



Bike to Cure Training Guide

“The Weekend Warrior”

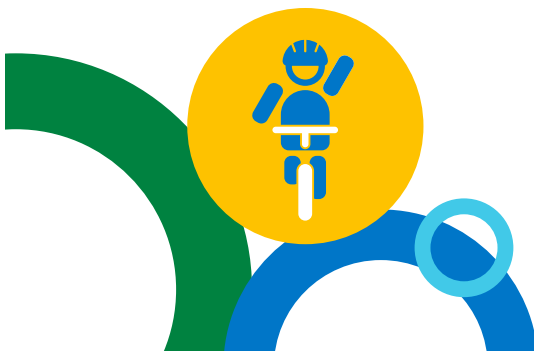
By Matthew Kampert DO, MS

This guide includes training suggestions for your chosen distance for VeloSano Bike to Cure.

This plan will get you ready for your ride with minimal time and energy commitment. The Weekend Warrior schedule is not really the “Right” way to do it, but hey, I realize everyone has busy lives with limited time and this plan will help get you ready mentally and physically to enjoy your experience. With just two workouts per week, you can be ready to Bike to Cure.

The Details

Your rides will basically include one long, slow ride per week and one ride with hills or “intervals”. Intervals are short periods of higher intensity exercise, usually 2 to 5 minutes in length that are separated by rest periods. You should continue riding throughout these sessions, but reduce your pace significantly during the rest periods. Try doing intervals of varying lengths and intensities. A good way to add intensity is to ride into a headwind or up a small hill. You will also notice that one (additional) day per week is designated as a cross-training day. Cross-training is important to prevent injury and burnout. If you’re a true “weekend warrior” you can even do this on the same day as one of the rides. The best cross-training activities are weightlifting, yoga, jogging, swimming, or walking.



Commonly Asked Questions

Am I allowed to “draft” off of other cyclists?

Drafting is permitted, but this can be a dangerous activity. Only practice drafting after you are very comfortable on your bicycle, with experienced cyclists, and only under good conditions. Keep in mind that while you are drafting, you are riding with 20-30% less effort, so you will probably not be gaining as much fitness during this activity as you would if you were riding alone. But if you choose to draft during the event, be sure to practice before-hand. Work on maintaining a smooth steady pedal-stroke, a very straight line, and always looking ahead of your group to anticipate changes in pace. Avoid looking only at the person right in front of you, and avoid slamming on your brakes suddenly!

How hard should I be going on my slow rides? My fast rides?

REFER TO GRAPH 1

This depends on several factors including your age, fitness and level of experience. **Intensity can be categorized into 5 distinct “training zones” listed in Graph 1**, and monitored in several ways, including heart rate (bpm), rating of perceived exertion (RPE), pace (mph), and even power (Watts). Monitoring your heart rate to remain within the appropriate training zone throughout your ride will require a heart rate strap or a smartwatch. This method takes into account your age and fitness to provide an affordable objective measure. By monitoring your resting heart, you will be able to appreciate improvements in fitness as your resting heart gradually declines as your cardiovascular system becomes stronger and more efficient. On the other hand, an elevation in resting heart rate could be an early warning sign of overtraining, indicating the need to focus on more recovery between training sessions. Additionally, exercising heart rates can provide insight into hydration status. As you become dehydrated from increased water loss through sweating, the amount of blood the heart can pump each beat also decreases, and as a result the heart compensates by increasing heart rate. This increase in heart rate for the same level work is referred to as “cardiovascular drift”, and can significantly impair your performance.

Training intensity can also be measured based upon how hard you feel you are working through your “rating of perceived exertion” using a scale from 0-10. To measure time, speed, distance as well as revolutions per minute (rpm), cadence, or power (watts) consider getting a bike computer. The information this tool provides helps track progress and builds confidence throughout your training. You can also download one of the many popular fitness tracking apps to your smartphone, which could sync with your heart monitor in addition to providing speed, distance and pace through GPS on your phone.

What about nutrition and hydration?

REFER TO GRAPH 2

The primary fuel used to support exercise depends on the intensity and duration of exercise as well as the major fibers involved (fast vs slow twitch). Skeletal muscle has stores of both glycogen and some triglycerides. Blood glucose and free fatty acids also may be used. Fast twitch muscle fibers have a high capacity for “anaerobic glycolysis” but are quick to fatigue. They are involved primarily in short term, high intensity exercise like hill climbs, sprints and interval training (Zones 3-5). Slow twitch muscle fibers in arm and leg muscles are well vascularized and primarily oxidative (require oxygen). They are more resistant to fatigue and used during prolonged, low-to-moderate intensity exercise like long rides (Zone 1-3). Slow twitch fibers and the number of their mitochondria increase dramatically in trained endurance athletes.

