

Does big gear/low cadence cycle training really build strength?

Coaches and athletes have used variations on this theme over the years in an effort to improve the muscular force we can apply to each pedal stroke. More force equals faster cycling!

The most common form of this training has usually involved riding for long periods at low rpm. Research however shows that all this makes you good for is riding for long periods in a big gear at slow rpms! There is just not enough muscular stress created in order to strengthen the muscles. You can think of it like this: If you were a gym user and wanted to set a goal of bench pressing 100kgs but could currently only lift 80kgs then you would set about lifting a low numbers of reps @ 80kgs over 4-6 set's. Each week your strength would improve a little and the weight you could lift would increase until you built the strength up to lift 100kg's. This is how muscular strength is developed, by lifting high loads close to your maximum ability, over short intervals. You could hardly hope to start off at 40kgs and do 1000 reps and hope that you would build the strength to then lift 100kgs! **Strength gains** occur when the muscles are near maximally stressed for short durations. **Endurance gains** occur when muscles are challenged by low loads over long durations. If you can lift, push, pull a load/weight for long periods of time then the muscular stress is not great enough to develop strength.

Therefore it stands to reason that the cycling load needs to be such that we're using near maximal force over short durations in order to develop cycling specific strength.

How can we do this? Can suggest two dependant on whether you use a windtrainer or the road.

Windtrainer:

20 mins spin to warm up . Then depending on the resistance of your windtrainer perform the following:

10-20 x (1 min big gear effort / 1 min very easy spin) - 10 mins easy spin to recover then repeat 10 x (1 min big gear effort / 1 min very easy spin)

For the big gear effort if your windtrainer provides enough resistance choose a load (both gearing and resistance) that allows you to push really, really hard to just achieve 45-50 rpm for 1 min, then change to a very easy gear for 1 min spin and repeat. If you windtrainer doesn't provide enough resistance at 45-50 rpm and its only moderately hard then start at this level (45-50 rpm) and try to push as hard as you can within the 1 min with increasing cadence until you've either reached 80 rpm or 1 min has expired whichever comes first. Before starting each 1 min effort, grip handle bars, engage core and go for it!!

20 mins spin to warm down and finish

Road:

20 mins warm up

Put your chain into one of its two biggest gears (53:11-12) and slow down to 12-15km per hour, then stay seated, tighten your abdominals, grip your handle bars and then with all your force accelerate until you reach 80+ rpm. Once you reach 80 rpm then the resistance of the pedals has reduced to the point that strength gains have finish. Ride easy for a 1-2 minutes to recover and then repeat effort. You should aim to do 10-20 of these during your session

20 mins spin to warm down and finish