

Chapter 2

Zone 1 – Recovery Workouts

It may seem odd to start off this book with recovery workouts, but the workouts in this book are listed in order by level of difficulty from easier to more strenuous, and recovery workouts are the easiest of workouts. It's also good to put them up front to remind cyclists that recovery is just as important as working out. If you ride hard all the time but never rest to allow your body or mind to recover, eventually you will plateau and become stale, and not get the improvements you want. These recovery workouts are designed to provide your legs the rest they need and to also help them recover more quickly than doing nothing – a concept called 'active recovery'. These workouts get your leg muscles and joints moving to help flush away metabolic waste products, loosen up tight and sore muscles and get your blood circulating to help speed recovery. These workouts will also to give your head a mental break from harder training. Keep in mind, training breaks your body down, it's the recovery that builds it back up stronger! Don't underestimate the power and importance of these easy workouts. Recovery is key to improvement. These should be done 2-3 times per week.

Workout 1: Recovery Spin

Purpose of Workout: An active recovery ride to loosen up stiff, sore legs and to circulate blood to flush out waste products. Riding easy is a form of muscle massage. This is meant to be done on days following hard workouts to speed recovery, or on days leading up to a big ride or race during the taper. Being a recovery workout, this is meant to rest all systems and allow their recovery.

Course Description: Should be done on a fairly level road, or if that isn't possible, spin a low gear on hills. This can also be done on a trainer with no or light resistance, and is great to do on rollers with no resistance. It can also be done on a mountain bike on trails or road.

Workout Description: This entire ride should be ridden in a low gear with a high cadence (85-95 RPM). If hills are encountered, gear down so you can spin up them. There should be no pressure on the legs.

Total Workout Length: 30-45 minutes

Modifications: If legs are feeling good, you can throw in a few low gear sprints of 15-20 seconds, spinning up to 120 RPM.

Workout 18: Alternating 15 Second Intervals

Purpose of Workout: While short intervals are usually associated with anaerobic intervals, these are actually aerobic intervals. That's because the rest interval is equally short and you do not fully recover between intervals. Therefore, after a few of these your heart rate should settle out at a threshold (zone 4) level. When you do this, record your heart rate if you can, and you will see that it levels out and slightly increases throughout the session.

Course Description: This workout is best done on level or slightly rolling terrain. It's more difficult to maintain your target effort on hills. Choose either an out and back course, or a loop which can be ridden multiple times to get in the interval session. Try to avoid roads with lots of intersections, stop signs, stop lights and lots of traffic as these will interfere with your ability to ride without too much interruption.

Workout Description: Following a 10 minute warmup in zone 2, increase the pace to zone 4 and hold this pace for 15 seconds. Then spin easily for 15 seconds. Repeat this pattern for 15 minutes. Take a 10 minutes spin and repeat the 15 minutes set again. Warmdown 10 minutes at end. If you are using heart rate, these intervals are not long enough for your heart rate to adapt so you won't be able to judge your effort based on your heart rate. These intervals are only 15 seconds and it takes your heart at least 20 seconds to catch up to your effort. You'll have to judge your effort more by feel, but your heart rate should stabilize in the zone 4 range. Total Workout Length: 1 hour.

Modification: You can also do these on an indoor trainer for a more controlled environment. You can do more or less intervals depending on your fitness level.

Workout 45: Standing Short Hill Intervals

Purpose of Workout: This workout is both a strength and anaerobic workout. It's in this section because its real intent is to provide a serious anaerobic workout to train you to ride hard and fast up shorter, steeper hills. You will keep your cadence high on this ride (85 RPM or higher) to avoid a lot of leg strain and to focus on keeping the heart rate high. Specific leg strength hill workouts can be found in Chapter 8.

Course Description: You will need to find a short but fairly steep hill for this workout. The hill should be about a quarter mile in length and a 5-8% grade. This is steep enough to force you out of your saddle and to work hard. You can use a circuit if you have one with one or more hills on it, or you can use one hill and go up and down the same one.

Workout Description: Warm up very thoroughly – at least 15 minutes. As you approach the hill, select a gear that will allow you to spin at least 85 RPM for most of the hill (you may slow down near the top). Stand and accelerate all the way up the hill concentrating on maintaining a smooth continuous pedal stroke while standing. At the top, sit and downshift and spin for 3 Min. Then repeat the hill interval, working up to 10-12 intervals as your fitness improves. You should be reaching zone 5-6 during these intervals. Warm down. Total Workout Length: 1 hour.