This is why this training guide focuses on building a large cardiovascular fitness base by spending the majority of training in Zone 2. While Zone 2 exercise might not seem very beneficial and you may feel the need to push every ride as hard and as fast as you can, you want to avoid giving into that desire of speed. Spending a significant amount of time in Zone 2 sends metabolic signals to your muscles to increase mitochondrial density within the muscles, which turns your muscles metabolic machinery into a more efficient calorie burning machine.

With this improved ability to generate energy within your exercising muscles from all of the Zone 2 training you do over the months leading up to the race, you will be able to better fuel your muscle during those faster and more intense rides. Additionally, it is important to incorporate the more intense workouts during training, as this will help to strengthen and condition both muscle and cardiovascular system for this level of increased demand.



Commonly Asked Questions

GRAPH 1

HR Zone	Component	%HRmax	RPE	Pace
ZONE 1	Active Recovery	50-60%	4-6	Slow 8-10 mph
ZONE 2	Endurance	61-70%	6-7	Light 10-14mph
ZONE 3	Stamina	71-80%	7-8	Moderate 14-16mph
ZONE 4	Speed	81-90%	8-9	Fast 16-18mph
ZONE 5	Power	91-100%	9-10	Sprint >18mph

Calculating Training Zone

Heart Rate Range for a 40 year old cyclist with a Resting HR of 68.

Heart Rate Max
= $220 - \text{Age} (40) = 180$

Heart Rate Reserve
= $\text{HRmax} - \text{HRrest}$
 $\text{HRR} = \text{HRmax}(180) - \text{HRrest}(68)$
= 112

Intensity for Zone 2 (60-70%)

$60\% \times 112 = 67$
 $70\% \times 112 = 78$

Add resting HR back
 $60\% = 67 + 68 = 135$
 $75\% = 78 + 68 = 142$

Zone 2 (135 – 142 bpm)

GRAPH 2

HR Zone	Sustainability	Fuel Source	Fuel System
ZONE 1	Long Duration Hours+	Predominately Fat	Aerobic
ZONE 2	Up to an hour or more	Fat & Glycogen (carbs)	Aerobic
ZONE 3	Several minutes	Muscle glycogen (carbs) & some Fat	Aerobic Anaerobic
ZONE 4	30 Seconds to a few minutes	Muscle glycogen (carbs)	Anaerobic
ZONE 5	Seconds	Creatine phosphate	ATP-PC

Nutrition Recommendation

Carbohydrates: 30-55% total calories
4-6 g/lb BW

Intense Training Days

More carbs
Higher glycemic, lower fiber

Recovery Days

Fewer carbs
Lower glycemic, higher fiber

Fats: 20-35% total calories
0.3 – 0.6 g/lb BW

Proteins: 25-35% total calories
0.5 – 0.7 g/lb BW
30g per meal

Hydration Recommendation

Pre-Workout

24 oz

During Workouts

12 oz every 30 min

Post Workout

16-24 oz / lb lost

Sodium

300-600 mg/h



Commonly Asked Questions

Short bursts of high- intensity exercise are supported by burning carbohydrates stored within the active muscles. During moderately high, continuous exercise, burning of glucose and fatty acids are both important, but after 1–3 hours of continuous exercise at this level, muscle carbohydrate stores become depleted and the intensity of exercise declines to a rate that can be supported by burning of predominately fatty acids which is a slower process to generate energy than burning carbohydrates. This highlights the need to be well fueled prior to the race and to be knowledgeable on ways to refuel during the race.

Bike to Cure Rest Stops will be well stocked and well supported, but during your longer training rides, you should carry water or sports drink. For your longer rides (anything over one hour) you should bring a small snack such as an energy bar or some fruit. Be sure to consume familiar food and drinks on the event day, to avoid GI upset. It is important to be well fed and hydrate the days leading up to the event, because your body's preferred fuel source is carbohydrates stored in your muscles in the form of glycogen. Post workout meals are crucial for replenishing these glycogen stores, which set the stage for next training session. It is best to consume higher glycemic carbs during and after training. During prolonged endurance events protein requirements also increase as the body begins to oxidize protein as an additional fuel substrate. With 1 hour of aerobic exercise at 55-60% of Heart Rate Reserve leads to a 25% increase in protein oxidation. Hydration also plays a key role in performance, with just a 1% decrease in body water resulting in a compromised ability to thermoregulate and dissipate heat during exercise, a 2 % reduction can decrease cardiac output, cognitive awareness and time to exhaustion. **Consider following the hydration recommendations listed with Graph 2.**

Which should I do if it is raining?

