

Training Tips for the High School Football Player

By

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As the seasons begin to change and the dog days of summer slowly wind down, you can feel the excitement in the air, as thousands of high school football teams begin their quest to achieve the goals they set last winter. Whether it is a state title, league championship, or achieving national recognition, the goal is usually simple: WIN!

With this team goal in mind, athletes also need to take individual responsibility in doing their own parts, each being a cog in the wheel. As one local coach puts it, “it is not only about X’s and O’s, but about Jacks and Joes”. In other words, in order to be competitive, a team must have the proper ingredients such as contagious work ethic, unity, belief in the system, football sense, technical understanding, game IQ , and of course, athletes. Many of these traits are developed throughout the years with participation in youth football programs. One trait, though, can be developed during the off-season: athleticism.

In with the Old, Out with the New

Athleticism is a combination of strength, power, speed, balance, kinesthetic awareness, reaction, movement efficiency, and skill (among other characteristics). The problem with much of the modern day training methodologies, especially the training found at many of the heavily marketed SAQ (Speed, Agility, Quickness) group training facilities, is they seem to overlook one of the most important aspects of developing an athlete: Strength. Ask yourself this, if strength training wasn’t so important, then why does nearly every division I college program incorporate strength training programs the minute many athletes walk onto the campus (or even the summer before for freshmen)? Simple, to get them stronger? On that note, ask yourself another question. What is the quickest way to make a vehicle faster? Put in a bigger engine/add horsepower to the motor? That is similar the effects of strength training on speed, agility, and acceleration.

Just recently I sent some of my staff and interns out to some of the local “group training” sport specific training centers to see if their marketing campaigns can actually live up to the hype. You know

“business models” that advertise building better speed in 12 year old athletes with once a week group training consisting of cone running and hurdle hopping for 6 weeks. Or how about “significant” gains in explosive power development through the use of horizontal jump machines and dot drills. After all, according to the performance “experts” who man these facilities, all you need are their “patented” training tools and methods to increase your power and athletic ability on the field.

Aren’t these “group” training centers forgetting a couple of things though? After all if there is one thing I have learned after 16 years in the strength and fitness industry, if it sounds too good to be true (you know the latest gimmicks, gadgets, and group training promises), then it just might be.

A little common sense may go a long way. For instance muscles exert their force on bones to create movement, right? So, in order to create a greater force, which in turn will create an equally greater force of movement response, doesn’t it make sense to increase musculotendinous strength? With increased strength comes the potential for increases in hypertrophy (and vice versa). Increased size of the contractile elements can lead to an increased potential for the development of power (power can also come from increased motor unit synchronization/activation as well as other nervous system responses). Also, the more lean muscle tissue you have on your frame, the more efficient your metabolism.

Think of an athlete weighing 200lbs with 5% body fat vs. a 200lb athlete with 20% body fat. The first athlete has 190lbs of lean mass, with 10lbs of fat, while the second athlete has 160lbs of lean mass, and 40lbs of non-functional fat. Just by getting functionally stronger and adding lean muscle tissue(without performing any of the reactive horizontal jumping, cone cutting, dot drilling, hurdle hopping, and over-speed treadmill running), the athlete carrying more muscle and less fat will almost always display greater speed and acceleration on the field of play.

It seems as if many professionals in the fitness/strength and conditioning industries have gotten so far away from the “old” methods of athletic preparation, and completely changed gears in acceptance of the “new” more exciting methods of athletic development. Everything from vibration platforms to balance trainers and exercise balls has found their way into the industry. All perceived to make training more enjoyable while “supposedly” increasing athletic performance on the field. It seems that now-a-days athletes no longer need worry about becoming stronger, just as long as they use the SAQ market’s cutting edge balance gadgets and horizontal jumping gizmos.

Speaking of horizontal jumping gizmos, when we as humans jump, don't we typically go up against the pull of gravity? From a standing position aren't there different muscle recruitment/stabilizing patterns of the hip extensor, low back/core, and knee extensor musculature, when compared to laying flat on your back and pushing away from a stable platform. I cannot remember the last time I jumped straight up while my entire back and head were pressed firmly against a wall. Hmm. When jumping from a standing position, doesn't your body require a bend at the hips, where the chest comes out over the quadriceps in order to engage the powerful hip extensors musculature required for greater jumping ability? I am sure the "experts" whom use these devices can provide some exciting scientific evidence on the effectiveness of braced rigid spine horizontal jumping movements and their transfer to on-field performance. Hopefully they can, because I can't find a single thing!!

