

How to climb a hill?

Scared of the **hills**? Don't be. If you know how to use a good technique and approach the hill with a positive mindset, then 'that looming monster' can actually turn out to be your best friend! Hills appear in all shapes, sizes and with varying gradients. In this article we will look at a few of these hills in turn and discuss the best way to climb them.

Technique – back to basics

The main principle in hill climbing is to go relatively slowly at the start of the climb. If you can bear this in mind as you approach all hills, then you shouldn't get into problems near the top.

In theory the rule of hill climbing is to never change to a lower gear as you ride up the hill. Start the climb in a low gear. If you start the hill in a gear that's not low enough, you will find it very hard to accelerate or hold good form when going over the tops of the hills.

So at the foot of the hill choose a gear that allows you to push the pedals around easily. If you have an rpm counter, try to keep your cadence somewhere between 75 and 90 rpm.

As you approach the mid point of the hill you will start to feel the effort with a slight drop in cadence. At this point it will be tempting to change to a lower gear, but if you have already selected that easier gear at the foot of the hill, you should be able to cope with the slightly reduced cadence, making the mid point of the hill not feel too difficult. Your aim should be maintain a steady cadence throughout the climb.

As you approach the top of the hill, either remain in the same gear and rev out over the top of the hill, or, change to a higher gear and get out the saddle to accelerate.

With the basics understood, it is then a matter of practicing as much as you can. Just remember the technique every time you approach a hill on your cycle route.



Climbing a hill - stay relaxed, keep cadence high and force relatively low on pedals to minimize muscle fatigue.

Acceleration

Well-practiced cyclists will want to quickly move on from the basics. I can imagine that you want to impress your mates by beating them to the top of the hill! Of course there are many considerations to bear in mind when racing your friends. For one, they may be considerably lighter than you and/or more experienced. But for the sake of this section let's assume that you and your cycling mates are similar level of ability and weight.

When you race your friends and get beaten, it is most probable that adrenalin has got the best of you. Instead of keeping the basics in mind, you rush up the first part of the hill too fast. Then as you start to slow down near the top, you become vulnerable to being beaten by your friends. They pass you easily. It is now a case of groveling to keep on their wheels. In a race, you would probably be dropped at this point. So remember to start easy so that you can work hard later.

You must have something in hand for the last part of the climb: the acceleration over the top of the hill. You need to reach the optimum speed for the other side of the hill at the earliest moment. So you must learn to accelerate over the top of every hill.

For optimum acceleration you will have to learn how to get out the saddle and push yourself over the hill. This requires effort, which is one of the reasons we were conservative at the foot of the hill, staying in the saddle, and at the half way point and beyond we kept something in hand. Then you will have the energy and power left over to really hit hard out the saddle over the top of the hill. Practice this next time you're out with your friends.

Hills in races – what to expect

In a race, there are good climbers, bad climbers, big and small. If you keep practicing the above technique over the season, I am sure you will become a good hill climber.

In your first year of racing, expect to get “dropped” (left behind) often in races that have hills. Most beginners find that they get disappointingly dropped on the first hill in the race, on the first lap. This is normal. Every beginning racer goes through this steep learning curve. The point to note is that getting dropped does NOT mean that you don't have any climbing ability: it simply means you are probably less experienced with handling the situation in a sufficiently relaxed manner when a hill approaches. Just keep ‘going back for more’: persist!

Another important point of racing well in the hills is to place yourself well-forward in the peloton. When you place yourself towards the front of the peloton, you will accelerate at approximately the same time as the front riders. This saves you a lot of energy compared to the guy at the back of the peloton.

At the back, ‘little Jimmy’ is still climbing steadily as the front of the peloton accelerates over the top of the hill. Soon the front of the peloton is going much faster than the back, and ‘little Jimmy’ and his friends get left behind. Not only do they have to accelerate over the top of the hill, they have to expend extra energy to ‘catch up’ riders in front. In this situation, Little Jimmy works harder than anyone else in the peloton. Eventually, as the race goes over hill after hill, ‘little Jimmy’s’ legs become worn to shreds, and eventually he gets dropped.

For a beginner, it is very hard indeed to be at the front of the peloton. All good riders know it’s the best place to be, so you may feel there’s no chance for you. But with practice you’ll find you become more able to move around the peloton. You become more confident, and soon you too are able to get near the front, at least for the start of some of the hills.

In a race you have to keep your brain engaged. Sometimes the best climbers are at the front and they deliberately push the pace an extra bit so that the less experienced riders feel that they really can’t keep up with them. Don’t go to the front on every hill with them! Keep a few places back and keep conservative. In any case, for various reasons, the accelerations over the hilltops will be harder near the back end of the race than they were in the first part – so think ahead, and be ready.

