

Chapter 1

Reasons for Training Indoors

Pay special attention to this title. It doesn't say 'Reasons for *Riding* Indoors', it says 'Reasons for *Training* Indoors'. There is a difference. Riding implies moving; being on your bike going for a bike ride for whatever reason: for pleasure, to get somewhere, to see and ride scenic terrain, or to increase your fitness. Cycling indoors really only addresses one of these reasons for riding your bike – to improve your fitness. You won't get anywhere, you won't see a lot of new scenery (unless you just painted the basement), and you aren't likely to hop on your trainer for fun and pleasure. If you do ride indoors for the fun of it, you need to get a life, and quickly! However, you can very effectively use your bike on an indoor trainer and get a great workout, perhaps even as well as you can ride outdoors, and in some cases, even better. Thus, cycling indoors is really only for the sole purpose of training to improve some aspect of your health and fitness. This book is geared towards using indoor cycling to improve your fitness when, for whatever reason, you can't train outdoors. This chapter is dedicated to describing the times when training indoors is advantageous and even superior to training outdoors. Most of us equate training indoors with wintertime, but as you will see in this chapter there can be many reasons for training indoors, weather being only one of them. In fact, there may be times when it's perfectly nice weather outside for riding when you will workout indoors for one of several reasons.

Winter

Winter is by far the most common reason we train indoors on our bikes. I am sure sales of indoor trainers of all types increase when winter strikes. It's the time of year to head indoors and try to hang on to some semblance of the fitness that you gained over the summer. So unless you live in a climate where winter doesn't exist or is mild, training indoors is often the only option in winter. While all of us would rather be on our bikes riding outdoors, at some point it becomes too snowy, icy, windy or cold. While you will see runners out in all sorts of wintry weather, cycling has two disadvantages over running in the winter. 1) Bikes need traction and do not work well at all on ice. 2) Bikes go faster than runners thus magnifying the wind chill. So it really comes down to wind and cold, snow and ice. It's difficult, not enjoyable and perhaps dangerous to ride in these conditions.

Chapter 2

Types of Indoor Cycling and Trainers

Indoor training can encompass almost any kind of exercise that can be done indoors, but for the purpose of this book only cycling-specific workouts are going to be covered. More specifically, this book will only cover workouts done on a stationary bike or your own bike mounted on a stationary trainer. There are many other exercises that can be done as a cyclist such as leg strength exercises and cross training on equipment such as elliptical and stair climbing machines. But these will not be discussed in this book. For ideas on these other indoor cycling-related workouts, see my other book, “101 Cycling Workouts” at www.101CyclingWorkouts.com.

Types of Indoor Cycling

There are two main ways to cycle indoors. One is to take part in a class where you are working out on an indoor trainer, usually some type of spin bike. The other is to ride by yourself on your own trainer.

Indoor Classes. Spin classes are very popular and are offered at many health and fitness clubs. These are classes which are led by a spin instructor who leads the class by calling out instructions on how to ride. For example, the instructor may tell you to spin faster, increase or decrease the resistance, stand up, sit down and how hard or easy to ride. Class size usually has 10 to 20 participants. The instructor almost always plays music to set a tempo and to keep the participants motivated. Class length is typically 50 to 60 minutes although longer sessions can be found at some gyms. Be sure to bring at least one water bottle and a towel. You will work up a good sweat in these classes.

Spin classes are an excellent way to stay in shape especially in the winter. It is much easier to work yourself hard when you are sharing class with others and having an instructor barking instructions. It's usually more motivational than doing a workout on your own. Also, going to a gym to do a scheduled class tends to make it more likely that you will do the workout than if you have an unscheduled appointment in the basement with your own trainer. If you have trouble disciplining yourself to workout on your own at home, consider taking part in spin classes. It's hard not to get a good workout in these classes.

Recently a new line of indoor training cycles have hit the market which has built-in power meters. Saris makes a line of these indoor cycles which have built-in power meters so you can workout based on wattage rather than having to guess how hard you are working. Shown here is the Pro 300PT model. You can even download data from your workouts from these cycles.



Indoor Trainers: The other main category of indoor training devices is the indoor trainer. These are pieces of equipment on which you mount your own road bike and are able to ride your own bike indoors. The original indoor trainers were rollers. The other type of indoor trainers is the stationary trainer.