OK, so you get the idea. If it sounds too good to be true, then it just might be. Group training keeps the costs low and gets as many kids in per hour over a 6-10 week period as possible. I am sure there are some results here and there. After all, the kids are having fun and getting some exercise. If strength training, structural balance evaluations, and modified strongman training are substituted by computerized cone jumping readouts, over speed treadmill running, cone cutting and hurdle hopping, then you may want to ask yourself if the results are going to truly meet the claims. On that note, let's discuss 5 tips for the high school football player that we have utilized at APECS to increase their athleticism and on-field performance potential.

Correction of Structural Imbalances

Through proper off season training, a football player can make vast improvement in their on-field markers for performance. For instance, with increases in lower extremity structural balance, an athlete may see greater flexibility in their hips, leading to greater efficiency in gluteal, adductor and hamstring muscle fiber activation. With this increase in glute and hamstring, hip extensor strength/activation, the athlete may experience an increase in on-field acceleration. This is of tremendous importance as their ability to separate themselves from their opponents in the first five yards is one of the most critical aspects of the game.

Correcting structural imbalances in the upper body as well, in particular the shoulder girdle musculature should be high on the list as well. If the shoulders are rounded forward, there may be an imbalance between the pectoral musculature (lats) and the external rotator/mid trapezius/rhomboid musculature. With this internally rotated shoulder posture an athlete may be susceptible to shoulder

injuries, especially while hitting/being hit by an opponent on the football field. If the structural imbalance is corrected, and the integrity of the shoulder capsule is returned, the athlete may notice not only gains in the ability to “dish out” punishment on the field through their hitting ability, but also increases in the weight room, in particular the bench press.

Quarterbacks in particular need to pay close attention to their structural balance, as they not only require the ability to run, cut, and avoid/absorb defenders, but they also need to throw. With this collection of required skills, it is of major importance for the high school quarterback to maintain optimum structural balance. For instance if the shoulder girdle lacks the previously mentioned structural balance between the external rotators/mid trapezius musculature and the pectoral muscles, the athlete may exhibit an internally rotated humerus combined with rounded shoulders. This posture may lead to improper throwing mechanics and decreased technical efficiency, which can both increase the potential for chronic or acute injury. By restoring the antagonistic muscle balance of one’s shoulder girdle and maintaining optimum structural balance in the lower body, a quarterback can become a two-way threat on the field.

Take for instance the 2009 Hockomock League MVP, Franklin High School quarterback Nick Colson. Since joining APECS his freshman year in high school, Colson has paid close attention to his upper and lower body structural balance. By combining a winning, never say “die” attitude with properly designed/executed strength/power training and modified strongman training methods Colson has seen the fruits of his labor become a reality. By becoming both an explosive and extremely agile scrambler with a strong arm and high IQ for the game, Colson was rewarded with the highest honor a league can bestow upon one of its athletes, League MVP. Along with his 2009 Hockomock League MVP trophy, Merrimack College also awarded him a spot to play college football. *Keep up the hard work Nick, as you can see it is paying off.*



Incorporate “Full” Range of Motion

Too often we see this; the high school or collegiate athlete loading up the squat rack for a set of 5 reps. Whether it is 315, 415, or 515, the story often unfolds in the same manner. The athlete will walk up to the bar, rack it on their shoulders, step back, position the feet wide, and “bang”. You missed it. Before the blink of an eye the first rep is done. You hear the clattering of the weight, grunts of the athlete, and cheers of his teammates. Before you know it, 5 reps are done, each with a knee bend similar to that offered in that curly haired guy's “sweating to the oldies” videos. Unless heavy partials were the exercise selection of the day, this athlete really didn't do “squat”.

You see a knee bend or quarter squat has far different muscle fiber recruitment patterns than a deep squat. The same can be said for other popular variations seen at local gyms and many high school weight rooms, including the half chin-up, the half bicep curl, the half dip, and one of the author's personal favorites, the “power reverse curl” (in most cases I believe the athlete is trying to perform a power clean). If partials are used to break through plateaus or in certain phases of training, each of these may have their place in a strength and conditioning program, but, if used year round these may lead to that shoulder rounded, elbows always bent, tight low back posture that seems to be common amongst hard working young athletes.

