

STRENGTH TRAINING AND CYCLING

The purpose of this article is to introduce the Cyclo-Vet members to the value of weight training to improve cycling strength and power. A successful cyclist is one who trains for endurance, strength and power.

I have heard people in the club say that they don't want to weight train because it doesn't develop the muscles we need for cycling. I have no idea where that idea comes from. The muscles that we can train at a gym are the same ones we need for cycling. We just need the right program.

I have heard that people do not want to weight-train because they believe that they will lose flexibility. That is not true. Weight-training can increase flexibility. You can go to any professional bodybuilder contest and see some of the men and women doing the splits in the free posing routines. These are big people. Weight training is a form of stretching. What people are confusing is flexibility with agility. Yes; the bigger a person gets the less agile they become. This is demonstrated on any Sunday with football players as a 195-pound running-back jukes and cuts away from a 300-pound lineman. No person doing a weight training program for cycling should get anywhere near the size it takes to lose agility. Size is not the purpose in a cycling program.

Lastly, I have heard that people believe that they can develop the strength for successful cycling by riding alone. I am not going to argue this, however; I believe that weight-training combined with riding can make a person stronger in a shorter length of time than riding alone. This is especially true of and important for us "older" riders. A case on point is Bob Bitterlie, age 62. In late 2006 and early 2007 I noticed that Bob was falling behind the group many times. He didn't seem to be out of breath but it seemed to me that he didn't have the strength to turn the bigger gears. I asked him about weights and he said that he was doing one "leg" exercise because he was riding a lot. I suggested a weight program for him that he followed for a year. We have tweaked his program a few times during the year. This year Bob did a 20k TT in 30:22 which was close to 2 minutes faster than last year. He also did the Palm Springs Century in less than 5 hours.

My point is: weight training will work for everyone to improve cycling performance.

Now, there is only one thing that you really need to know about muscle. Muscles don't push or pull. Muscles don't jump up or down. Muscles don't pedal either. In fact, a muscle does only one thing. The only thing that a muscle does is contract. That's it, that's the big secret. To build strength is simply a matter of isolating the muscles you want to develop and making those muscles contract harder than they are used to. Weight-lifting is great for that!

Interested? Good.... keep on reading.

The motion for pedaling is mainly controlled by the quadriceps (the large group of four muscles on the front of the upper leg), hamstrings (the large group of muscles on the back of the upper leg), the calf muscles located on the back of the lower leg, and the glutes (buttocks). The muscles of the lower back and the muscles of the abdomen stabilize the body and body position during the pedaling motion.

The quadriceps are a large group of muscles located on the front of the upper leg. They are the muscles that are responsible for straightening the leg or for cyclists the muscles that push the pedal on the down stroke. The studies that I have seen show that the quadriceps are in a contracted mode longer than any other muscle group involved in the pedal stroke.

The traditional exercise for the quads is the "squat." It is a great exercise. It is also the easiest exercise to hurt your back. For that reason I do not recommend the "squat." There are other exercises that will exercise the quads without the possibility of a severe back injury.

Leg Extensions: Leg Extensions are done on an exercise specific piece of equipment found in most gyms or fitness centers. You sit and place the lower legs under a pad. The lower legs are bent pointing to the ground while the upper legs are parallel to the ground (like sitting in a chair). There is a weight stack usually engaged by placing a pin for the desired weight. The exercise is done by raising the legs so that both legs end up parallel to the ground. Raise the legs slowly. The quads should be "squeezed" the entire time the legs are being raised. Use a weight that is enough to only do 15-20 repetitions and 3 sets. Be very careful of the knees on the initial repetitions (I usually do a warm-up set with very light weight). This is a very good exercise to warm up the legs and also isolate the quads. Remember to do the movement slowly and to "squeeze" the quads.

