

**Safety and Education**  
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**Is Cycling Bad for Your Knees?**

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**Introduction**

I used to be a long distance runner for many years. In my mid-fifties an old knee injury began acting up and I needed knee surgery. After surgery, running was never the same for me. Running even short distances caused my knee to swell and resulted in restricted range of motion. Not only that, even when I abstained from running, I had persistent low-level discomfort in my “repaired knee.” My running days were over.

When my youngest son Jake started mountain biking, I didn’t want him riding in the woods alone, so I got a mountain bike and I joined him, aching knee and all. To my great surprise, not only did the extreme biking not bother my knee, by my knee stopped hurting altogether when I was at rest.....no swelling, no pain, no problems.

As time went on Jake and I both took up road biking to keep us in shape for mountain biking. Again, to my great surprise, even with the much longer distances in road biking I had no knee pain. I became a biking fanatic, replacing my love for running with a love for biking.

After well more than a decade and a half of heavy biking my knees are still in great shape. With this experience, I can’t imagine that biking is bad for knees. Of course I’m no expert, and we all differ from each other, so your experience may not match mine. If you are concerned about the potential impact of cycling on your knees, take a look at the following article for more insight.

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**Is Cycling Bad for Your Knees?**

RIDING CAN BE GOOD FOR YOUR OVERALL HEALTH AND JOINTS—IF YOU’RE DOING IT  
CORRECTLY.

By Selene Yeager / Published June 14, 2023 / Bicycling.com

It’s no secret that cycling gets applauded for being a [low-impact](#) sport, meaning it’s gentle on your joints. But what many riders don’t understand is that the repetitive actions of cycling,

particularly [pedaling](#) upward of 4,000 to 5,000-plus revolutions, can cause some [pain](#) and possibly cause problems for your joints.

For some, issues with [bike fit](#) or technique compound over time to cause pronounced [knee pain](#), the most common lower-body complaint in our sport. [Research](#) shows that up to 60 percent of recreational riders experience knee pain from overuse at some point or another. So does that mean cycling bad is for your knees?

The short answer is no; cycling is great for your overall health and easy on your joints. The long answer is that there are some common culprits behind the aches and pains in your knees—and how to correct them so you can [pedal pain-free](#).

### Racking Up Too Many Miles, Too Quickly



Trevor Raab

The number-one way cyclists hurt their [knees](#) is suddenly riding longer, faster, and/or harder than they have been. Your connective tissues are not conditioned to bear the load you're putting on them, and your joints get inflamed and pipe up.

The solution: [Increase your riding mileage](#) or time progressively, by 20 to 25 percent each week (to a point of course—there are only so many hours).

“Where you need to be most careful is not so much ramping up over a week, but on an individual ride,” says Hunter Allen, founder of the Peaks Coaching Group and co-author of [Training & Racing with a Power Meter](#). “If your longest long ride is 40 miles, don't go 80 next week. Instead go 50, then 60 the next week, then 75, maybe 80.”

Be similarly prudent when adding intervals, sprints, and hills. Don't go from nothing to [hill repeats](#) and three sets of Tabatas. And always give yourself a proper [warmup](#), so your muscles and connective tissues are warm and your synovial fluids (your joints' natural lubrication) are flowing before you toss down the hammer.

## Your Seat Is Not Adjusted Correctly



Trevor Raab

Poor [saddle fit](#) can result in stress, pain, and injury. To perform a quick check, place your pedals in the 6-o'clock and 12-o'clock positions and rest your heel on the lower pedal, says pro cyclist Sara Bresnick, also a fit specialist and owner of Pedal Power Training Solutions in Medford, Massachusetts. "Your leg should be straight, which equates to a 20- to 25-degree knee bend when clipped in," she says.

When both feet are positioned parallel to the floor (3 o'clock and 9 o'clock), the forward knee should be over the ball of your foot.

"As a quick rule of thumb, if the front of your [knee](#) hurts, try [raising the saddle](#) a bit or moving it back in relation to the handlebars. If the back of your knee hurts, try lowering the saddle a bit or moving it forward a bit in relation to the handlebars," Bresnick says. "Remember, even moving millimeters can make a big impact, so don't move your settings too much at one time."

If your knees (or anything else for that matter) hurt despite following a [smart riding schedule](#), have your [bike fit](#) dialed by a professional.

## You Do the Monster Mash



Trevor Raab

Pushing heavy gears at a low [cadence](#)—below 60 to 75 rpm—places a high load through the patella (kneecap) with each [pedal stroke](#). Use your gears to lower the load and [increase your cadence](#) to spin above 80 rpm.

Bonus: Spinning faster in lower gears has been shown to improve your [endurance](#).

## You Don't Dedicate Time to Strengthen Your Core



Trevor Raab

What does your [core](#) have to do with your knees? Pretty much everything. Your core, which includes [your hips](#) and [glutes](#), forms the platform from which you push off when you're pedaling. It also keeps you stable in the saddle. When it fatigues, your pedaling mechanics break down.

In one [study](#) of 15 competitive cyclists, researchers found that the riders' legs moved significantly more from side to side, placing more stress on the knee joints and paving the

way for pain, following a core-fatiguing workout than when they pedaled with fresh, rested core muscles. [Work those core muscles](#) regularly to keep 'em strong and fatigue resistant.

### Your Range of Motion Is Limited



Trevor Raab

We can debate the merits of [stretching for cyclists](#) 'til we're blue in the face, but it's indisputable that if you have poor range of motion, your pedaling may end up causing pain as your kneecap is unable to track in a healthy fashion.

[Stretching](#) and [foam rolling](#) all your major [leg muscles](#) can help keep pain at bay. Regular massage will also help break up adhesions and prevent muscles from getting knotted and "stuck."



Trevor Raab

Your foot position has a direct effect on your knees, so it's essential that your [cleats](#) are placed properly.

[Position your cleats](#) so the ball of your foot is directly over (or even a bit behind, if you're prone to knee pain) the pedal axle. Your cleat angles should be aligned with the natural angle of your heels, since unnaturally toeing in or out can stress your knees.

When adjusting pedal float (or how much room for movement you have when clipped in), more is not better, cautions Bresnick. "Too much float allows the knees to toggle all over the place," she says, which not only wastes watts, but stresses your joints. Aim for a sweet spot of about 4.5 degrees of float.

### You're Squatting All Wrong



Adam Hoff

Proper [squat form](#) is a topic of ongoing debate. But one thing everyone agrees on is that it's bad to lean forward and/or put weight on your toes.

"It's vital that your feet remain flat on the floor—don't lift your heels—and that you keep your weight over the base of your foot," says Harvey Newton, a former USA Cycling strength and conditioning advisor, and the creator of the Strength Training for Cyclists system.

What's more, partial [squats](#) can result in greater stress on the knee than a full squat. "So restricting range of motion may cause, rather than prevent, knee problems," Newton says.

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Okay riders, I hope you found that insightful. If you'd like more insight into diagnosing and fixing knee pain, review *S&E Volume 3/23* from earlier this year.

That's all for now. See next week, until then....

Make Every Ride Epic,

Darryl