Full range of motion training does just that, it trains the muscles through a full range of motion, properly hitting the fibers from proximal to distal insertion. When combined with properly designed antagonistic muscle group training, the athlete's muscularity should be “balanced” leading to efficiency of movement and increasing the potential for strength and power. After all, you are only as strong as your weakest link, so the muscle imbalances created from improper training methods may be holding you back from achieving your true athletic potential.

For example the correction of squat technique, as this will lead to enhanced adductor, hamstring, glute, and low back strengthening. Rather than performing the quad dominant half squat version seen at many high schools across the country, a full deep squat can not only activate more muscle, but it can also increase an athlete's hip flexibility as well as core strength. (Caterisano). [Check out this article for more info on the benefits of deep squatting.](#) Yes, I know, I have heard it over numerous occasions, “but deep squatting is bad for the knees” or “my personal trainer says you should never deep squat or let your knees go over your toes”. Think about it this way, if deep squatting was so bad for the knees, then Olympic weightlifters would have the worst knee problems of any athlete. If the

knees going over the toes statement had any merit, then walking up and down stairs would be one of the worst things we could do for the health of our knees, as the knee typically goes over the toe with almost every step. Hmmm.

A lot of the “research” on the knees going over the toe comes from stress studies, measuring the various stresses and direction of stress on the knees. The studies show that deep squatting (deep knee flexion) creates anterior stress forces on the knee that are much greater than those stress forces associated with half squats. Think about it this way, don’t you need stress to shape and strengthen connective tissue? Or ask yourself this way, why is it that it is OK to do full range of motion bench press, full range of motion chin-up, full range of motion curls, and full range of motion Olympic snatches and cleans, but it is not Ok to do full range of motion squats, even though there is greater muscle recruitment as well a flexibility demands?

An excellent example of the benefits of full range of motion strength training is former Medfield High School standout and current Endicott college running back Mike Lane. Having trained at APECs



since his sophomore year in high school, Mike has amassed a considerable collection of both individual and team achievements. From his League MVP and Metro-west player of the year trophies, to his playoff and high school Super bowl winning heroics, to his current role as college league rookie of the year and 1st team league all star for Endicott College, Mike is truly

the model for athletic success through hard work, commitment, and positive attitude. Never one to miss a workout, or for that matter, miss a single rep during a workout, Mike has become a student of the strength game at a young age. Understanding the importance of functional strength and power, Mike has learned at a young age the true athletic benefits associated with full range of motion training.

With many athletes touting their ability to squat heavy, for some reason their expectations seem to fall short when an experienced strength coach is standing over them with a camera expecting “ass to the grass” depth on their squats. On the other hand, when an athlete such as Lane tells a coach he squats 365 (at a bodyweight of 173 and 6% body fat I might add), it is a true depth full squat. No excuses. Through his years of full range of motion training, not only has he remained injury free *(especially in his knees as the “experts” are always touting how deep squats are bad for the knees, but I*

still have yet to see the research data on this, as most studies are knee flexion and stress studies. If you think about it, to illicit a stress response, which then builds and strengthens tissue, don't you need more stress???) but, his functional strength and lean body mass continue to increase year after year, along with his power, agility (clocks in consistently at sub 4.0 5-10-5 pro agility), and speed (sub 4.5 40's).

All of this without working on running mechanics, jumping over hurdles, running around cones, performing endless amounts of agility ladder drills and dot drills, or using horizontal jump gadgets. Plain and simple, proper full range of motion strength training, maintaining structural balance, sound nutrition, increasing functional strength/power, lots of hard work and perseverance, as well as some quality genetics, have served as a strong foundation for Mike's athletic ability. Mike is a true role model to both his peers and younger athletes alike, as well as highly respected by his coaches.

Incorporate Modified Strongman Training

Nothing builds "badassness" in football players quite like strongman training. Whether it is the jaw biting raw intensity that comes from trying to flip a 900lb tractor tire, or the gut wrenching, lactic threshold busting feeling that comes from backward sled dragging, strongman training is a true testament of both functional strength and intestinal fortitude. The word gumption comes to mind when trying to find terminology associated with strongman training.

In essence, strongman training bridges the gap between the weight room and on-field performance. This is where true "functional" strength is created, not the balance discs, wobble boards, and "functional" gimmicks pushed on strength coaches at many overpriced professional seminars and workshops. From building tremendous low back, core, grip, shoulder, and leg strength, to effectively strengthening connective tissue, strongman training builds a functional "coat of armor" like no other training method. Not to mention its effects on metabolic condition, lactic threshold, and mental toughness (along with joint strengthening).