There are many cycling scenarios. You will have to race a lot to know how you can have the overall edge over competitors that may be stronger in a particular aspect – such as handling hills. Remember it is NOT always the strongest rider on paper that will necessary win the race. Keeping your thinking cap on is central to success in racing!

Technique on different types of hills

Now that the basics of climbing and accelerating are understood, let’s take a look at different lengths of hills.

A short, sharp hill of say 20m to 50m long will require you to “jump out of the saddle”. You don’t need to worry too much about keeping conservative near the beginning of this type of hill. Just get out the saddle and power over the hill. With this effort you may use your anaerobic system because the effort will be short, sharp and will need quite a high intensity. Some riders might call this effort “swallowing the hill”. Sometimes the race momentum will have you up and over the hill without you even knowing.

A moderate sized hill of say 150m-600m long or more. This hill requires you to be conservative at the bottom and faster over the top, as we have just looked at in the basics section.

A long hill or mountain can be anything from 1 km to 10 km and more. Mountain climbs require you to have two types of technique: ‘out the saddle’ and ‘in the saddle’ (seated). These techniques are personal to the cyclist, because every rider tends to have their own style of mountain climbing.

Because of the length of mountain climbs, make sure that you are conservative as the climb gets underway. It is no good going fast for the first 1 km only to ‘die’ well before the end of a 20 km climb. You must look for ‘rhythm’ in your climbing. This means going at a comfortable pace which you know you can hold for a long time, say for an hour or two.

This includes racing too. Never go faster than you know you can go – go slower at the beginning and you’ll be so surprised how many people you will pass on the second half of the climb! This means adopting a technique suitable for sustaining you for long uphill rides. You need to learn how to use properly both out the saddle and in saddle techniques:

1. The sitting in the saddle technique requires you to sit for a long time. Concentrate on this technique first. Climbing seated develops power in your quads, but you must remember to cycle with a good cadence, anywhere between 75 and 100. Find your rhythm and keep going.



2. The out of the saddle, “dancing” technique will be hard at first for a beginner. Try to move your hips forward over the front of the saddle whilst standing up. It will feel unstable for a few attempts. You will need to practice getting out the saddle a few times at first.

Once you have the knack of standing up on the pedals, your next big challenge is to hold this cycling up a 2 to 5km slope. It is hard because you will naturally want to sit down. You will find that you use your arms a lot more than normal. Don’t be surprised if your shoulders and arms ache the day after! You will also find it harder work, in part because you are using more muscle groups than sitting in the saddle.

If you are a triathlete, then your running muscles will kick in here. You may well find that you don’t tire as much as the pure cyclist when ‘dancing’ out of the saddle. Running does seem to have a cross-over effect that helps develop a good out of saddle technique relatively quickly.

Out the saddle keeping on a straight path up the road

3. Using both in the saddle and out of the saddle techniques is a way to climb quickly up a mountain. You can imagine climbing up the mountain initially out the saddle. After a certain time out the saddle you start to tire a little, so what you do is sit down in the saddle for a short period of time. This lets the lactic acid rush out of your muscles, so that when you stand once more your muscles are refreshed.

You may find that you go better the other way around. It is all about which technique will get you up the hill the fastest – this requires trial and error. But riding the two techniques in combination can be a winning formula when racing.

Cadence and climbing

The pedaling style out of the saddle varies from individual to individual too. Cadence should always be fairly high so that you don't have to push such a big force per pedal stroke over a long time period. This 'big gear pushing' is tiring. You have to learn to be efficient with your power output, so that you are getting an optimum power output down through the pedals and into the road.

Finding your optimum cadence can take years to acquire. You have to experiment in and out of races as well as in training to find how you can climb the slope the fastest way possible.

Power to weight and climbing

Another large factor that influences power output and hence 'speed' up the climb, is your power to weight. Power to weight is the maximum power output that you can achieve for your actual body weight.

For example, I weigh 55kg and have maximum wattage at 340 watts – this gives me a power to weight reading of 6.1. For a female cyclist this is elite level. You can see that if I was to lower my body weight to say 50kg, then my power output would increase substantially. This means my speed will increase up the slope.

Although having a high power to weight is important, it is not the be all and end all to climbing mountains fast. There is so much more to gain with finding your optimum pedaling technique and finding what style really works for you. So don't panic if you are rather over-weight, just enjoy the rides and when the summer comes along, you will probably find you have naturally lost those unwanted kilos.

Take home points:

- Know that climbing a hill does not have to be scary!
- Always go easier at the foot of the climb than the top.
- Remember that if you get dropped on the hill in a race, it does not mean you can't climb well.
- Try to get to the front of the peloton when approaching a hill.
- Understand that there is a technique to climbing up a hill or mountain. This includes in and out the saddle technique as well as cadence pedaling technique.
- Know that it may take a few years or more to really know yourself when climbing. Finding your optimum power output may take a while to find.