Riding in the rain can be dangerous, and it is usually not very pleasurable, but it certainly may happen! If you are new to cycling, I suggest that you take a rest day if it is raining, or substitute a walk or jog. Don't try riding in the rain until you are very comfortable handling your bicycle. However, consider (eventually) doing at least one or two rides on rainy days so you can practice how to handle your bike on slippery roads. Be very cautious on turns, especially on painted surfaces such as crosswalks as they get slippery when wet. Leave extra time for stopping, and have your brakes adjusted so they can be applied very firmly. Dress with an extra layer of clothing or light rain jacket. Don't ride with dangling clothing items that may become tangled in the wheels or chain. AVOID car traffic on rainy days. They often can't see you.

Do I really need to ride on hills? How steep or long should the hills be?

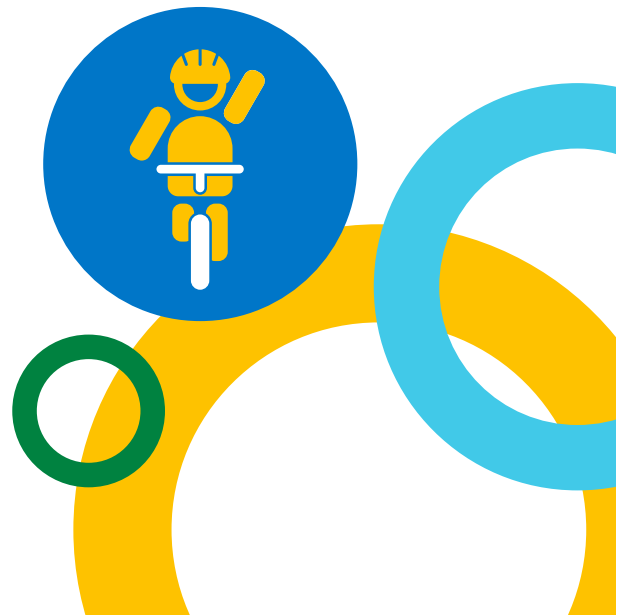
This depends upon how hilly your event route will be and on what you have available for hills. Check out velosano.org to view your route using Ride with GPS for turn-by-turn and elevation details. When in doubt, start with smaller hills and ride up them more slowly. If you do not have hills nearby, try using a freeway overpass, or the road through a small river valley. You may also use a stationary trainer with increased resistance setting, or just ride on a flat road but use a higher gear for a short time. However, if you are preparing for one of the more hilly routes, you should drive to a place with large hills at least once during the month of August. There is really no good substitute for the real thing! Also practice going downhill safely, and practice turning and stopping on downhills.

What if I miss a workout?

You do NOT have to do extra training. Just simply pick up where you left off on the list of training sessions, OR just restart at today's date on the calendar. Maybe add in one extra session per week if you're ambitious. Off time is set-aside to help with recovery but can be used to make up some missed training.

Conclusion

We hope you enjoy your Bike to Cure ride, but also enjoy the process of training for the event. Please ride safely, and always try to have fun. Once you've finished this event, we encourage you to pick another athletic goal for the fall or winter, and we hope to see you again next year at Bike to Cure!



April / May

NOTES

WEEK 1 (4/23)

- ✔ Measure Resting Heart Rate and calculate your training zones.
- ✔ Start riding on Stationary bike/trainer 15 minutes 3-5 times a week in Zone 2.
- ✔ Consider increasing water intake and including a multivitamin if weight loss is desired try to create a daily caloric deficit of 500 calories as this will result in 3,500 weekly caloric deficit (Note: 1 pound of fat contains 3,500 calories).

WEEK 2 (4/30) Total Zone 2 time 10% longer than week 1

- ✔ Increase Zone 2 time by 10% (by increase ride duration or frequency).
- ✔ Cross training. Resistance training can help preserve lean muscle mass if part your goal is weight loss and improved body composition. Start with 1 set of 8-12 repetitions, with 1 exercise for each of the major muscle groups 1-2 times/week.
- ✔ Track your nutrition and make sure you are getting adequate high quality protein based on your lean body weight from "complete proteins".

