



Strength-Endurance Climbing Intervals

One of the time-tested key cycling workouts

Strength-endurance climbing intervals (commonly known as strengthies) are just one form of cycling interval training that have the potential to greatly improve cycling performance. These efforts are performed on a climb (preferably with a consistent gradient of 4-7%) in a big gear and at low cadence, often as low as 35-40rpm. The significant muscular loads are a form of resistance (or strength) training for cyclists with the added benefit that they incorporate a VERY specific movement pattern that cannot be replicated in a gym.

These efforts produce significant gains in strength-endurance which is the ability to produce high force for an extended period of time. Increasing strength-endurance will improve performance in all forms of cycling, but especially for climbing and time trialling.



So, how do I perform “strengthies”?

- Find a climb that has a relatively consistent gradient of between 4-7% and takes a minimum of 10 minutes to climb. These parameters can be simulated on various forms of indoor trainer.
- The target intensity for each effort, or interval, is around 20-30 watts below FTP or threshold (for most riders), although this can vary depending on a rider's test results.
- Experiment until you find a gear that brings the combination of your power target and a cadence of 50-60rpm. Note: you should start at a cadence closer to 60 if you have not performed these efforts previously.
- Perform intervals of between 6-10 minutes (this one depends on experience) and at the completion of each effort, turn and roll down the hill as recovery. Complete enough of these intervals so that the *total effort* time is between 30-50 minutes, again this is dependent on riding experience. If you have very little experience with this sort of effort, start at the lower end and work your way up.
- Generally, these efforts are performed in a seated position, but there is nothing wrong with mixing it up a little.

Some pointers for getting the most out of strengthies

It is absolutely vital that the rider focusses on smooth power production and applying force through the FULL circle. When riders default to simply pushing harder, strength imbalances increase and pedal stroke will deteriorate. This is why it is often recommended that riders remain seated, as most cyclists become “pus-dominant” when they ride out of the saddle. There is real advantage in the slower cadence, as the slower revolutions allow more time to concentrate on weaker elements of the pedal stroke.

Stay below threshold. Going too deeply into the red zone will make it very difficult to complete these sessions with good quality. It also causes a massive anaerobic load, where these sessions are primarily about developing strength within the “aerobic power” zone.

Be acutely aware of any pain / discomfort in the knees and discontinue these sessions should this occur

Sit back on the saddle and focus on the through stroke (between 10 and 2 o'clock. DO NOT rush to the downstroke and try to carry smooth momentum over the top of the stroke, this will serve to recruit the gluteal muscles, often referred to as the "climbing muscles".

Try to keep your upper body nice and still. This does not mean becoming very tense, which will just make you tired. If you have trouble maintaining stability, you may need to consider doing some core work at home or in the gym. It may help to think of really "planting" your backside on the saddle, especially if you feel yourself being lifted off your sitbones during the downstroke.

Don't perform strengthies any more than once per week if you have less than two years cycling experience and no more than twice each week for more experienced riders.

Strengthies are a "foundation workout" and should only be added to training at certain times of the program. Seek advice from a coach if you are in doubt, or simply follow your Bikelab Inc training plan.

When they are employed at the correct time and performed in the correct way, strengthies will be an extremely effective tool in building your cycling performance.