Rollers

The only way to ride indoors about 30 years ago was by riding on rollers. These are devices which have three metal drums. The rear wheel of your bike rests on the back two, and the front wheel rests on the front drum.



A rubber belt connects the front drum with the front drum from the rear wheel. As you pedal your bike, it turns the rear drums which in turn drive the front drum and turns your front wheel. As you can imagine, it takes some practice to learn

Chapter 3

How To Train Indoors

Setting Up Your Workout Area

Now that you have your trainer picked out, let's get going on setting up your workout area. In the previous chapter I mentioned that there are spinning classes and other indoor trainer sessions. This chapter is focused on methods to train by yourself in your own home. Some of the suggestions in this chapter can be used in a class setting but most will pertain to those in your home. This chapter will cover setting up your home trainer area, accessories you will want to have as you train indoors, sources of entertainment and instructional audio and video.

Location of your trainer: The first consideration is where to set up your trainer area. Most of the time your indoor training will be relegated to the basement, which isn't a bad choice for several reasons. Basements are usually cooler than the rest of your house, which is good as you will soon be dripping with sweat. Trainers and their associated noise (music, TV) cranked up so you can hear it can make a lot of noise and the basement keeps the noise out of the rest of the house. Finally, you want to set up your trainer in a dedicated space if possible. If you have to take out and put all your equipment away every time you want to train indoors, this starts to become quite a chore and can be one more thing which serves as a disincentive to train indoors. If everything is set up and all you have to do is hop on and go, it's much more conducive to training.

It's good if you can set your trainer up in a place that has a window. This serves two important purposes. First, it's nice to be able to open a window to get cool air in. Even in the winter you will find you want the window open. Second, it's always nice to be able to look outside when you are training indoors so you get a sense of being outside. And on snowy windy days, its actually fun to look outside at what you could be riding in but don't have to! When we were shopping for our current house, one of my criteria was a walk-out basement so I could have windows to look out when training in the basement. Indoor training is hard enough. There's no sense making it worse by staring at a concrete wall and feeling like you are in a jail cell.

Methods of Indoor Training

Now that everything is set up and ready to go, let's discuss the many ways to use your indoor trainer to get a good workout. There are a number of ways you can train indoors, just as there are for outdoor training. As a matter of fact, most of the workouts you can do outside can also be done indoors. Only a few, such as explosive sprints and out of the saddle hard efforts don't work so well on an indoor trainer. But other workouts, such as aerobic and anaerobic intervals, high end efforts, strength and hill climbing simulation, recovery workouts, and even endurance workouts can be done indoors and this chapter will discuss how these can be done.

There is quite a variety of types of workouts you can do through cycling indoors. I use the following categories: Recovery, Endurance, Tempo, Aerobic Threshold, Anaerobic, Maximum Effort, Leg Speed, Power, and Strength. All of these can be done on an indoor trainer and you will see examples of these in the workouts listed in Chapter 4. In fact, the workouts are grouped by these categories. Below are definitions of these categories of workouts. These are defined by 'zones' and first we need an understanding of training zones to get the most out of these workouts.

Training Zones

Training zones are used in these workouts to prescribe the intensity at which you should do these workouts. In order to get the desired benefits from these workouts, you need to make sure you are doing them at the proper effort level to elicit the desired physiological responses. There are four methods you can use on an indoor trainer to determine the intensity with which you are training. These are: 1) Power 2) Heart Rate 3) Rating of Perceived Exertion (RPE) and 4) Speed. Power is the best way to train because you are basing your effort on the direct output of your work, your power. If you don't have a power meter or a trainer that provides power readings, then the next best method is heart rate because it allows you to measure your effort and how your body responds. I use a Power Tap on my indoor training bike and also monitor heart rate. I can tell you that heart rate has a pretty good correlation with power when doing structured intervals indoors, especially on longer intervals where your heart rate is able to reach a steady state. Just be aware that there is a lag between the time when you start your interval and when your heart rate catches up.

Chapter 4

Indoor Training Workouts

Understanding and Using the Workouts

To help you understand these workouts, here are a few explanations.

