

# THE ULTIMATE GUIDE TO INDOOR TRAINING



# WELCOME

Welcome to the British Cycling Ultimate Guide to Indoor Training. While there's nothing to beat getting out on your bike and exploring new roads or trails, an indoor trainer is a brilliant tool for building fitness and for fitting in rides around work and family commitments. Without the distractions and interruptions of riding on the road, with an indoor trainer you can focus 100% on the efforts that you're doing. There are no traffic lights where you can take a breather, no bends or dips in the road for a few seconds of blissful freewheeling and no other road users to distract you.

Some riders will knock indoor trainers and say that they're a "soft option", "there's no such thing as bad weather only bad clothing" or that "you should harden up and ride for real". Yes, an indoor trainer does get you out of the cold and wet, but some of the hardest sessions we do are on the indoor trainer and are definitely not soft! Quality beats quantity, especially if your training time is limited, and, for a focused quality workout, an indoor trainer is hard to beat.

In this guide you'll find advice on which indoor trainer to choose, set-up tips, some classic workouts to try and loads more information that'll tell you how to get the most out of your indoor cycling. Enjoy your indoor training and remember, every tough indoor workout you do through the winter will mean improved fitness and performance next spring and summer.

**Emily Nelson**



# CHOOSING AN INDOOR TRAINER

Working out which indoor trainer to buy can be confusing but, with a bit of thought about your cycling goals, budget and indoor training set-up, you should be able to narrow down the options.



## ROLLERS

Three drums mounted within a frame that your ride on. The two rear rollers, that your rear wheel drives, are connected to the front roller by a belt, so it's spinning too. Traditional rollers, favoured by many track riders for warming up, don't offer any resistance but you can get models now that do offer some variable resistance and smart capabilities.

## PROS

- Excellent for developing pedalling technique, balance and bike handling skills.
- Relatively cheap, £200 can buy you a very good set.
- You can ride your road bike on them, so no position changes to worry about.
- No potential stress on frame and low tyre wear.
- Most fold up for storage.
- Quick to get bike on and off.

## CONS

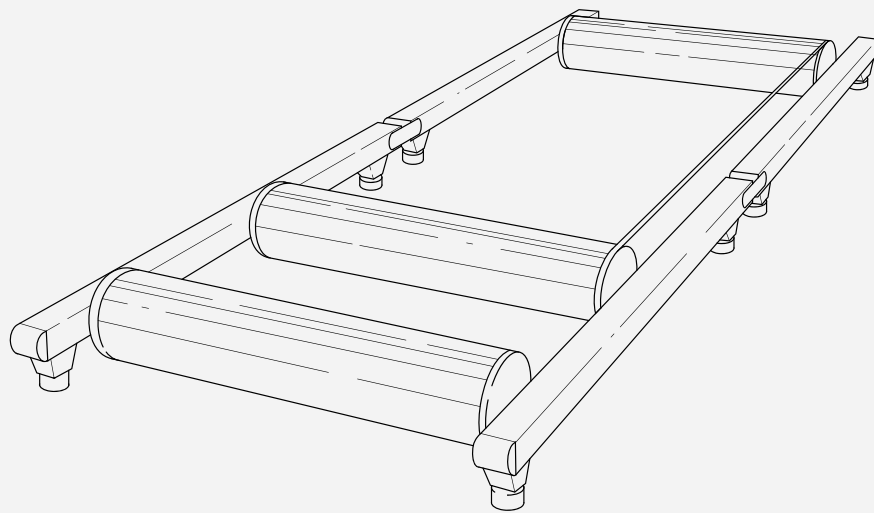
- No or limited variable resistance on the majority of models makes hitting wattage targets, especially on low cadence workouts, very difficult.
- Learning to ride them confidently can take some time.

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[Click here for tips on learning to ride rollers](#)

## PRICE GUIDE

£50 - £600



## TURBO TRAINER

A turbo trainer is a metal frame that you bolt your bike to. A roller then presses against your rear tyre and, by using a fan, fluid or magnets, generates resistance for you to pedal against. Many turbos are now smart enabled.

### PROS

- Wide price range to suit all budgets and it's possible to get a quality turbo towards the lower end.
- You're training on your actual bike so your position will be the same.
- They fold away for easy storage.
- You can generate high levels of resistance.