WEEK 3 (5/7) Total Zone 2 time 10% longer than week 2

- ✔ Increase Zone 2 time by 10% (by increase ride duration or frequency)
- ✔ Cross training. Increase to 2 set of 8-12 repetitions, with 1 exercise for each of the major muscle groups 1-2 times/week.
- ✔ Take time and assess muscles flexibility. Start incorporating stretches specific to these areas.

WEEK 4 (5/14) Total Zone 2 time 10% longer than week 3

- ✔ Increase Zone 2 time by 10% (by increase ride duration or frequency).
- ✔ Resistance training. Increase to 3 sets of 8-12 repetitions, with 1 exercise for each of the major muscle groups. Consider splitting resistance training into 2 types of workouts (Upper body vs Lower body) to decrease the duration of workouts.
- ✔ Cross training. Consider replacing a ride or 2 with a run in Zone 2. Continue to stretch regularly.

WEEK 5 (5/21) Total Zone 2 time 10% longer than week 4

- ✔ Reassess your Resting Heart Rate, as your fitness has likely improved over the last month and should reflect in a lower resting heart rate. If your resting heart rate is elevated, this is a warning sign of over training/under recovery.
- ✔ Continue your rides on your stationary bike/trainer in Zone 2 for the same total weekly minutes, but have a longer ride (length of 2 average rides). Continue resistance training.
- ✔ Get out the bike. Have a local bike shop check your fit and do a tune-up. Check velosano.org for offers from local bike shops.

WEEK 6 (5/28) Total Zone 2 time 10% longer than week 5

- ✔ Short ride for just 20 minutes but try a few small hills or intervals. Push the effort for just a minute or two. How does it feel to go fast? Continue resistance training.
- ✔ Increase Zone 2 time by 10% (by increase ride duration or frequency).
- ✔ Longer slow ride (Zone 2); (at least 30% of race distance) Trial some nutrition options to stomach accustomed to refueling while exercising.

June / July

NOTES

WEEK 7 (6/4) Total Zone 2 time 10% longer than week 6

- ✔ Moderate-paced short ride (Zone 3).
- ✔ Resistance training 3 set of 8-12 repetitions, with 1 exercise for each of the major muscle groups. (Upper body twice & Lower body once). Continue doing multiple Zone 2 workouts during the week to get your distance in as your schedule permits.
- ✔ Long, slow ride (Zone 2). Go a bit farther than your longest mileage (Increase by 10%); (40% or race distance).

WEEK 8 (6/11) Total Zone 2 time equal to week 5

- ✔ Intervals: Ride slow to warm-up for 5 minutes, then alternate fast and slow riding for about 15 minutes – 1 minute fast (Zone 4) and 2 minutes slow (Zone 2). Repeat 5 times. Finally, ride slow again (cool down) for 5 minutes.
- ✔ Long, slow ride (Zone 2): Practice shifting gears, stopping at stop signs, riding a nice straight line; (40% of race distance).
- ✔ Resistance training: 3 sets of 8-12 repetitions, with 1 exercise for each of the major muscle groups. (Upper body twice & Lower body once).

WEEK 9 (6/18) Total Zone 2 time equal to week 6

- ✔ Reassess your Resting Heart Rate. Resistance training 3 sets of 8-12 repetitions, with 1 exercise for each of the major muscle groups. (Upper body once & Lower body once).
- ✔ Tempo ride: After a short warm-up, ride a moderate to hard pace effort (Zone 3) if you're doing the Guardian City Loop route. Try 4 miles if you're doing the 25-mile route, then go 10 miles. If you're doing the 50, try 20 miles. This should feel quite challenging. Try to keep an even pace the whole time or even go slightly faster at the end. Cool down for 5 minutes.

WEEK 10 (6/25) Total Zone 2 time 10 % longer than week 9

- ✔ Hill intervals (Zone 4). After a 10-15 min warm-up, find a suitable hill – one that makes you very tired by the top. Ride it slow the first time. Pick a safe “turn around” spot at least 50 yards past the top of the hill. Turn around and ride down slowly and safely. Do the hill again, this time as fast as possible, but use a low gear— spinning at high RPMs (at least 80/min). Do the hill again, this time in a slightly higher gear, but still focus on spinning/high RPMs and standing up on the pedals occasionally. If needed, shift down to a lower gear at the top. If you're feeling good, keep doing the hill as many times as you'd like. Experiment with different gears, and alternating between standing/siting. But leave time for a good long cool-down. At least 15 minutes of slow riding.
- ✔ Resistance training: 3 sets of 8-12 repetitions, with 1 exercise for each of the major muscle groups. (Upper body once & Lower body once).
- ✔ Long, slow ride (Zone 2) at least 60% of race distance.



