

• Wake Forest Athletic Strength Training Philosophy

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[Categorization of Strength Development and Preferred Lifts / Postseason Program \(PDF\)](#) 

I. Focus Your Training On The Core Body

The center of all power and strength in the human body originates in the core of the body. Imagine the human body broken down into three links of a chain: the upper body (ribcage up), lower body (mid-thigh down) and core body. The movements performed in this core are: hip extension, hip flexion, abdominal flexion, back extension, torso rotation, lateral extension and flexion, hip adduction and hip abduction. An athlete is only as strong as his/her weakest link. If an athlete is weak or inflexible in this core he/she will have little chance of maximizing his/her athletic potential. The core body is the center that coordinates all ground-based human movements. Focusing strength-training attention on this core body is of the greatest importance. This core body consists of these muscle groups: abdominals, obliques, erectors of lower back, gluteals, upper quadriceps, upper hamstrings, hip flexors and groin area. The more "quality" training performed with this core body in the standing position and with ground-based calisthenics the more potential the athlete has to transfer the training to the athletic arena.

II. Train With Ground-Based Lifts And Bodyweight Calisthenics.

Most athletes participate in standup power sports. Most sport skills are initiated with the feet applied to the ground. The more force an athlete can apply to the ground, with good balance, the greater the potential for speed and power. Even swimmers and other non-ground based athletes will benefit from ground-based training. Training this way incorporates the use of more joints, bones, prime mover muscles, synergistic muscles, stabilizer muscles, tendons and ligaments together. Therefore, the training of athletes on their feet and with ground-based calisthenics trains the athlete similarly to what happens in sport. Ground based training develops more athletic abilities. The more athletic abilities developed the greater the chances the athlete will maximize his/her athletic potential, provided the specific sport skills have also been developed. The ground-based lifts and activities used are: power clean, hang clean, power clean-n-jerk, power snatch, hang snatch, dead lift, standing press, push press, front squat, back squat, one leg squat, step-ups on box, lunge, pushups, wrestler twist, neck bridge, handstand pushups, cone drills, bag drills, ladder drills, dot drills, sled pulls, sled drives, tumbling drills and bleacher runs. One of the best ways to develop the core body in the standing position is to perform one arm kettlebell lifts. When you are using one kettlebell, without a kettlebell in the other hand, your core body must provide great core stabilization to perform the lift. The standing one arm kettlebell lifts one can use are: clean-n-press, snatch, clean-n-push jerk, curl-n-press, swings, and under the leg passes.

III. Athletic Lifts Not Isolation Lifts

Athletes of all sports will never isolate a single muscle group or joint in competition. Athletes use their whole body in a natural way. The superior athlete is the one that can best use his/her whole body. It is, in many cases, not how strong and powerful the athlete is but how he/she best uses his/her strength and power that determines athletic success. When athletes train with lifts, drills and calisthenics that incorporate many muscles, tendons, ligaments, joints and bones in a natural progression they are better prepared to use their whole body in sport skills. It is of the utmost importance that athletes perform athletic lifts as their main emphasis of strength training.

What are athletic lifts? Athletic lifts are lifts that incorporate a great deal of the human body's joints, muscles, tendons and ligaments together in one lift and many times in an explosive fashion. There are no lifts in the strength room that will perfectly emulate a sport skill. However, athletes performing athletic lifts will use their whole body in a natural way much like what the athlete will do in a sport skill. Here are some guidelines for athletic lifting:

1. The more muscles, tendons, ligaments and joints used through a wide range of motion the more athletic the lift is.
2. When the resistance is held in the hands and the feet are placed on the ground, in the standing position, the lift is more athletic.
3. The further the resistance is moved, during the lift, the more athletic the lift is.
4. The faster the resistance is moved, for that prescribed intensity, the more athletic the lift is.
5. The faster the body moves around or under the resistance, during the lift, the more athletic the lift is.

Champion athletes do one thing that lesser athletes fail to do. They make the skills of their sport look easy. Their movements look effortless. They know how to turn the right muscles on at the appropriate time and relax the right muscles at the appropriate time! Champions know how to incorporate the use of their whole body within the skills

of their sport. This is done by performing thousands upon thousands of repetitions of the skills of their sport at the speed needed in competition. When performing athletic lifts, as well as athletic skills, athletes are getting the best of both worlds in developing champion athleticism.

When using weight machines you are using one plane, one dimension of movement. In many instances, there is isolation of one joint or one group of muscles without having to balance or stabilize another body part. Only prime mover muscles are being used, not stabilizer muscles, for that particular lift.

Free weight training is multi-plane, multi-dimensional, as in sport skills. Therefore you are using prime movers, stabilizers and synergistic muscles. It becomes important to stabilize and balance your body in order for the prime mover muscles to perform.

One can get strong using almost any type of strength training. However, it is best to have athletes perform athletic lifts and bodyweight calisthenics during required team workouts while encouraging extra volunteer workouts. It is during these volunteer workouts where athletes may do isolation lifts. This is done because of time constraints and the functionality of athletic lifts for athletics.

