## BEAT THE WINTER BLUES

## Make the most of your training time


average power sinks.
One important implication of this curve: You can improve performance at longer durations by training at higher intensity over shorter durations. By putting in a few hard 15- or 20-minute efforts, you can directly increase your ability to ride for three or four hours.

Higher intensity means efforts within 10 percent of threshold. Threshold means the most work you can do in an hour. Scientific research, in addition to anecdotal evidence, repeatedly demonstrates the close relationship between improvements in short efforts and improvements at much longer efforts.

Sports training can be summarized like this: Maximize the amount of time spent stressing relevant physiological systems, while minimizing unnecessary fatigue. In bicycle racing, the power a rider can produce at threshold is the single most important physiological determinant of success. Bike-handling skills, sprinting and other factors are of course important too, but if we're to prioritize one ability over all others, it's threshold power - measured in watts per kilogram. For example, in peak form Lance Armstrong can produce upwards of 6.5 watts per kilogram, while your local Cat. II hero is probably in the $4.2-4.5$ range.

If you want to increase your performance over a certain duration like 15 or 20 minutes - then practice performing as much work as possible

Don't you just love reading about training camps this time of year? It's great to see how the hooked-up pros are getting so much better than you thanks to long hours of warm-weather riding in sunny locales. For most of us, however, winter presents many obstacles for training: It's dark when we have time to ride; snow and ice render favorite training roads impassable; and those competitive summer group rides are nowhere to be found. Plus, it's just plain cold. What's a rider to do?

I'm going to let you in on a secret: Most of these pro riders don't train as much as they say they do. Sure, they might ride 20 hours per week, but as the amount of time they spend on their bikes goes up, the quality tends to go down. With just 10 weekly hours of structured training, a recreational racer can reap about the same benefits as someone who "just rides" 20 hours a week.

The power-duration curve for endurance athletes shows us that even the most highly trained endurance athletes can produce higher power for shorter durations than for longer durations. It follows that the longer you ride, the lower your
over that duration, recover, and then do it again. The training cycle is simple: stress a system, allow it to recover - by supercompensation, or improvement - then repeat.

If you have just one spare hour in a day to train, you have enough time to make substantial improvements. In an hour you can warm up, do three 15-minute intervals, and cool down. The 15- to 20-minute interval will be primarily aerobic, but long enough to keep you from riding at such a high intensity (VO2 max or higher) that would require long recovery.

Just two or three of these short workouts per week can result in better overall performance - not just on the longer weekend rides you're able to manage in the dead of winter, but in your racing once the season begins.

Follow these tips to rev up your winter fitness:
RIDE STRUCTURED TRAINER WORKOUTS. Riding the trainer can be mentally tough, and without structure it can be slow torture. Don't ever start an indoor trainer workout without a set goal and agenda. For example, plan a 10- to

15-minute gradually increasing warm-up, a set of prescribed intervals, including recovery time, and an easy cool down of five to 10 minutes. One of my favorites is six to eight five-minute efforts at threshold, with one-minute recovery between efforts. Using incomplete recovery (one minute or less) enables us to break up the intervals into shorter, more manageable durations. And a one-minute recovery is perfect for adjusting a fan, taking a drink, toweling off, or adjusting your audio/visual entertainment.
USE LOCAL PARKS. As productive as indoor trainer rides can be, if you live in or near a city, then you typically have access to public parks and/or industrial park circuits. Central Park in New York, Prospect Park in Brooklyn, and the Tuesday Night Crit loop in Dallas are all good examples of enclosed, lit loops frequented by cyclists on winter evenings. Be sure to carry a good light set and be properly dressed for the weather, but the advantage of these circuits (besides the group motivational aspect) is that they enable you to train outdoors in a controlled environment. And the natural variations in power caused by short hills and group dynamics is something riders often miss in the confines of the indoor training.
FIND LOCAL GROUP TRAINER RIDES AND SPIN CLASSES. While spin classes run by and for serious cyclists have been around for a number of years, we're also starting to see various coaches running group trainer rides using people's own bikes and trainers. The advantage of using your own bike and trainer should be obvious, and having a qualified coach leading the ride adds to the motivational aspect. Find a group that fits your schedule, with a workout that meshes with your overall training plan and goals.
Having limited training hours does not have to be an insurmountable obstacle to building race fitness. Use these techniques to maximize the quality of your training time this winter and, come race season, you'll be glad you did.

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