June / July

NOTES

WEEK 11 (7/2) Total Zone 2 time 10 % longer than week 10

- ✔ Intervals: Ride slow to warm-up for 5 minutes, then alternate fast and slow, 2 minute fast (Zone 4) and 3 minutes slow (Zone 2). Repeat 4 times. (cool down).
- ✔ Resistance training: 3 sets of 8-12 repetitions, with 1 exercise for each of the major muscle groups. (Upper body once & Lower body once).
- ✔ Long, slow ride (Zone 2) at least 70% of race distance.

WEEK 12 (7/9) Total Zone 2 time equal to week 9

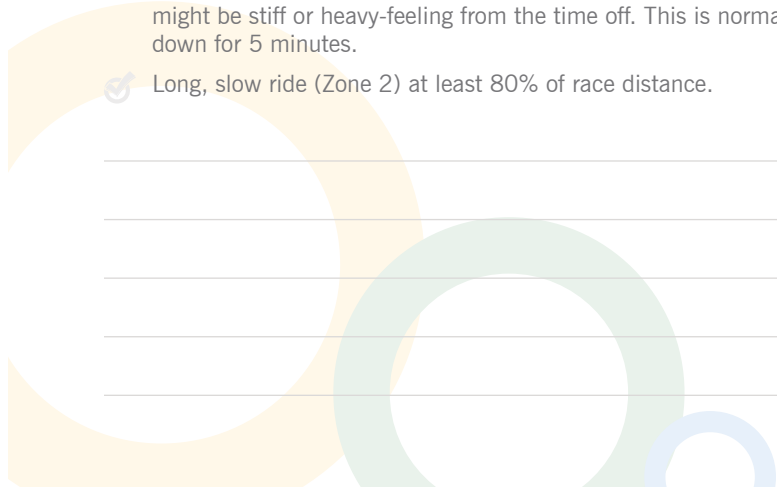
- ✔ Tempo ride: After short warm-up, (Zone 3) if you're doing the 12-mile route, try 6 miles. If you're doing the 25-mile route, then go 13 miles. If you're doing the 50, try 20 miles. This should feel quite challenging. Cool down.
- ✔ Last week of Resistance training: 3 sets of 8-12 repetitions, with 1 exercise for each of the major muscle groups. (Upper body 1-2 times). Continue doing multiple zone 2 workouts during the week to get your distance in as your schedule permits
- ✔ Long, slow ride (Zone 2) at least 60% of race distance

WEEK 13 (7/16) Total Zone 2 time equal to week 10

- ✔ Hill intervals (Zone 4). This will be the MOST difficult ride of the summer. This one should be done EARLY in the week to allow time to recover. Maybe pick a larger or steeper hill if you weren't adequately "challenged" last time. Ride a good long warm-up, maybe 20 minutes. Ride the hill slowly the first time, but this time, ACCELERATE at the top! Practice getting back into a rhythm on flat ground at the top of the hill. Push your pace right back up to your average speed on a "tempo" ride. Go for about 2 minutes at this pace and pick a visible "finish line" just before your turn-around point. Ride back down the hill slowly and safely. Do the hill again, this time at a moderate pace, but again accelerate over the crest of the hill and get back up to speed for 2 minutes. Use a low gear -spinning at high RPMs (at least 80/min), do the hill again and again until you're almost completely exhausted. If needed, shift down to a lower gear at the top. Accelerate as you crest the hilltop by spinning faster RPMs. Shift to higher gears as you get back up to speed. Again, leave time for a good long cool-down. At least 15 minutes of slow riding.
- ✔ Reassess your Resting Heart Rate. Cross training. Have fun! Visit your local bike shop to "stock up" for the big ride! REST, RECOVER. Treat yourself to something you like to eat. Sleep more!
- ✔ Long, slow ride (Zone 2) at least 70% of race distance.