IV. Train For Power - Power Is The Function Of Strength And Speed

Power = Mass Moved (Force-Strength) x Distance Time

You know the saying. Speed kills! In all sport skills speed of movement is a desirable commodity. Along with the "feel for the game" and "mental toughness" sport coaches are in search of athletes with great speed. It is the duty of the strength coach to develop all athletic qualities, especially speed of movement. As you can see in the above formula an increase in speed of movement (decrease in time) results in an increase in power. This is important for the athlete due to his/her own bodyweight, gravity, opponent's resistance and weighted implements and other resistances that athletes must deal with in competition. Increasing speed of movement with the same mass lifted improves power.

Increasing mass lifted and maintaining the speed of movement will increase power. The less time it takes to move a mass a certain distance the higher the power output. By effectively using explosive lifts, squatting movements, medicine balls, agility drills, sled pulls, sled drives, bleacher sprints, kettlebells and speed drills you can greatly increase the potential for developing powerful athletes in sport. The power clean, hang clean, power snatch, hang snatch and jerk are the lifts with the highest potential for developing powerful athletes. No other lifts even come close. Olympic lifters, on average, have the highest vertical jumps of all other athletes (36"-42"), along with Olympic sprinters, and are the fastest of all athletes in a 25-meter sprint. The Olympic lifters perform predominately explosive lifts and deep front and back squats in their training.

V. Train Athleticism

The strength coaches' purpose is to train athletes for their maximal performance in athletic competition so it is important to train their athleticism. The positive qualities of the superior athlete are: strength, power, speed, agility, flexibility, coordination, kinesthetic awareness, rapid reorientation from disorientation, rapid gathering from poor positions, sport specific condition, skill expertise, mental toughness and being goal-driven. It is the goal of the strength coach to maximize the athletic potential of the athletes in his/her care. So, the enhancement of these qualities must be part of any strength program regardless of the particular sport. The intensity and volume level of each quality will be determined sport by sport.

VI. Train Attitude with Team Workouts

When teams lift together it provides another opportunity to develop chemistry, teamwork, leadership skills, and a competitive environment. When the strength workout is run like a sport practice the economy of time is well spent. The strength coach can keep the pace moving with good discipline and positive results.

Attack the weights! Attacking the weights means using correct technique and lots of hard work. The athlete should focus on getting better in all areas of each workout. Everyday, better and better! The strength coach should expect and demand mental toughness, discipline, focus and intensity. The athlete should give 100% effort and perform exactly as the strength coach advises. It is the role of the coach to give the athlete the best workouts available to maximize athletic potential.

The nature of competitors in sport is to attack the weaknesses of their opponents whether it be their conditioning, tactical expertise, skill level or mental toughness. Athletes should not only search for and capitalize on the weaknesses of their opponents but also be able to handle "pressure" when it is applied to them. Weaknesses displayed by athletes in the strength room and practice field can cause the athlete to develop patterns of weaknesses that will be used by opponents in competition. Some of the negative displays are: negative facial,

verbal and body language, whining, bellyaching, displaying disrespect and spreading negativity. The strength coach and sport coach have an obligation to not allow such weaknesses permeate a team. When the sport coach and strength coach work together to help athletes see their mental weaknesses and help them to emphasize a positive attitude this will have a positive effect on the success of the team as well as the individual athlete.

Maintaining a positive attitude in each athlete is of the utmost importance. This is why strength training workouts should be productive and fun for the athletes. The strength coach can plan workouts so the athlete will want to come back to the strength room to get better and not dread it. Training athletes to maximize their potential requires lots of hard work and all workouts will not be fun. Since workouts cannot always be fun they are made brief, intense and challenging.

VII. Train The Push And Pull Together

As much as possible workouts are developed to train the upper body pressing with the upper body pulling. Two birds can be killed with one stone. This is done usually in the same time it would take to do one lift in most workouts. You can do this by, supersetting, rotating each set from the press to the pull. Also, it is best to take into account the positions of press and pulling. For instance, when doing a horizontal press (bench) try and superset a horizontal pull (bent row) or superset a vertical press (standing press) with a vertical pulling lift (chin-ups). It also has no negative effect on either lift because you are using opposing muscles. Some examples are: bench and bent rows, standing press and chins and dumbbell bench and dumbbell rows.

VIII. Single Limb Lifts VS. Two Limb Lifts

In many sport skills, athletes will transfer weight from one leg to another and from one arm to another in a natural way. For athletes, it is as important to have strength, balance and coordination on one foot as it is on two feet. Training one leg at a time and one arm at a time also brings into play more of the core of the body to help stabilize while the single limb performs its skill. To make the two-legged and two-armed lifts more functional for sport it is imperative to include some one-legged and one-armed strength training in the athlete's training. When an athlete performs one limb lifts he is forced to stabilize his core body in a unique way similar to many athletic skills. If he walks with a weight, at his side, in one hand he will be forced to contract his oblique muscles on the opposite side in order to stabilize his body to remain upright. Both the one-armed and one-legged lifts will force the core body to stabilize in a unique way compared to two limb lifts.