Warmup: Every workout begins with a warmup, from 10-15 minutes depending on the type of workout. The more intense the workout, the longer your warmup should be. Warmups are intended to get your body temperature up, which helps the muscles contract and joint flex better, and to increase your heart rate in preparation for the upcoming workout. Here are some ways to think about warming up. Start out by spinning with fairly low resistance or gearing for the first 3-5 minutes. Gradually increase your resistance, gearing and/or cadence as you progress through your warmup. If you are going to be doing zone 4-6 workouts, you should mix in a couple of 30 second intervals by increasing your cadence and/or resistance, to start to get your heart rate up so it will be ready for the workout. In most workouts, I have included a couple of minutes of one-legged spinning during the warmup. These one-legged drills are useful to help develop a fluid pedal action. Doing them during each warmup ensures that you do these frequently. Even if you have rollers, you can do these with some practice. You may want to hold on to something the first few times. These can be easily incorporated as part of your warmup.

Intervals: Most of these workouts contain some sort of intervals. Intervals are periods of harder efforts followed by periods of easier efforts. The harder part of the interval is intended to push your body to a higher level of exertion than it is normally used to. This has the positive effect of improving your strength, cardiovascular fitness and your energy systems (aerobic, anaerobic). All workouts have a column indicating the zone you should be targeting, both for the hard part of the interval as well as the recovery period. If you are using RPE or power as your gauge, start the interval and maintain at that level of exertion. If you are using heart rate, though, you need to be aware that your heart rate has a 20-30 lag between the time you start your interval and the time it catches up to your effort. For the first few intervals, it may take as long as a minute before your heart rate is able to get up to your intended level. So for the first 30-60 seconds, you will need to guess at the appropriate effort level until your heart rate catches up.

Recovery Workouts

These sessions are designed to help your legs recover from previous hard workouts. These are easy workouts and involve little resistance on the pedals and typically involve fairly high, easy cadences. These are ‘active recovery’ workouts. You are using your legs but doing so easily. Through spinning, you can speed recovery by pumping blood through the tired muscles in a way that refreshes without tiring you further. Think of these as a way to massage the legs by spinning on the bike.

Workout 1 is the simplest of recovery workouts – easy spinning for 20 minutes. Keep the cadence up and resistance down.

Workout 1: Recovery Spin					
Time	Duration	Zone	Resistance	Cadence	Description
0:00	5 min	1-2	Easy	90-100	Warmup
5:00	20 min	2	Easy-Med	90-100	Easy spinning
25:00	5 min	1-2	Easy	80-100	Cool down
30:00					Workout Completed

Workout 2 alternates between zones 1 and 2. Cadence is high and resistance is low.

Workout 2: Recovery Intervals					
Time	Duration	Zone	Resistance	Cadence	Description
0:00	5 min	1-2	Easy	90-100	Warmup
5:00	2 min	1	Easy	90-100	Easy spinning
7:00	2 min	2	Easy-Med	90-100	Easy spinning
9:00	2 min	1	Easy	90-100	Easy spinning
11:00	2 min	2	Easy-Med	90-100	Easy spinning
13:00	2 min	1	Easy	90-100	Easy spinning
15:00	2 min	2	Easy-Med	90-100	Easy spinning
17:00	2 min	1	Easy	90-100	Easy spinning
19:00	2 min	2	Easy-Med	90-100	Easy spinning
21:00	2 min	1	Easy	90-100	Easy spinning
23:00	2 min	2	Easy-Med	90-100	Easy spinning
25:00	5 min	1	Easy	80-100	Cool Down
30:00					Workout Completed

Leg Speed Workouts

Being able to maintain a high cadence, or pedaling speed, is important for developing into a proficient cyclist. The faster you pedal, to a point, the more efficient you are. It doesn't take much energy to spin your legs around. The faster you spin, the less effort you use to push on the pedals to go the same speed. That's because you are breaking the work into smaller pieces (more pedal strokes). You can push a large gear at 60 rpm or a smaller gear at 90 rpm. Typically, experienced cyclists pedal around 90 rpm. For you to be able to pedal at 90 rpm or more for hours on end, some leg speed drills are included to work on developing a quick yet smooth pedaling action. If you can spin 120 rpm or more without bouncing all over your saddle, you will be able to spin easily and efficiently at 90-100 rpm. These workouts will help smooth out your pedaling and allow more of your energy make it to your pedals and not be wasted. These can also serve as recovery workouts.

Workout 4 is a leg speed drill to increase the fluidity and ability to spin quickly and smoothly. It's a short workout and can double as a recovery spin.