WEEK 14 (7/23) Total Zone 2 time 10% longer than week 13

- ✔ Intervals: Ride slow to warm-up for 5 minutes, then alternate fast and slow, 2 minute fast (Zone 4) and 3 minutes slow (Zone 2). Repeat 5 times. (cool down).
- ✔ Medium ride: 'Ease' back into it after recovery. After a nice, slow warm-up (10-15 minutes), ride a moderate pace effort for about 20-30 minutes. Your legs might be stiff or heavy-feeling from the time off. This is normal, don't worry. Cool down for 5 minutes.
- ✔ Long, slow ride (Zone 2) at least 80% of race distance.



July / August

NOTES

WEEK 15 (7/30) Total Zone 2 time 10% longer than week 14

- ✔ Tempo ride: After short warm-up, (Zone 3) if you're doing the Guardian City Loop route, try 8 miles. If you're doing the 25-mile route, then go 16 miles. If you're doing the 50, try 32 miles. This should feel quite challenging. Cool down.
- ✔ Continue doing multiple Zone 2 workouts during the week to get your distance in as your schedule permits.
- ✔ Long, slow ride (Zone 2) at least 90% of race distance.

WEEK 16 (8/6) Total Zone 2 time equal to week 13

- ✔ Hill intervals (Zone 4). Similar to week 13, but try to push even harder.
- ✔ Continue doing multiple Zone 2 workouts during the week to get your distance in as your schedule permits.
- ✔ Long, slow ride (Zone 2) 80% of race distance.

WEEK 17 (8/13) Total Zone 2 time equal to week 14

- ✔ Intervals: Ride slow to warm-up for 5 minutes, then alternate fast and slow, 2 minute fast (Zone 4) and 3 minutes slow (Zone 2). Repeat 5-7 times. (cool down).
- ✔ Reassess your Resting Heart Rate Continue doing multiple Zone 2 workouts during the week to get your distance in as your schedule permits.
- ✔ Long, slow ride (Zone 2) at least 90% of race distance

WEEK 18 (8/20) Total Zone 2 time 10% longer than 17

- ✔ Hill intervals (Zone 4). This will be your last big hill workout. Make it count, and be sure to recover during the week before the long ride.
- ✔ Take few more recovery days to get ready for long ride.
- ✔ Long, slow ride (Zone 2) at least 100% of race distance.

WEEK 18 (8/20) Total Zone 2 time 10% longer than 17

- ✔ Hill intervals (Zone 4). This will be your last big hill workout. Make it count, and be sure to recover during the week before the long ride.
- ✔ Take few more recovery days to get ready for long ride.
- ✔ Long, slow ride (Zone 2) at least 100% of race distance.



August / September

NOTES

WEEK 19 (8/27) Total Zone 2 time 10% longer than 18

- ✔ Tempo ride: After short warm-up, (Zone 3) if you're doing the Guardian City Loop route, try 10 miles. If you're doing the 25-mile route, then go 20 miles. If you're doing the 50, try 40 miles. This should feel quite challenging. Cool down.
- ✔ Continue doing multiple Zone 2 workouts during the week to get your distance in as your schedule permits.
- ✔ Long, slow ride (Zone 2) at least 70% of race distance.

WEEK 20 (9/3) Taper week

- ✔ Early in the week do some Intervals: Ride slow to warm-up for 5 minutes, then alternate fast and slow, 2 minute fast (Zone 4) and 3 minutes slow (Zone 2). Repeat 4 times. (cool down).
- ✔ Throughout the week have several active recovery/refuel days. After a nice, slow warm-up (10-15 minutes), ride a moderate pace effort for about 20-30 minutes. Your legs might be stiff or heavy-feeling from the time off. This is normal, don't worry. Cool down for 5 minutes. Eat your larger meals after these workouts as this will help restore and supersaturation your muscles with carbohydrates and fat for ride day.
- ✔ Rest up and refuel for upcoming ride day, This would be the week to cut out caffeine if you consume it, this will help with sleep and sensitize the body to caffeine. You might notice an added boost when you resume your caffeine on ride day after being off of it for a week or two.

RIDE DAY (9/9)!



About the Author

Matthew Kampert, DO, MS with a dual appointment in Orthopedics and Endocrinology, he practices Sports Medicine and Medical Weight Loss on the Eastside and Cleveland Clinic's Main Campus. He has completed his residency and fellowship training at the Cleveland Clinic. Dr. Kampert has a strong interest in performing cardiopulmonary and metabolic testing through physician based exercise assessments and prescriptions. He views all of his patients as athletes, and enjoys helping them return to sport or become independent exercisers within their communities.