Seated Leg Press: I use the Seated Leg Press as my Squat substitute. This piece of equipment is found in most gyms. There are two versions, one using plate weights and the other a stack weight system. I like the plate version. Load the weights and sit in the press with the feet on the footplate. The feet should be a bit less than shoulder width apart and foot placement (toes out, straight up, toes in) can be varied for each set. Push up with the legs and release the safety/stop levers. The entire weight is now on the leg muscles. Bend the legs bringing the weight down (SLOWLY) and then push it up. Use a weight that makes 15 repetitions possible for 3 sets of the exercise. This exercise, done properly, trains the quads, hamstrings and glutes.

Lunges: I really like Lunges. They may be the best exercise for the bike. The exercise trains the quads, hamstrings and glutes. I do them in the fitness room at

my gym using only my bodyweight. Start the exercise by stepping out with one leg and bending that leg until the upper part of the leg is parallel to the floor. The trailing leg should be fully extended behind you with the knee almost touching the floor. Straighten up the bent leg and bring the trailing leg up to a standing position. The room that I do Lunges in is large enough to do 20 Lunges per leg going up and back along the wall. I do 3 sets of Lunges. You can add weight by holding a pair of dumbbells in your hands.

Leg Curls: The hamstrings are the large group of muscles at the back of the upper leg. The hamstrings are activated at the bottom of the pedal stroke and stay contracted until right before the foot goes over the top. Leg Curls are the traditional exercise for the hamstrings. This exercise isolates the hamstrings and also trains the glutes. There are sitting, standing and laying versions. All of them work the same way. You raise the lower leg/foot heel up to the glutes. The sitting and laying versions usually do both legs at one time and the standing version you do one leg at a time. Start this exercise out using a light weight.

Calf Raises: The calf muscles play a role in the bending of the knee and also the angle of the foot (heel down or up on the toes). The calf muscles are located on the back of the lower leg. They are large and dense muscles and can be trained often. Most of the equipment you will see is either for Standing Calf Raises or Sitting Calf Raises. All work on the same principal. There is a bar for the feet that allows you to lower the heels below parallel to the floor and then raise the feet up on the toes. Standing versions usually use a stack weight system and the sitting versions, plate weights. On the standing versions the weight is borne on the shoulders and the sitting versions the weight is borne on the top of the leg right behind the knee. Do 15-20 repetitions of the exercise and 3 sets. These can be done 2 or 3 times a week.

Core Strength: The muscles of the core are very important. The abdominals and lower back muscles stabilize the body and allow the major muscles involved with the pedal stroke to operate efficiently. Strong core muscles help keep the pedal motion of the legs straight up and down and the knees in. You cannot keep a decent time trail position without a strong core. Core strength is essential for the cyclist.

Core exercises should be done 2 or 3 times a week. Yoga and Pilates count. Traditional exercises are leg raises in a Roman Chair or hanging from a pull up bar. Crunches are excellent for the abs. Back extensions for the lower back are also excellent. The use of a "ball" is very popular these days with core training. Any twisting exercises should be done SLOWLY.

Naturally during the summer months when riding many miles the overall work load in the gym should be reduced. Weight lifting during the summer will help a person keep leg strength at an optimum level during the season. Starting in late

fall and during the winter the overall workload should increase with less repetitions and increasingly heavier weights.

Caution: Before trying this out please check with your doctor to see if your health permits this type of activity. Also, don't try these exercises if you have no idea how they are performed. Most gyms have "trainers" that will show you the basic exercises. Some of the gym trainers really have no idea as to what is going on and there is a large degree of experience and education or lack of it out there and they are very interested in getting you to sign up for their paid training sessions. Most will try to get you to do all sorts of chest, back and arm exercises along with legs. A lot of these trainers simply do not know what they are doing, especially for cyclists.

I do have some friends (both men and women) who are experienced trainers and are good and knowledgeable (but not free). I would refer any of the club members to one if requested. I am also available (free) to consult by phone to help club members with more specific programs. This is available to club members who already know how to perform the exercises.

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