Strength, Speed, and Power Progression to Peak

By Matt Russ

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Proper race peaking requires that you be at your best fitness level of the season at precisely the same time as your goal race(s). This means exact timing and performing the right work outs at the right time. Performing mostly high intensity work too early in the season will slowly degrade your performance as the season progresses and leave you burned physically and mentally. You should slowly progress towards your most intense training. It is the last salvo before your peak. Conversely, performing too little high intensity work would leave you under trained and ill prepared for race intensities. Some athletes train at the same intensities, yet wonder why they do not get faster. In order to get faster you must stress the body in a way it is not used to. The body then compensates and acclimates to the specific stress, and you can then apply still greater stress levels. Your strength and power training should follow this progression as well.

A proper training program moves from the general to the specific and lower intensity efforts to more high intensity efforts as the season progresses. As you perform more short high speed efforts your overall training volume must be reduced to facilitate recovery from these harder work outs. Strength and especially power work should follow these guidelines.

The amount of time you spend working on strength or power will depend on your limiters as an athlete, your event type, and your level of experience. A smaller, underpowered athlete that is concentrating on sprint races will spend much time devoted to strength and power training, whereas a larger muscled athlete may need to devote more time to aerobic development. Generally, longer events require less time devoted to strength and power training.

Your strength work should start in the gym after a brief transition period at the seasons end. Strength training may last through the entire base season and then proceed to maintenance work as more sport specific work is introduced. It is important to remember that the purpose of strength training is to apply the increase in strength to the bike, run, or swim. Many athletes have a tough time giving up weight work even though it is degrading the effectiveness of their other more specific work outs. Specificity is one of the first rules of training. Performing heavy leg extensions will have little benefit to your cycling because the muscles do not contract in that manner. I choose multi−joint strength exercises that mimic

at least part of the stride or spin. Towards the end of the base season I actually combine certain resistance routines with on the bike and run training.

The first phase of on the bike strength training involves low cadence, highly resisted intervals of 15−30 seconds, then proceeds to sustained intervals of 3−20 minutes at slightly higher cadences of 50−60 rpm. Although effort is great, there should be little heart rate reaction beyond an aerobic level which is important during the base season. The next work out would be sustained efforts of 20 minutes to over 1 hour, still at an aerobic level, and at a cadence of 70−75 rpm. All these work outs train the body to produce force aerobically and efficiently and acclimate the body for higher intensity efforts to come.

Aerobic hill intervals are a great way to build specific leg strength for running. My athletes are often surprised that they can climb relatively steep inclines while maintaining an aerobic level simply by

slowing pace considerably. I may start an athlete off hill walking at a steep incline. It is important to adjust the level of incline gradually as well as the length of the climbing interval. I add in more elevation each week and lengthen the intervals.

Power work may also start in the weight room after a sufficient amount of strength work has built tendon, ligament, and joint strength. I have found body weight or light weight is often enough resistance for most power work. I may start a session with strength or strength endurance work and end with power work. It is easy to over do power work however, and injury can results. Form and technique are crucial.
On the bike power work starts at the end of base and involves very short high cadence, high resistance efforts of 10 seconds. I allow much recovery between these efforts (5−10 min.) so energy systems are properly restored. I then proceed to more sustained and repeated efforts of 1−5 min with plenty of recovery. These efforts have the added benefit of building aerobic capacity and are more suited for the general preparation or build periods. Finally, jumps and sprints, often with incomplete recovery are stressed. I may prescribe many of these in a single session to train the body to buffer lactic acid. This work is highly prescriptive and may only be performed 1−2x per month. Again, the amount of time spent with this type of work will vary by athlete and sport.

Run power can start with technique drills during the base season. I may then add short explosive sprints to the end of the hill climbing efforts we are already performing regularly. Hill intervals of various lengths and intensities will help promote explosive power and leg strength. Generally I save the most intensive run speed and power work for the last 2 blocks preceding peak.

Although this is a brief overview you can realize the progression. The work outs you perform should build on one another throughout the season and keep you from overreaching. Performing a variety of work outs has the added benefit of keeping your training interesting and helps prevent burn out. Organize your work outs as you do your season. Each work out is a tool and you have to decide when it is most effective to take it out of the tool box.

