

12 Common Mistakes of High School Strength and Conditioning Programs

By

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As a strength coach whom has had the opportunity to work with a few thousand athletes over the years, I have had the privilege to work with high school super bowl championship teams, state title teams in multiple sports, league champion teams in each of the major teams sports, as well as successful individuals on both the national and international levels. These experiences coupled with the guidance and mentorship from some of the best strength experts in the world including Charles Poliquin and Dr. Matt Rhea, it has become obvious that proper strength and conditioning plays an intricate role in on-field success. Especially when combined with an iron-willed work ethic.

The key to the implementation of proper strength and conditioning programming is an open-minded coaching staff with goals and aspirations for greater success. This has been the case with all the aforementioned teams. If the athletes are excited about the program and are seeing great success, they will work harder, thus creating greater adherence and attendance to the program. This becomes contagious, and the “legacy” of a team is built. Yes, as the old adage says, “the best teams work the hardest” seems to hold true. Below are 12 of the common mistakes I have observed in high school (and even some college) strength and conditioning programs.

- 1. Following the same program year round:** BOOOORRRRIIIINNGG! Plateaus, stagnation, joint pains, etc... How many times can an athlete perform 5 sets of 5 in the bench press, squat, and clean, and realistically achieve any results without burning out. Or the typical 12-10-8-6-8-10-12 pyramid with the bench press, lat pulldowns, and squat. This method can be seen at many health clubs across the country on a daily basis, with no variation in training or resistance, as well as minimal gains in muscular development of the performer.

2. **No In-Season Strength Program:** See Articles “In Season Training Parts I and II” on www.apec-s.com. What good is it to be your strongest and most powerful during pre-season, while you are at your weakest and slowest during the competitive season when the games actually count.
3. **Lack of Antagonistic Muscle Group Training:** World renowned strength coach Charles Poliquin utilizes something he refers to as “Structural Balance”. He has written many articles and sells a Audio CD on this subject (highly recommended). Basically, if you train an agonist muscle, you must also train the antagonistic muscle, or muscular imbalances will occur. These imbalances can lead to weakness, disruption of joint integrity, increased risk of injury, decreased muscular activation, decreased motor unit activation, and decreases in movement efficiency. Antagonistic muscle group training is also an efficient method of training in which more volume of work can be done in a single workout, combined with increased neural activation due to the potentiation effects of the antagonistic stimulus.
4. **Following the latest Muscle Magazine Bodybuilding Program:** The reason the magazine has male or female bodybuilders on the cover is because it is made for bodybuilders. Unless it is early in the off-season and hypertrophic (structural) adaptations and tendonous/ligamentous strength are the focus, this may not be the ideal training program for an athlete. I am sure these programs can work for certain athlete’s but are they applicable to athletic and power development. Do they abide by the rules of structural balance or will the athlete develop a bad case of upper cross syndrome (gorilla shoulders) due to the excessive amount of chest training and lack of shoulder retractor training.
5. **Improper Technique:**

Below are a couple of the exercises and technical flaws

 - a. **Power Cleans (from the floor or hang):** Many times a strength coach will actually see an exercise which resembles a glorified reverse curl using primarily the lower back extensors.
 - b. **Squats:** See article “The Knees: Keeping them Strong and Stable” on www.apec-s.com , but the short version is that half or quarter squats may be damaging to the knees and show decreased activation of the major hip extensors including the glutes, hamstrings, and adductors.
 - c. **Deadlifts:** OUCH! Just looking at the technique of this and the previous two exercises, and combine this with tight hip flexors, and no wonder so many young athletes are going to the orthopaedic doctors for low back problems.

- d. **Bench Press:** With internal rotation of the femurs due to tight pectorals/lats and weak rhomboids/mid trapezius the athlete already begins with incorrect technique. From keeping the elbows too high (toward the head), or imbalanced concentric action, to excessive back arching which resembles more of a wrestling bridge than a bench press, this exercise can be the culprit of many an injury when performed improperly.
- e. **Chin-up:** Half chin-ups for half the results, while full chin-ups for full results.
- f. **Bent Over Barbell Rows:** Rounded back + straight legs + bar to the chest + excessive neck flexion or extension = increased risk of injury.

The list can go on and on, but the picture should be clear.

