Another Perspective on Teaching the Pulling Movements

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A GREAT DEAL HAS BEEN written recently about optimal techniques for the pulling exercises (snatch, clean) and how to teach them effectively to athletes. This article offers another perspective on pulling technique and a simpler way to introduce it to large groups of athletes.

■ Double-Knee Bend?

Much of the recent literature describing pulling technique has focused on the double-knee bend (DKB) method (1, 7, 11, 15, 18). The DKB concept was popularized in the U.S. by Carl Miller, former national coaching director, who wrote several articles about it in Strength and Health in the early 1970s (16, 17). Prior to that, articles in popular weightlifting periodicals emphasized speed of movement and keeping the bar close to the body throughout the pull, with no mention of the knees re-bending (13, 14).

The rationale for the DKB is that it provides the best leverage for accelerating the bar above the knees and finishing the pull explosively (1, 4, 19). It takes advantage of the anatomical “accident” wherein the knee flexors cross two joints (hip and knee) which allows them to function as hip extensors as well as knee flexors (5, 10, 11).

As the bar passes the knees, the knees and ankles drive under and slightly in front of the bar. This is generally termed the transition or scoop phase of the pull. This phase elicits a myotatic stretch reflex in the quadriceps group while allowing it to be involved in the explosive second phase or top pull (21).

Although this movement slows the acceleration of the bar during the transition phase, it is thought to compensate for this loss of momentum by placing the body levers in a more favorable position to exert force to the bar with less lumbar stress (6). Some feel that the DKB is difficult to teach. Others claim it cannot be taught but seems to occur naturally with many repetitions (10, 20).

■ Pulling Progression

Both the NSCA and USA Weightlifting have published material explaining a multistep method of teaching the pulling lifts (2, 3, 7, 18, 19). This is a top-down approach wherein the learners proceed as follows:

1. Shrugging the bar, then progressing through;
2. Shrugging with a jump extension;
3. Doing the upright row;
4. Rotating elbows under the bar for the catch;
5. Doing the hang clean from above the knees;
6. Doing the hang clean from below the knees;
7. Doing the clean from the floor.

While such a progression has proven to be an effective teaching tool, it can be time consuming and tedious, especially when teaching large groups. It is doubtful whether such a progression is actually followed consistently by coaches who are training athletes for sports other than competitive weightlifting.

■ A Simplified Approach: Three Exercises

Romanian Deadlift

In 1989, Nicu Vlad, a world champion weightlifter from Romania, and his coach, Dragomir Cioroslan, visited the U.S. and trained...
with our athletes at the U.S. Olympic Training Center in Colorado Springs. Vlad was observed doing a movement that was unfamiliar to the American lifters at that time. Similar to a straight-leg deadlift, the exercise was called a Romanian deadlift, or RDL, by our lifters (12).

The RDL has since become an integral aspect of training for the U.S. lifters (12). It is performed with the lifter standing erect, then setting the lower back by simultaneously contracting both the lumbar extensors and the abdominal muscles. The legs are kept nearly straight but with knees slightly flexed.

The lifter then bends over from the hips, maintaining a tight torso and lowering the bar to below the knees. The bar is kept close to the thighs, and the hips are allowed to drift back as the shoulders stay over the bar. The body weight moves toward the heels as the hips move back. Constant tension is maintained above the torso.

This movement will directly strengthen the gluteal and hamstring muscle groups as well as the spinal erectors. It can also be performed with a snatch grip.

The next two lifts are depicted in Photos 1 through 9.

**Clean Grip Deadlift**
The clean grip deadlift (CGDL) has long been used by weightlifters (14). In this lift the athlete sets up over the bar in proper starting position for doing a clean. Feet are set at the width the lifter would assume for a maximum vertical jump, back locked into a slightly lordotic curve with a strong co-contraction of the abdominal muscles. The head is in a neutral position with the shoulders over the bar (Photo 1, snatch grip).

The bar is lifted from the floor by leg extension while the back angle remains constant. For our pur-

poses it is only necessary to lift the bar to knee level. The back, arms, and thighs form a "power triangle" when the lifter is in proper position (Photos 2 and 3).

The exercise teaches the athlete to pull properly from the floor while developing the essential strength and flexibility in the ankles, knees, and lower back. It can also be done with a snatch grip, which requires a lower hip starting position.

**Front Squat**
The front squat is performed with a pronated grip, elbows high and in front of the bar, chest up, eyes level, and torso tight. The lifter attempts to sit straight down, placing the hips between the heels (Photos 6 and 7). Some may not be able to attain this position at first. If not, they need more flexibility in the ankles, hips, and shoulders.

The knees will be fully flexed in the bottom position and slightly in front of the toes. As the lifter begins to rise, the knees are driven back and the knee joint opens to approximately 90° while the hips drive forward. This makes the exercise less stressful to the patellar tendons.

The overhead squat is taught in similar fashion except that the bar is locked out overhead with a snatch grip. It is important to emphasize that the elbows are locked, rotated forward, and that the arms should push up on the bar (Photos 8 and 9). Many ath-
letes can improve their shoulder flexibility with this exercise.

All three exercises can be done with either a clean or snatch grip and can be taught to large groups of athletes. Because the exercises are relatively simple, athletes can begin to progress immediately while developing the strength, flexibility, and motor patterns needed to perform the full movements.

■ Putting It All Together

After the athletes have developed a workable technique and begun to develop basic strength in the three movements, they can start linking them together to perform a full clean or snatch. Lifters assume the starting position described above. As the bar rises due to leg extension, the lifter naturally assumes the RDL position (Photo 3). From here the bar is accelerated through full extension (Photo 5). The lifter then rapidly pulls under the bar to a front squat position (Photo 7).

No attempt is made to emphasize the DKB. The emphasis is on speed and full extension (8, 9). When the prerequisite strength and flexibility have been developed from RDLs and front squats, it is our experience that athletes can readily snap under the bar in a good receiving position. The snatch sequence is shown in Photos 1, 2, 4, and 9.

■ Advantages

This simple progression has proven very effective for teaching the pulling movements to large groups of athletes. These basic movements can be introduced and used immediately with all levels of athletes. The exercises can be periodized and integrated according to the needs of any program.

While it is beyond the scope of this article to recommend specific
loads or volumes, an experienced coach can design an appropriate program. The exercises can and should be used as strengthening movements even after the full movements are integrated.

We have used this approach successfully in large group settings and find that its simple sequence allows athletes to develop the necessary strength, mobility, and motor patterns required to progress smoothly to full cleans and snatches. At the same time, it gives them a chance to experience the success of steadily increasing the resistance in the training exercises.

Of course no approach eliminates the need for individual coaching and refinement, but this one is very workable in getting large groups to master the gross movement patterns while making meaningful progress in their strength and mobility.

References

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