Some examples of single limb lifts are: one-armed dumbbell incline, bench, military press or row, one-armed kettlebell snatch, clean-n-press, bent press, swing, barbell or kettlebell one-legged squat, walking lunge, step-ups on a box, one arm kettle-bell or dumbbell walking, and lunge.

IX. Short, Intense And Organized Workouts Are Best

Some of the most powerful human beings of all time have trained under the tutelage of Ivan Abadjiev, the Bulgarian Olympic weight lifting coach. Also, today many other Olympic weightlifting teams and individual lifters throughout the world have been influenced by his methods of training. Gayle Hatch, the 2004 USA Olympic weightlifting coach, has produced not only Olympic caliber weightlifters and world class athletes but has also mentored many high school, collegiate and professional level strength coaches. Power-lifters are considered to be the strongest in the world. Olympic weightlifters are considered to be the most athletically powerful in the world. Many strongmen today uses a method of training called "Dinosaur Training" created by Brooks Kubik. There are many bodybuilders and athletes today using a method of training called "High Intensity" promoted by former Olympic/power lifter, Ken Leistner and former bodybuilder, Mike Mentzer. Boyd Epley, at the University of Nebraska, using his unique training methods, has trained many great and powerful football teams. The Bigger, Faster, Stronger Philosophy, created by Greg Shepard, has been used by thousands of athletes and championship teams, in all sports, from Jr. High through the professional ranks.

Although there are some differences in these methods of training there are three common threads that run throughout all of them. The workouts prescribed and implemented in all of these different systems of training are: 1) highly organized 2) short in duration and 3) extremely intense.

Lifting Workouts:

- Pre Season (Non Competition Phase)-2 days/week-30-60 mins./workout
- In Season (Competition Phase)-2 days/week-20-50 mins./workout
- Post Season-3 days/week-45-60 mins./workout

Options for lifting In Season:

- The absolute best option is to lift in the mornings away from afternoon sport practice.
- The second best option is to lift directly prior to sport practices with lower intensity and volume so it doesn't interfere with sport practice. The lift can be used as part of sport practice warm-ups.

- The worst option and least productive is to lift immediately after sport practices.

Sport Practices:

- Pre Season (Non Competition Phase) 1 ½ hrs.- 3 hrs./practice (mostly skill work)
- In Season (Competition Phase) 1 ¼ hrs.- 2 hrs./practice

Note: From our experiences and evaluations it has been shown that sport practices lasting longer than two hours, during the In Season, will result in more injuries than practices lasting less than two hours. Due to accumulation and fatigue, the injuries may not occur during long practices but will show up nevertheless! Fatigue and overtraining will be most evident in competition with a lot of mistakes being made by your athletes!

Special note to all sport coaches:

Your athletes got into sport because it was fun. They will leave sport when it is no longer fun. All sport practices cannot be fun. When you cannot make practices fun then you can make sure the practices are short, intense, disciplined and challenging! Don't make practice miserable for your athletes! Long practices are not fun for athletes or coaches. Plan your practice so that your athletes feel they have benefited from it and really crave to come back for the next one. Your athletes will have more fun and be much more productive. Try to remember, when you were young, how much you enjoyed playing and competing! Do you really want your athletes to dislike their sport?

X. Encourage The Champion's Attitude

Although team strength training workouts are very important, the success or downfall of the athlete has a lot to do with what the athlete does between the strength workouts. Habits dealing with sleep, diet, alcohol, drugs, study and social life play an important role in the athlete's success. If the athlete has "lost control" in any of these areas he will greatly diminish his chances of reaching his athletic potential.

The champion athlete will evaluate him/herself for weaknesses and do the extra workouts to fill in the deficiencies in order to develop better athleticism for their particular sport. Hard, smart extra workouts are what the champion athlete will do. If he is inflexible he will work on becoming more flexible. If she is not strong enough in the upper body she will spend more time improving upper body strength. If foot speed or agility is a problem the champion will spend extra time bettering his foot speed or agility. The strength coach or sport coach will never "make" an athlete into a champion nor "prevent" an athlete from becoming a champion. The athlete makes a concrete decision to make him/herself into a champion.

Workouts designed and implemented by the strength coach should allow for the athlete to have the energy and desire to do extra workouts on their own. This allows the athlete to develop creativity, individuality, leadership and ownership in their own success. In the long run, this will have a positive effect on the whole team when strongly encouraged by the strength and sport coaches.

Great champions in all sports have the ability to see themselves as champions prior to their championship performances. The champion will have vivid images themselves doing athletic skills prior to practices and competitions. A champion can see himself on top of the awards stand, performing in competition, seeing and feeling his exhilaration of winning, reading about himself in the paper prior to the event happening! Practice "visualization" each and every day. This is a must for champions. Many champions do this naturally. Athletes without this natural ability for "visualization" can improve on this skill like any other skill or athletic quality.