An excellent example of this is 2008 Fox 25 Football Player of the Year and 2009 Tri-Valley League MVP Ted Davenport. Having been working out at APECS since the 7th grade, now a senior going on to Boston College, Teddy has learned to train properly right from the start. Never one to back down from a challenge, Davenport has excelled in modified strongman training right from the start. Flipping tires, dragging sleds, and pushing heavy objects (not to mention full range of motion squats, Olympic lifts, and plenty of structural balance training) have been a staple of Davenport's training since the beginning. From a wiry 13 year old to his current 6'2 207lb (sub 8% body fat) frame, Teddy has never

been one to talk the talk, rather choosing to always walk the walk instead and let his actions speak for themselves.



From his effortless flipping of a 900lb tire, to his hoisting of 325lb atlas stone onto a 42" platform, this is one athlete whom is both functionally strong and effectively powerful. Timed at 4.4 in the 40 at multiple college combines, along with a 37 Inch vertical, not only is Teddy very fast, but when his would be tacklers get their hands on him, he is also very difficult to take down.



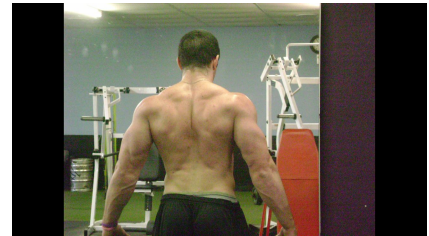
Through his development of physical abilities and his extremely humble, ("coachable") born leader mentality, Teddy has also become a highly respected athlete among his peers, coaches, and opponents, being a three sport captain and league all-star in hockey and baseball as well as football. A believe a wise man once said "stay the right course and good things will keep coming to you". No other athlete I have worked with in my 16 years exemplifies this more.

Add Some Muscle

Back to our conversation about muscles. Remember, muscle exerts its pull on bones to create movement. That said, as an athlete, doesn't it make sense to add more functional (quality) muscle to one's frame. If you think about it, why is it that nearly every college athletic program across the country (especially hockey, football, and lacrosse) always put their athletes on strength training programs, rather than the fun and exciting SAQ gimmickry? Simply put, because it works. Add quality structurally balanced muscle to an athlete's frame and you increase their potential for speed and power, as well as

decrease their chance of injury and muscular imbalances. Jumping over hurdles and running around cones can be done on their own time, as the job of a strength coach/performance enhancement specialist should be to get their athletes stronger, functional, and more powerful.

Take for example UNH bound running back Matt Carini. At 5'10 195 lbs with sub 6% body fat, the former Franklin HS standout and Hockomock League all star running back has packed a considerable amount of functional muscle on his frame. As a freshman in high school Carini was already bench pressing 250lbs, but demonstrated both lower and upper body structural imbalances. Due to excessive lordosis in his spine, compressive spinal loading exercises would prove to be dangerous for Matt until we corrected his structural imbalances. Likewise for his upper body pulling movements, especially Chin ups and external rotator work.

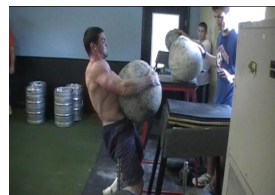


Through his incredible dedication, willingness to learn/listen, and “terminator” approach to his training, Carini was able to transform his body into a fully functional machine. From countless split



squats, rack pulls, deadlifts, and chin up variations to countless modified strongman workouts, Matt was eventually able to create a strong enough foundation to get back into full depth squatting. Going into his senior year, Matt was running 4.4 40's at college combines, bench pressing over 315, and yes, squatting “ass to the grass” over 350lbs. Racking up the 100 and 200 yard games his

senior year and leading Franklin (along with Colson) to an undefeated season and first league title in 20+ years, Carini is walking proof that adding more functional (quality) muscle to a football athlete's frame can increase their athletic ability.



It becomes quickly evident as soon as Matt walks into a weight room that he has put in the time and hard work it takes to become a champion. It is too bad that many opponents as well as skeptics

often take his hard work and dedication away from him by dropping the anabolic label on him. As his strength coach and mentor for the past 4 years, I can attest to his hard work and passion for his physical abilities. From his strict approach to functional nutrition, to his college graduate knowledge of physiology and biomechanics, Matt has truly become a student of the weight game. From his winning attitude, to his extreme humility, Carini has and will succeed in any and all athletic endeavors.