- 6. **Use of Restricted Range of Motion Machines:** Years ago one of the top personal trainers/rehabilitation specialists in the world, Paul Chek, wrote an excellent article on this topic, called Pattern Overload (a quick google search of Paul Chek, Pattern Overload should find you the article). In his article he mentioned the repetitive trauma that comes with the use of Restricted Range of Motion Machines. With this restriction of range of motion, comes little usage of the stabilizer and supportive muscles due to the fact that there is only one path of motion in which the resistance can travel. This form of training is also on the opposite end of the spectrum from actual sports performance, as these machines tend to utilize a seated position, while most sporting events taking place in an environment in which athletes are standing.
- 7. **No Emphasis on Functional Strength Training:** Before we move on, let's make sure we understand what functional strength training is. Functional training is not standing on a Bosu Trainer with one leg, while curling a dumbbell in one hand, and catching a medicine ball in the other hand. All the while playing Wii Fit. As far as strength goes, this is probably decreasing an athlete's strength. Functional strength training for sport should be considered similar to strongman training. Building a strong back, legs, core, shoulders, and tendons by lifting, pushing, dragging, or pulling heavy objects for distances or time. This method is used by many of the top athletes in the world to transfer their results from the weight room to on field performance. In his PFCP certification Level 3 course, Coach Charles Poliquin goes into great detail on how to apply this to the training cycle for athletes (see www.charlespoliquin.com and click on the certification link). It appears to have worked for him as he has trained many of the best athletes and teams in the world, even being hired by countries to prepare their Olympic teams for international events.

- 8. Lack of Unilateral Training:** Without unilateral training, structural imbalances may never be corrected and in some cases made even worse. For example, if an athlete has a hip/weight shift toward the right side when squatting, mildly unloading one limb while rotating at the spine or pelvis, acute or chronic pain symptoms may become present during or after each session of squats. If the athlete chooses to continue squatting as well as adding more resistance, this imbalance may eventually cause an injury or lead to greater potential for injury. Without proper unilateral training such as split squat variations, step up variations, unilateral hamstring exercises, or lunge variations, the musculature necessary for performing squats correctly may never activate properly. Another example is the bench press. How many times do you walk into a gym and see a person barbell benching with one side of the bar 2-5 inches higher than the other. You may hear this person talking about how one arm has always “just been weaker than the other”. Well if this individual tried to correct this imbalance through some dumbbell pressing and antagonistic muscle training, they may decrease the risk of injury to the shoulder capsule. Through proper structural balance testing, as taught in Charles Polilquin’s PICP Level I and Level II Certifications, a strength coach can determine if and what unilateral deficits may exist, and the proper training to correct these imbalances before greater chronic or acute injuries may occur.
- 9. Forgetting to Train the Low Back:** It seems just as all the talk about training the core would slow down, it seems to have picked up even more momentum. The problem with the term “core” as mentioned in many magazines today is the fact that most of these articles only refer to the anterior portion of the core. The core as it was originally defined was the Pelvic-Lumbo-Hip complex (or area). Most programs that come across my desk involve quite a bit of abdominal/oblique/hip flexor training under the heading of “core”, leaving low back training to squats and warm ups. The problem with leaving low back training to squats is if you do not squat low enough, your low back is getting minimal work (see [Knees: Keeping them strong and stable on www.apecs.com](http://www.apecs.com)). Most athletes/coaches assume the primary stabilizers when being hit, bumped, tackled, or vice versa (hitting, bumping, or tackling) are the anterior muscles of the core. Try this test: Stand up and place your right hand on your stomach. Now have a partner push you lightly from the front. Did you feel your anterior core musculature contract dramatically? Next place your right hand on your low back and have your partner push you from the front. Big difference? Next put your hand on your stomach and push your partner with the opposite hand. Anything? OK, now hand on the low back and push your partner. You get the point. The strength of the low back is of utmost importance in most sporting events. It cannot be overlooked. At APECS we put tremendous emphasis on low back training due

to this fact. That is probably why so many of these athletes seem so much stronger on the field.

10. Lack of Proper Progression: In the immortal words of Hall of Fame Coach Pat Riley “If you are not getting better, you’re getting worse”. Without proper progression, you run the risk of getting worse as well as injured. Training needs to follow proper progressions in order for a foundation to be built upon which strength, speed and power can be built.

11. Strengthening the Weak Links: Athletes tend to focus on exercises in which they can see the muscle in the mirror. Chest, Biceps, Shoulders, Quads and Abs. The posterior chain is often overlooked or undertrained and performance suffers. If the scap retractors are weak, the shoulder girdle may not be stable. If your handgrip strength is weak, holding yourself for chin-ups or holding the barbell for deadlifts may limit the amount of resistance or repetitions performed. Many of the best strength coaches in the world prioritize weak link training to maximize athletic development and potential.

12. Lack of Proper Nutritional Guidance: You are what you eat. It is as simple as that. Three books which we always recommend to all our clients are:

1. In Defense of Food by Michael Pollan)
2. Good Calories, Bad Calories by Gary Taubes
3. Nutrition Made Simple by Robert Crayhon)

After reading these books, it will be easy to see how important proper nutrition really

is.