Workout 4: Sustained Spinning					
Time	Duration	Zone	Resistance	Cadence	Description
0:00	5 min	1-2	Easy	90-100	Warmup
5:00	1 min	3	Medium	70-90	One legged pedaling - left leg
6:00	1 min	3	Medium	70-90	One legged pedaling - right leg
7:00	1 min	3	Medium	70-90	One legged pedaling - left leg
8:00	1 min	3	Medium	70-90	One legged pedaling - right leg
9:00	1 min	2	Easy	90-100	Spin easily with both legs
10:00	5 min	2	Easy	100-120	Spin quickly without bouncing
15:00	2 min	2	Easy	90	Spin normally
17:00	5 min	2	Easy	100-120	Spin quickly without bouncing
23:00	2 min	2	Easy	90	Spin normally
25:00	5 min	2	Easy	100-120	Spin quickly without bouncing
30:00	5 min	1-2	Easy	80-100	Cool Down
35:00					Workout Completed

Tempo Workouts

Tempo rides are a little faster than endurance rides, but not so fast that they feel hard. They should require concentration to keep the pace up but if you can't maintain these for 30 minutes or more without too much discomfort, then you are doing them too hard. Tempo workouts help push your aerobic system and are good to do when you want a longer ride but don't have time for an endurance length ride.

Workout 11 gives you a steady state tempo workout. This is good to do when you don't want to do hard intervals but want a good workout that gets you out of the endurance zone.

Workout 11: Steady State Tempo Ride					
Time	Duration	Zone	Resistance	Cadence	Description
0:00	5 min	1-2	Easy	90-100	Warmup
5:00	1 min	3	Medium	70-90	One legged pedaling - left leg
6:00	1 min	3	Medium	70-90	One legged pedaling - right leg
7:00	1 min	3	Medium	70-90	One legged pedaling - left leg
8:00	1 min	3	Medium	70-90	One legged pedaling - right leg
9:00	1 min	2	Easy	90-100	Spin easily with both legs
10:00	45 min	3	Medium	80-95	Steady state in zone 3
55:00	5 min	1-2	Easy	80-100	Cool down
1:00:00					Workout Completed

Threshold Workouts

Threshold workouts maintain and improve your aerobic capacity. Aerobic capacity is the ability to work hard for long periods of time without going anaerobic. As long as your lungs, heart and blood can deliver oxygen to your working muscles, they can operate aerobically and keep working for a long time. But once you work so hard that you can't supply enough oxygen, you go anaerobic and that pace only lasts a few minutes. This is called oxygen debt and your breathing will be come very fast. Threshold workouts have you train just below the point where you go anaerobic. By doing so you will train your body to be more efficient and deliver more oxygen to your muscles, thus increasing the size of your aerobic engine. This will help you ride faster for longer before you do go anaerobic. Threshold workouts should be done year-round and work well on indoor trainers. In about an hour you can get a great aerobic workout. This is the second largest chapter as these get into more vigorous intervals, which are a good use of your indoor training time.

Workout 15 is a single 30 minute interval (think time trial) at your threshold pace or slightly below.

Workout 15: Steady State Threshold					
Time	Duration	Zone	Resistance	Cadence	Description
0:00	5 min	1-2	Easy	90-100	Warmup
5:00	1 min	3	Medium	70-90	One legged pedaling - left leg
6:00	1 min	3	Medium	70-90	One legged pedaling - right leg
7:00	1 min	3	Medium	70-90	One legged pedaling - left leg
8:00	1 min	3	Medium	70-90	One legged pedaling - right leg
9:00	1 min	2	Easy	90-100	Spin easily with both legs
10:00	30 min	4	Med-Hard	80-95	Zone 4 Threshold pace
40:00	5 min	1-2	Easy	80-100	Cool down
45:00					Workout Completed

Workout 31 increases the length of the interval to 2 minutes. You won't be able to maintain as hard an effort as you can for Workouts 29 or 30, but try to hold as high an effort as possible for the full 2 minutes.