Workout 46: Seated Short Hill Intervals

Purpose of Workout: Because it's done on hills, this workout is both a strength and anaerobic workout. It's in this section because it's a really good workout to get you into zone 5. It will train you to ride hard and fast up shorter, steeper hills while seated. You will keep your cadence high on this ride (85 RPM or higher) to avoid a lot of leg strain and to keep the heart rate high. Specific leg strength hill workouts can be found in Chapter 8.

Course Description: You will need to find a short but fairly steep hill for this workout. The hill should be about a quarter mile in length and a 5-8% grade. This is steep enough to force you to work very hard. You can use a circuit if you have one with one or more hills on it, or you can use one hill and go up and down the same one.

Workout Description: Warm up very thoroughly – at least 15 minutes. As you approach the hill, select a gear that will allow you to spin at least 85 RPM for most of the hill (you may slow down near the top). Stays seated and accelerate all the way up the hill concentrating on maintaining a smooth circular pedal stroke while standing. At the top, downshift and spin for 5 Min. Then repeat the hill interval, working up to 10-12 intervals as your fitness improves. You should be reaching zone 5-6 during these intervals. Warm down. Total Workout Length: 1 hour.

Workout 56: Back Squats for Strength Endurance

Purpose of Workout: The intent of this workout is to develop leg strength for sustained power output. This is different from pure strength – it is about training your legs to put out force for a long period of time, rather than the maximum force you can do one time. Cycling is an endurance sport and you need to do the pedaling motion thousands of times during a ride. Having more strength per pedal stroke will help you ride faster and tire less quickly. Muscles trained primarily are gluteus maximus, hamstrings and quadriceps, along with core muscles.

Equipment: You will need a barbell and squat rack to do these. You will also want to have a stationary bike or use your bike on an indoor trainer.

Workout Description: Warm up on your stationary bike for 10 minutes. You will want to start with a very low weight the first time you do these, perhaps even just with the empty bar. It will take your legs a couple of weeks to get used to the exercise. Select a weight that you can just barely complete 5 sets of 20 reps. Complete your first set, then get on your bike and spin for 5 minutes between sets. Spin for 10 minutes at the end. When you can complete 5 sets of 20, then it's time to increase weight on the barbell. Increase it by the next increment weight available.

Total Workout Length: 55 minutes.

Exercise Description: Stand under the bar and rest the bar on your shoulders. Grab onto the bar at shoulder width. Lift bar and step away from the rack. Keep your head tilted slightly up throughout squat. Lower yourself by flexing the knees and hips while keeping your torso at a constant angle. Your hips should move down and back as if sitting on a chair. Stop flexing when one of three things occurs: 1) your heels come off the ground, 2) your thighs are parallel to the floor, or 3) your torso begins to round forward. Stop momentarily and then extend the knees and hips and rise upward until standing erect. Pause momentarily before starting next rep. Keep your back flat and elbows out throughout the exercise. Exhale as you stand up out of the squat. Focus on keeping your core muscles engaged throughout the squat.

Modification: You may hold two dumbbells in place of using a barbell, if you don't have a squat rack available. See **Workout 57** to do these on a leg press machine.

Workout 73: Single Leg Spinning

Purpose of Workout: This workout works your pedal stroke smoothness. We do not push on the pedal uniformly throughout the pedal stroke. We are most strong on the down stroke (2 to 6 o'clock position) and weaker on the rest of the stroke. However, because one leg is pushing down while the other comes up, it tends to smooth out the stroke quite well. But, the smoothness of your pedal stroke can be improved by improving your ability to pedal in circles better throughout the entire stroke. This exercise will help you with this. It trains your muscles and neuromuscular system to work all the way around the pedal stroke.

Course Description: You will need to have either toe clips or a clipless pedal system as you will need to be able to pull up on the pedals. This workout is best done on an indoor trainer as you will need to pull a foot out of your pedal and place it somewhere and your trainer is a good place to rest it. If you can't do it on a trainer, you can do it outside but you need to be careful with the non-spinning foot to keep it away from your back wheel, and you will have to balance yourself with one foot dangling to the side while you concentrate on pedaling with the other foot. You can also try this on rollers if you are accomplished at roller riding, although it brings the added complication of staying balanced on the rollers while you hold one foot to the side and pedal with one leg. But if you can do it, it demonstrates that you have very good balance, and is also something to do to impress your buddies!