Add some more muscle

Along with proper training methods, athletes need to focus on the “fuel” they ingest to maintain high training loads and ensure proper recovery and muscle growth. It seems that roughly 70-80% of body composition can be attributed to nutrition and diet. In order to get stronger an athlete needs to fuel the machine properly. Likewise for body fat loss and lean muscle tissue accumulation. Without good dietary habits, how can you expect to achieve the results you are working so hard in the weight room for?

For instance, over the years I have seen numerous high school and even college athletes whom ingest minimal protein at breakfast, instead reaching for the quick bagel, bowl of cereal, or at times, nothing at all. Adding some protein and quality fat to one’s breakfast can set up an athlete’s mental and neurological functioning for the day.

After breakfast is the typical protein shake/bar mid-morning snack, followed by French fries and some sort of processed protein. Combine this with the cookies/bowl of cereal/or prepared processed snack after school, and you may be looking at low energy levels, decreased insulin sensitivity, increased stress hormone response, and some excess body fat.

Understanding how diet can play a role both physiological and mental functioning can be an important aspect of any athlete’s development. Certain foods, or foodstuff can illicit both negative hormonal responses (i.e.: dramatic insulin spikes) or inflammatory reactions, as the body may view these “materials” as being a stress. Treating your body to pure foods, high in vitamins, minerals, protein, and antioxidants can counteract these negative effects and possibly keep adverse health issues under control.

A great example of the benefits of proper nutrition and training is Franklin High School senior wideout, Brian Garvey. After breaking his leg during a football game during his junior year, then re-braking it while trying to get back into shape playing basketball, Brian sought out our strength and

nutrition staff to help aid in his rehabilitation and recovery. Understanding the benefits of proper training for rehabilitation purposes (i.e.: correction of structural imbalances), as well as the highly important role nutrition can play recovery and decreasing inflammation, Brian was driven to succeed.



Incorporating high protein/high fat /high antioxidant nutrition with training protocols consisting of progressive 3 week accumulation phases combined with 3 week intensification phases, Brian was able to far surpass his previous strength and speed levels. As a matter of fact, after gaining nearly 15-20lbs of muscle, Brian has reached a body weight of 190lbs on his 5'9" frame, while maintaining 7-8% body fat nearly year round. The best part is this is also functional muscle, as Brian has been tested at 33" in the vertical jump, and mid 4.5 in the 40 yard dash, all the while 1 rep max squatting 375 (ass to the grass) and benching 305, with proper upper extremity structural balance. How has he been able to do this? Here is a sample of a dedicated high school football player's nutrition.

- **Breakfast:** Roasted chicken or Bison with 2 eggs + veggies.
- **Mid Morning Snack:** Sardines and almonds
- **Lunch:** Turkey Sandwich, Protein Bar, Berries, Almonds
- **Pre-workout:** BCAA's
- **Post Workout:** Whey Protein w/Pineapple Juice + Water
- **Dinner:** Meat Protein Source, Veggies, Grainy Carbohydrate
- **Pre-Bed Snack:** Greek Yogurt w/Casein protein.

For an added muscle building response, we often recommend our athletes at APECS to make a batch of Anabolic Brownies. Yes a gluten free brownie, loaded with protein and healthy fats that actually does taste good. Our athletes love it and reap the benefits of this "secret" recipe. As you may know, it can be easy to get an athlete to eat brownies, so why not make them benefit an athlete's muscle tissue growth. Here is the recipe:

1. Bob's Red Mill Gluten Free Brownie Mix
2. 5 scoops of Optimum Nutrition Chocolate Casein Protein Powder
3. 5-6 cage free organic eggs (whole eggs!!!!)
4. 1.5 to 2 sticks of organic butter
5. 3 Table Spoons of Poliquin's Primal Greens
6. 1 table spoon of organic vanilla extract
7. 1-1.5 cups of warm water

Mix together in a mixing bowl and cook at 350 for about 30 minutes. A good tip is to make sure they do not pass the "toothpick test". You want them to be slightly moist, so if there is some remnant left on the toothpick, it is OK. Let them cool off and feel free to eat them as a snack or during a "carb-up" period.

In closing, remember, as an athlete, you need to increase the horsepower of your motor through proper strength training (i.e.: full range of motion and structural balance weight training), increase functional strength through modified strongman training methodologies, and don't be afraid to add some lean muscle tissue to your frame through hard work, dedication, proper training, and, of course, nutrition.

Enjoy