

# Build Better Athletes

## Implementation Strategy

### Module 6 – Strength Training

When implementing a strength training plan with athletes for the first time it is easy to get overwhelmed. With all of these different lifts and exercises, which should you prioritize?

The good thing with strength training is that the vast majority of sports and athletes all benefit from the same small pool of lifts. In fact, a coach that became proficient at teaching just two lifts, the dead lift and the power clean, would be doing his or her athletes justice.

Some sports require some specified, targeted, strength training. Wrestlers for example are involved in the sport that requires a lot of pulling. Though power cleans and deadlifts are still the **most important** lifts for them to be engaged in regularly, the pulling nature of that sport would require them to do a lot of exercises targeting the biceps and latissimus dorsi (Lats/back).

Whereas in football, there is a lot more pushing going on as defensive players try to shed blocks and offensive linemen try to extend their arms against pass rushers. The speed, power and collisions of football require a lot of strength not just to be successful but to also come away unscathed. Unlike wrestlers, football players would need to target the pushing muscles of the upper body, the pectorals and the triceps.

However, both wrestlers and football players would see legitimate benefit from just dead lifting and executing power cleans with great technique in a well-designed plan.

Both of those lifts are floor-based, Multi-joint movements. The benefits of those type of lifts is something called neuromuscular recruitment. Essentially that means that movements, with the added difficulty of the external load (the weights they are moving) forces all of the muscle groups in the body to get involved in the lift.

Let me explain.

A bodybuilder can sit at a bicep curl machine, working out a single muscle group in isolation, for an extended time only exercising the biceps muscle which, compared to the other muscle groups in the body, is relatively small, even on a person with bulging biceps.

Bodybuilding does not require complicated movements. The goal of a bodybuilder is completely different from that of an athlete. Bodybuilders are striving for hypertrophy which is the adding of massive amounts of muscle in the hopes of attaining a physique that makes most superheroes a bit sheepish. That muscle mass serves bodybuilders well but is not helpful in performing complex, coordinated movements.

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Athletes, on the other hand, require strength that allows the athlete to be more explosive, coordinated, faster and more athletic in general.

Because most sports require quick reflexes, change of direction skills, speed and many other things, those athletes must have all of their muscle groups firing in sync. Nothing that happens on the soccer or football field involves JUST a single muscle group being contracted like in a bicep curl.

When athletes execute a dead lift, which is usually done at a far heavier weight, or power cleans which are done much more explosively, they're calling up on their entire body to get involved in the process. We don't think of these weightlifting exercises as being part of coordination training but they are, particularly power cleans.

Here's why.

When an athlete performs power cleans correctly, they are literally moving the barbell off of the floor and creating upward momentum for the bar entirely with their legs. Yes, they are holding onto the barbell with their hands but there should be no bending of the elbows and pulling with the arms until the legs have triple extension.

Triple extension means that the ankles, knees and hips are completely extended, or said another way, have no bend left in them. A microsecond before the legs get fully extended, the arms begin their pulling action taking the barbell higher than the legs alone could take it.

The goal of power cleans is to have a challenging enough weight where the athlete can't get the bar up to the collar bone level with bad technique. You will find out that with too little weight on the bar it is actually more difficult to do the techniques correctly.

With the optimal amount of weight on the barbell, the legs have generated momentum upward for the barbell and as the lower body reaches full extension, the arms begin their pulling action with the barbell skimming up alongside the front of the body just a few inches from legs and stomach on the way up.

Clearly, the lower body is much stronger than any person's arms so the legs will be able to get the bar moving faster than the arms can. To help compensate for the (weaker) arms trying to continue the work of the (stronger) legs, executing a power clean requires a third step.

As the bar reaches the lower rib cage up to near the xiphoid process (the bottom of the sternum) the athlete must now bend all three joints in legs: the knees, ankles and hips which will in turn lower the athlete's body as the bar is still moving upward.

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For the tiniest fraction of a second, the bar is moving upward and the athlete is moving down. Why? So we can use the legs again. Once they were fully extended in the initial movement they are no longer involved in lifting. The arms took over for a brief time, only long enough for the body to reposition itself by bending the legs, lowering the athletes center of mass (the hips) and rolling their wrists so that their elbows are now below the barbell.

Yes, we can now stand up once again extending the three joints of the lower body while holding the barbell across the collarbone area.

That one lift requires a lot, a whole lot, of neuromuscular recruitment. Done correctly, the timing is impeccable as the body shifts from the initial extension of the legs into the phase where the arms pull the barbell upward and finally to the third phase where the body drops under the bar, and re-engages the legs, allowing the athlete to stand up with the barbell in the finished position.

All of that timing is done with a heavy weight, though you obviously need to use appropriate weight for kids learning the exercise, and split-second timing. Power cleans are therefore what is called a dense exercise which are defined as those that offer multiple training effects. Power cleans done correctly will make athletes stronger, more coordinated and more explosive.

Deadlifts on the other hand, use similar technique but with heavier weights and the barbell is moved much more slowly. The same neuromuscular recruitment takes place due to the load (the weight) requiring all of the muscle groups to be involved.

The two exercises, though similar, are different. Because of the heavier weights, deadlifts build what is called absolute strength. They are the single best lift at making a human body bigger and stronger. Power cleans make that same athlete more coordinated and more explosive.

When combined, these two lifts can transform every athlete into a better version of themselves. Many coaches miss out on those improvements because of time constraints, or a lack of equipment. Some coaches just think the athletes in their sport don't require weightlifting.

Certainly, some sports are traditionally more involved in the weight room than others. But I assure you that any athlete will be better off for learning and mastering these two lifts in a year-round training plan.

If you are implementing a strength training program for the first time, focus your efforts on those two weight room exercises and both your athletes and team will be better off for it.