Workout 31: 2 Minute VO2 Max Intervals					
Time	Duration	Zone	Resistance	Cadence	Description
0:00	5 min	1-2	Easy	90-100	Warmup
5:00	1 min	3	Medium	70-90	One legged pedaling - left leg
6:00	1 min	3	Medium	70-90	One legged pedaling - right leg
7:00	1 min	3	Medium	70-90	One legged pedaling - left leg
8:00	1 min	3	Medium	70-90	One legged pedaling - right leg
9:00	1 min	2	Easy	90-100	Spin easily with both legs
10:00	2 min	6	Very Hard	90-100	Maximum effort
12:00	4 min	2	Easy	90-100	Spin easily for recovery
16:00	2 min	6	Very Hard	90-100	Maximum effort
18:00	4 min	2	Easy	90-100	Spin easily for recovery
22:00	2 min	6	Very Hard	90-100	Maximum effort
24:00	4 min	2	Easy	90-100	Spin easily for recovery
28:00	2 min	6	Very Hard	90-100	Maximum effort
30:00	4 min	2	Easy	90-100	Spin easily for recovery
34:00	2 min	6	Very Hard	90-100	Maximum effort
36:00	4 min	2	Easy	90-100	Spin easily for recovery
40:00	2 min	6	Very Hard	90-100	Maximum effort
42:00	4 min	2	Easy	90-100	Spin easily for recovery
46:00	2 min	6	Very Hard	90-100	Maximum effort
48:00	4 min	2	Easy	90-100	Spin easily for recovery
52:00	2 min	6	Very Hard	90-100	Maximum effort
54:00	6 min	2	Easy	90-100	Spin easily for recovery
1:00:00					Workout Completed

Workout 32 provides a series of 30 second intervals with a 30 recovery interval. Fatigue will build during these sets of intervals, forcing you to push through fatigue.

Workout 32: 30 Second Lactate Tolerance Intervals					
Time	Duration	Zone	Resistance	Cadence	Description
0:00	5 min	1-2	Easy	90-100	Warmup
5:00	1 min	3	Medium	70-90	One legged pedaling - left leg
6:00	1 min	3	Medium	70-90	One legged pedaling - right leg
7:00	1 min	3	Medium	70-90	One legged pedaling - left leg
8:00	1 min	3	Medium	70-90	One legged pedaling - right leg
9:00	1 min	2	Easy	90-100	Spin easily with both legs
10:00	30 sec	5	Very Hard	90-100	Anaerobic Level

Strength and Power Workouts

It is possible to work on strength and power on an indoor trainer. While most of these workouts are better done outdoors where you can use hills or headwinds to provide resistance, you can do them indoors if you have a sturdy trainer which supplies a lot of resistance. Spin bikes are best suited to these workouts because they are stable and you can crank down the resistance as hard as you can pedal.

Word of Caution: *As with Anaerobic workouts, these should only be done if you are fit, healthy and have your physician's approval to exercise at your maximum ability.*

Workout 47 emphasizes leg strength. Think of it as a strength workout on the bike. You will need a trainer which offers high resistance. You may also need to use the higher gears on your bike. The objective is to ride for 5 minutes pushing a large (hard) gear at a fairly low cadence (70-80). This should feel slow to you but allows you to work your leg muscles more thoroughly.

Workout 47: Low RPM Grinds					
Time	Duration	Zone	Resistance	Cadence	Description
0:00	5 min	1-2	Easy	90-100	Warmup
5:00	1 min	3	Medium	70-90	One legged pedaling – left leg
6:00	1 min	3	Medium	70-90	One legged pedaling – right leg
7:00	1 min	3	Medium	70-90	One legged pedaling – left leg
8:00	1 min	3	Medium	70-90	One legged pedaling – right leg
9:00	1 min	2	Easy	90-100	Spin easily with both legs
10:00	5 min	4	Very Hard	70-80	Low RPM High Resistance
15:00	5 min	2	Easy	90-100	Spin easily for recovery
20:00	5 min	4	Very Hard	70-80	Low RPM High Resistance
25:00	5 min	2	Easy	90-100	Spin easily for recovery
30:00	5 min	4	Very Hard	70-80	Low RPM High Resistance
35:00	5 min	2	Easy	90-100	Spin easily for recovery
40:00	5 min	4	Very Hard	70-80	Low RPM High Resistance
45:00	5 min	2	Easy	90-100	Spin easily for recovery
50:00	5 min	4	Very Hard	70-80	Low RPM High Resistance
55:00	5 min	2	Easy	90-100	Spin easily for recovery
1:00:00					Workout Completed