Matt Russ has coached and trained athletes around the country and internationally. He currently holds licenses by USAT, USATF, and is an Expert level USAC coach. Matt has coached athletes for CTS (Carmichael Training Systems), is an Ultrafit Associate. Visit www.thesportfactory.com for more

information.

Increase Your Golf Swing Clubhead Speed With A Golf Fitness Program!

By Sean Cochran

Imagine hitting your driver farther in your 40's than when you were in your 20's!

I imagine a few of you are saying, "No way!"

Read this article to be convinced otherwise. I received an e−mail from one of our BioForce Golf subscribers about the amazing change in his clubhead speed.

He wrote in about how excited he was that his clubhead speed had improved to a speed higher than when he was in his early twenties! He stated that currently his clubhead speed is between 105−107 mph, and in his twenties it was 95−100 mph. Go figure!

He related his increased driving distance and clubhead speed to a golf fitness program, a program with exercises specific to improving his golf swing. Not a traditional, pump−the−iron program, but one that promotes a more efficient and powerful golf swing.

He stated that since he implemented a golf fitness program, his flexibility, strength, and power have all increased.

As a result of this newfound "bottle of youth," he is hitting the golf ball farther, lowering his scores, and enjoying the game of golf more.

The question to ask is, "How do improved flexibility, strength, and power relate to increased clubhead speed?"

First and foremost, we must understand a very important principle. The principle revolves around what actually swings the golf club.

Is it your body swinging the club or the club swinging your body?

Obviously, the answer is that your body swings the club. Keeping that statement in mind, we can safely say it is a combination of two entities that creates clubhead speed.

What two entities do you think I am talking about? They are your golf swing mechanics and your body.

Swing mechanics have an effect on clubhead speed. Optimal swing mechanics develop greater clubhead speed than poor swing mechanics. If you do not believe me, try this little experiment.

Go to the range and pull out your driver. On your first swing, swing smoothly and in control. On your second swing, swing as hard as you can! Which golf ball went farther? I am guessing the first one.

This little experiment just goes to show that the mechanics of your swing have an effect on clubhead speed and distance.

Bottom line on the swing mechanics side of the equation, the more efficient your golf swing mechanics are the greater amount of clubhead speed you will be able to generate.

Now, on to the second part of the equation, your body.

The body supports your golf swing mechanics. If your body does not have the flexibility, strength, or power to swing the golf club efficiently, the ability to generate clubhead speed will be compromised.

And if your body is inflexible, weak, and lacking the potential to generate power, clubhead speed will be a difficult entity to create.

Applying the idea of power to golf can be simply identified through clubhead speed. If the clubhead is moving faster at impact with the golf ball, what does this tell us about the golfer?

The golfer is more powerful, and the ball will probably travel farther.

How can a golf fitness program increase the power production in your swing?

Increasing your flexibility allows you to perform the mechanics of the golf swing more efficiently opening the door for improved clubhead speed.

Increasing your strength and power levels around the golf swing allows your body the potential to generate greater amounts of clubhead speed.

Put these entities together with your efficient golf swing mechanics and you will find increased clubhead speed in your golf game.

Now, aging presents a very interesting situation. As you age, the natural levels of flexibility, strength, and power decrease.

Yes, as you get older the body slows down. The slowing down has an effect on your golf swing.

You do not have the flexibility to perform the mechanics of the golf swing. The lowers levels of strength and power decrease the ability to generate clubhead speed.

In order to reverse the effects of aging and improve your clubhead speed, you need to implement a golf fitness program.

A golf fitness program can slow "the hands of time," improve your flexibility, increase the strength within the body, and improve your power outputs. You essentially become an ageless golfer.

Bottom line, better flexibility, increased strength and power training will increase your clubhead speed,

lower your scores, and you'll get a lot more enjoyment out of the golf course.

Sean Cochran

Sean Cochran is one of the most recognized golf fitness instructors in the world today. He travels the

PGA Tour regularly with 2005 PGA & 2004 Masters Champion Phil Mickelson. He has made many of his golf tips, golf instruction and golf swing improvement techniques available to amateur golfers on the website

. To contact Sean, you can email him at

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