

Braking

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Most cyclists, including most pros, don't know how to use their brakes properly. They tend to either be braking as hard as possible or not at all. Most of the time they tend to be over braking.

There are two problems with over braking. First, you have to understand that the tendons, which pull your fingers down on the brake levers pass through the palms of your hands. In cycling, this has a tendency to create a problem.

When braking, the body's weight shifts forward into the handlebars. This causes the handlebars to transfer that pressure to the palms of the hands and against the tendons, which pull the fingers down. This has a tendency to do what we call shortening these tendons which causes the fingers to pull down even harder, which increases the braking, which shifts your weight more forward into the handle bars, which applies more pressure to the tendons in the palms of your hands, which....

Obviously, this creates a bad cycle, which can only be broken when your weight starts to come back out of your handlebars releasing the pressure on the tendons, which pull your fingers down. Since this cycle is normally broken only when you have slowed down enough that you are almost stopped and your body weight comes back out of your handlebars and into your saddle, then you only want it to happen in the most dire emergencies for which you must stop immediately.

Second, when your weight shifts forward into your handlebars that much, it destabilizes your bike causing you to lose control and forcing you to either pull very hard to the outside of a corner or restricts you from doing anything but going in a straight line. You lose the ability to maneuver until you slow enough for your weight to properly return to the saddle where it belongs. Even for most emergency situations, you don't want this to happen.

For most emergency situations, you want to maintain control of the bike so you can maneuver through the situation. To do this, you need to learn how to properly brake.

You do this by what we call caressing the rims with the brakes. You apply the brakes just hard enough that you barely feel your weight beginning to shift into your handlebars but not enough for it to begin "shortening" the tendons in your hands. This means that most of your weight is still in your saddle and you can still maneuver the bike. You will find this to be a very valuable tool in a number of ways.

You need to practice this braking while on training rides. You can practice it several ways.

Braking Exercises

- 1/ First, you simply apply pressure to the brakes while continuing to pedal so you can feel the speed change with your legs. We call this pedaling through your braking. You practice different braking pressures to see how much braking pressure you can apply before it shifts your weight into the handle bars enough to effect your control on the amount of braking. You need to get very good at this so that it becomes instinct.
- 2/ Second, any time you come to a stop such as at a stop sign or light, continue pedaling through your braking. This also teaches you to better control your braking. Learn to increase and decrease your braking action while stopping.

One of the places where improper braking causes the most problems is in a pack or a paceline. It is very common for a rider to run up on a wheel, grab his brakes causing the bike to over brake, he loses too much speed and opens a gap in front of him, jumps to close the gap, and as soon as he is about to over run the wheel again, he grabs his brakes too hard again. This is a common cause of accordion effect and crashes.

There are two proper things you can do to prevent this. One is proper braking action and the other is proper pedal action. If you do find yourself running up on a wheel, pedal through the braking action while caressing the rims with your brakes. This permits you to feel the speed of the bike and let you better control the decrease in speed until you have brought the speed of the bike down to the speed of the bike in front of you and not opening a gap.

It will keep you from dropping below the speed of the bike in front of you. As always, practice while training. This can also be a very valuable tool while descending in a pack. The pedal control technique is the prevention of the problems in the first place but it is also very important for you to practice both techniques because there will be times to use both.

The pedaling technique is to simply decrease the pressure you are applying to the pedals, as you get closer to the bike in front of you. This causes your speed to gradually decrease to the speed of the bike in front of you as you close on it. You want to achieve the speed of the bike in front of you just as you reach the point where you want to be behind the bike in front of you. Again, practice makes perfect.

Braking While Cornering

Learning to better control your braking action by caressing your rims will solve some of your cornering problems.

As it is in auto and motor cycle racing, so is it smart to slightly slow down before entering a corner and to accelerate out of it. This gives you more control. The key word here is “slightly”. How much you slow down depends on how fast you are going, your line through the corner and what the other members of the peloton

are doing. Ideally you want to just caress your front and rear brake pads to their rims and use a coast to slow your speed. If your line and position in the peleton is such that no slowing is necessary then don't brake at all. For many corners there is no real reason other than our own lack of confidence to brake at all. Only through practice will you learn how much or how little braking you need to do to maximize your speed cornering. But please remember, if you think you're going too fast to safely get through the corner then brake before you enter and accelerate out of it.

Excercise: practice left and right hand corning in a park or on a quiet street, repeat each corner at slightly faster speeds until you feel comfortable cornering at speed. Try to minimize loss of speed by braking.

What if you find yourself in corner and you are going too fast?

Most people will tell you that you cannot brake at all in corners. This is because they never learned how to caress their rims and have a tendency to over brake. Remember that over braking shifts your weight forward, which destabilizes the bike in corners.

For proper cornering, you need to have your weight properly in your saddle and not in your handlebars. With braking, you can only achieve this by caressing the rims.

One particular situation that roadies face with this is when they go into a blind curve and find that it has a descending radius. This means they may be going the right speed for the first part of the curve but too fast for the rest of the curve.

We have found that by caressing the rims, you can maintain the stability of the bike and decrease the speed of the bike to match the decreasing radius of the curve because you really only need to decrease your speed a little to match the decrease in the radius of the curve. This is very important on down hills where, if you lose too much speed, you can lose minutes and crashing can cause you to lose months of racing from broken bones. You must develop this skill to a fine art. Your braking must be smooth and steady.

Another very important rule is to use both brakes in braking. Just using the front brake destabilizes the bike and you tend to find yourself going over the handlebars. Just using the rear brake will cause your rear wheel to lock and lose traction when your weight shifts forward off of it. This skidding will cause the rear wheel to pass the front wheel especially while going down hills. It makes for very exciting riding and can brake bones.

Believe me, you don't want to find yourself descending some hill backwards. No fun.

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