Workout Description: Following a 10 minute warmup, take one foot off of your pedal and place it back on the trainer, or hang it off to the side, being careful not to get it near the rear wheel. Select a gear that allows you to pedal about 80 RPM. Begin spinning with one leg, focusing on maintaining constant and uniform pressure to the pedals all the way around. You will consciously have to pay attention to pulling back at the bottom of the stroke, up on the upstroke and over the top of the stroke. At first your pedal stroke will be jerky but with concentration and practice, it will smooth out. Try to pedal for a minute with each leg at first, although this may not even be possible. Then switch and do the other leg. Alternate three reps with each leg, working up to 2 minutes per leg. Total Workout Length: 20-25 min

Modifications: This can also be done in combination with another workout, such as during a recovery ride or before you begin other intervals on your trainer.

Workout 83: Stair Climbing

Purpose of Workout: Running stairs is another fabulous and difficult workout when you don't have your bike. Stairs are often available when you travel, such as in multi-story hotels. It's a great cardiovascular workout which can easily be used for anaerobic interval workouts, and is convenient to do especially when travelling. Running up stairs is similar to the cycling motion and uses similar leg muscles while giving you a great cardiovascular workout.

Course Description: Find a staircase you can use which preferably has at least 5 stories. If it has less you can still use it but your intervals will be short and you'll need to do more of them. Another option is to run stairs at a stadium. These are usually high enough to give you a good 20-30 second interval.

Workout Description: Before running hills, be sure you have done some running on level surfaces to get your legs used to the running motion. You really don't want to jump right in to hill running without some running basis. Warm up by running slowly for 10-15 minutes. As you begin your stair run, you have to decide whether to run up every step or do them two at a time. Running every step requires faster leg turnover simulating spinning while running up two steps at a time is similar to pushing a larger gear and will work more on leg strength. You can use the railings to help pull yourself up or rely strictly on your legs. Run up the stairs at a fast, sustainable pace. The more flights you have the more you have to manage your pace or you will quickly go anaerobic and be reduced to walking. Jog back down the stairs to recover (don't use the elevator) and repeat. Depending on the number of flights, you can do 10 or more intervals. Warm down by jogging or walking at the end. Total Workout Length: 30-45 Min.

Modifications: If you look around you may be able to find some stair climb competitions near you. Many of these are charity fund raisers and are a great workout and are very unique events to add spice to your competitive life. Check out www.stairclimbingsports.com or the Yahoo Stairclimbing group.

Workout 92: 6 Minute Power Test

Purpose of Workout: This workout is a test to determine your current power generating ability using a 6 minute test. This test is useful to track your strength and power throughout the year. The resulting wattage number is useful as a reference point for planning the intensity of your workouts. The result of this power test is the maximum amount of power you can generate and hold over a 6 minute period. By knowing this value, you can judge the amount of power you should target for shorter and longer intervals. For example, if your average power from this 6 minute test is 300 watts, then you should be able to generate more wattage for a 3 minute interval, and slightly less for a 10 minute interval. This test can also be used to track your progress throughout the season to tell you whether you are becoming stronger or not compared to past tests. It's good to do one of these tests every four weeks during the season and at least once during the off-season. Although this is a test, it is also a tough workout in and of itself, both physically and mentally. This test is extremely difficult and should only be done if you are very fit and healthy. You will approach your maximum heart rate.

Course Description: This test is done with a power meter such as PowerTap® or SRM® on your bike. It can also be done on a trainer which has power measurement capability such as CompuTrainer®. This workout can be done indoors, to allow a very controlled environment so as to allow you to focus on reaching and holding the desired pace. This can be done outside if you have a very level road with little traffic, or a closed course. However, outside wind and any hills will make it more difficult to maintain your pace. However, doing these outside are useful to help teach you to push at your maximum sustainable pace when you are out in the elements.

Workout Description: Start out by warming up very thoroughly, at least 15 minutes. Begin the test by riding at an effort you believe you can hold for 6 minutes. The first time you may be guessing and go out too fast or slow. Spin easily for 10 minutes and then repeat the 6 minutes test. Warm down for 10 minutes. Record your wattage and time in each 6 minute test, along with your heart rate, and compare it with previous results and keep it for future reference. Total Workout Length: <1 Hour.

Modifications: If you do not have a power meter on your bike, see **Workout 93**.