, it also has the same virtues as the power clean and, to a lesser extent, the same can be said of the corresponding pulling movements.

In the kinesiological evaluation of these movements, much has been made of the mechanical action in the second part of the pull, known as the scoop in the USA, and otherwise termed the double knee bend to the rest of the world. This action is most apparent in cinematographic analysis of elite level olympic weightlifters, and involves a slight but discernible rebending of the knees as the bar passes the knees to begin what is commonly referred to as the second pull. This rebounding of the knees places the quadriceps in a more ad-
vantageous position to exert maximum power on the bar. Also, because of the rapid eccentric contraction involved, there is a utilization of stored elastic energy as well as invoking a stretch reflex facilitation around the knee joint—in a simpler sense, a plyometric action. Consequently, the summation of the effects of the scoop/double knee bend is the placing of the quadriceps in a more favorable position to exert force and the involvement of a plyometric action at a crucial part of the pull, two factors which have a most positive effect on the power output in snatchng, cleaning, power clean, power snatch, etc.

This brings the author to the crux of this article. Is the scoop/double knee bend a teachable commodity? A number of articles that have appeared in the NSCA Journal regarding the practical performance of olympic style pulling movements would imply that this is so. The author emphatically disagrees with this point of view and elucidates as follows:

1. The performance of the scoop/double knee bend is a result of a good overall technique and is not a direct conscious act in itself. A brief definition of good technique is correct position at the following key points: start, knee height, full extension and receiving position; “long straight arms” throughout the pull with bar close to thighs (to the point of brushing) and chest in its ascent, together with correct sequential weight transformation. The beginner has enough problems mastering the above without further confusing him with the intricate, highly skilled maneuver of the scoop/double knee bend. To consciously endeavor to perform this action will result in premature weight transference to the balls of the feet and unacceptable loss of upward momentum in the transition phase between the first and second pull.

2. Personal empirical experience would support the above. Having coached olympic weightlifters for 15 years at all levels, ranging from novice to national champions and Olympic representatives, the author can personally vouch for the fact that endeavors to teach the scoop as a conscious act are fraught with peril. This is not to say that the athlete should not be acquainted with this particular phenomena on the basis that if he performs other aspects of the movement correctly, then, in the process of time (i.e., sufficient practice and skill ability), the scoop will occur. The author has witnessed olympic lifters who have been coached by persons with no conception of the rebending of the knees, yet a percentage of these athletes performed the scoop/double knee bend in a commendable manner. One could reasonably extrapolate from this that the action under discussion is very much a sequential by-product of other actions.

3. In the course of attending several Olympic Games and a substantial number of Commonwealth Games in a coaching capacity, the author has
witnessed many elite level athletes from a number of disciplines perform movements such as power cleans, power snatches and the like during training. Very few have utilized the scoop in their technique. As recently as the last Olympics in Seoul, one could observe many athletes from track and field training on the power clean/snatch in the athletics gymnasium. While the majority were powerful (relative to their event), very few employed the double knee bend. This included the Soviet Bloc competitors. Indeed, on one particular day, the author witnessed six throwers (male and female) from East Germany and Hungary training on cleaning/snatching movements, and only one utilized the scoop/double knee bend. Interestingly enough, it was quite obvious from other actions that this person had considerable Olympic weightlifting experience. Observations of elite level athletes in Australia, in most instances, would indicate the same situation. In general, the performance of the scoop/double knee bend is largely confined to Olympic weightlifters of a reasonable standard. There are considerable numbers of lesser level lifters who experience great difficulty in the proper execution of the scoop (this action should not be confused with a rather excessive contact of the bar with the thighs and a resultant “swinging of the bar” in an exaggerated arc to the receiving position).

This preponderance of the utilization of the scoop/double knee bend by Olympic weightlifters as opposed to athletes in general is easily rationalized. While coaching ability plays a part, the major factor is that Olympic weightlifters practice this skill many times more often than do athletes of other disciplines. Athletes in general utilize a power pulling movement (usually power clean or power snatch) three times a week in a strength-orientated phase for a limited amount of time, depending on the overall periodization of the particular sport. In other phases these movements are generally utilized in some form of power maintenance, whereby they are only performed once or twice per week. Weightlifters (particularly at elite levels) perform pulling movements in every training session—most levels five times a week or more if the lifter has aspirations to international success. Indeed, on some training days two pulling movements may be performed, i.e. snatch followed by snatch pulls, clean and jerk followed by clean pulls, or power snatches followed by power cleans. This format of program construction, while varying in volume, intensity and arrangement of exercises, could continue for the major part of the year. Consequently, it only stands to reason that Olympic weightlifters could be expected to have considerably greater skill ability in the performance of the scoop than athletes in general.

4. On a number of occasions the author has discussed the subject matter with elite level coaches from various parts of the world, and the major consensus is that the scoop is a phenomenon brought about by biomechanically correct lifting technique and the action of the hamstring muscle group and its involvement with both hip extension and knee flexion together with the gastrocnemius, which also flexes the knee and helps the athlete extend up onto his toes. This strong action at the hip and ankle joint causes knee bending. In essence, the scoop/double knee bend is an anatomical accident and not a coachable technique.

To conclude, while it is definitely advantageous in terms of power output and specificity for some sports for the athlete to be able to perform the scoop/double knee bend, those that lack this ability should not feel dismayed. Providing the movement is performed in an explosive manner with what is considered good basic technique, the major benefits of this exercise will still be derived, and, as such, is preferable to a poorly executed attempt at incorporating the scoop.

Should the athlete seek to involve some plyometric action in a total body movement without utilizing the scoop, then the author suggests the power clean with either the power or split jerk as a combined movement. The mechanics of jerking the bar overhead is very much about invoking the stretch reflex facilitation and the utilization of stored elastic energy in the knee joint, with the added benefit of considerable arm and shoulder involvement.

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