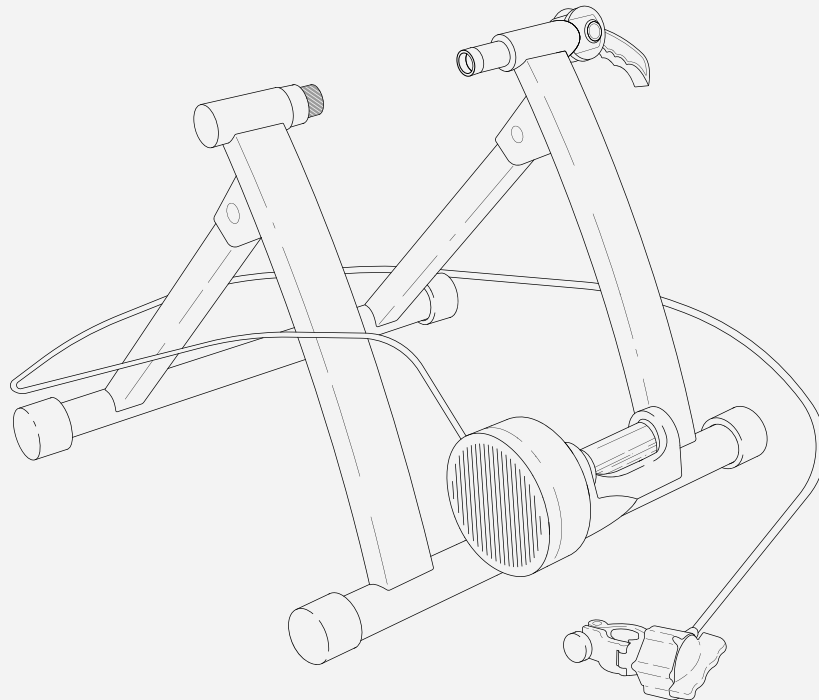
### CONS

- They can chew up your tyre so having a turbo rear wheel with a turbo specific tyre is a good idea.
- Cheaper models can be noisy.
- Training on a turbo will not develop bike handling skills.
- The rear tyre can slip with hard accelerations.
- They can be stressful on your bike's frame if not setup carefully.

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### PRICE GUIDE

£50 - £600



## DIRECT DRIVE TURBO TRAINER

With a direct drive turbo trainer, the rear wheel of the bike is removed and the drivetrain directly drives a cassette on the turbo. All direct drive turbos tend to be smart enabled and some will even simulate descending and rough road feel and resistance such as cobbles.

### PROS

- No rear tyre wear to worry about.
- No slipping on acceleration.
- Using your regular bike means no position changes.
- Newer models are near silent in operation.
- Can generate huge amounts of resistance, some models over 2000W.

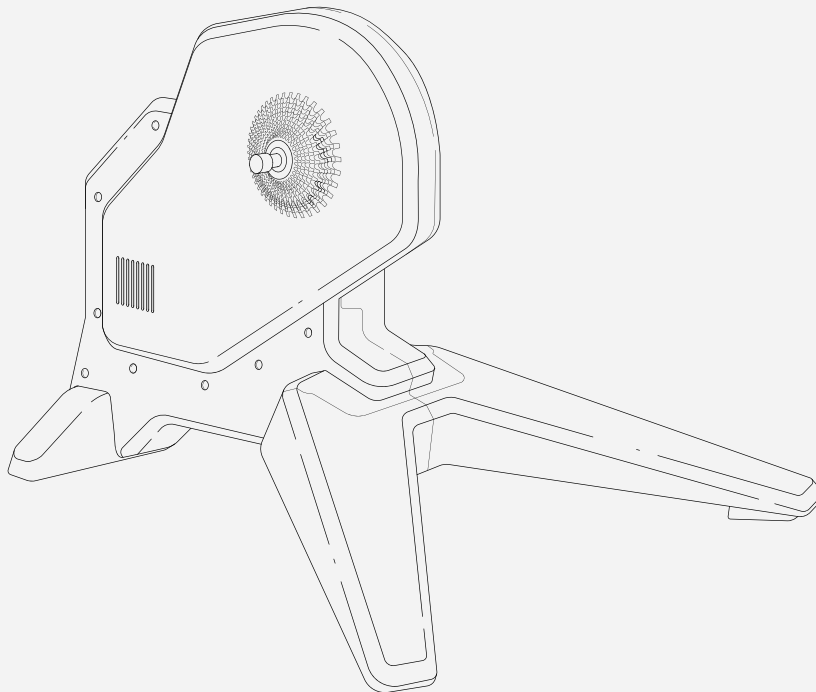
### CONS

- Like a regular turbo, you won't be developing balance or bike handling skills.
- Are expensive to buy.
- Tend to be bulky, heavy and difficult to store away.

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### PRICE GUIDE

£300 - £1200



## STATIC BIKE

Static bikes include basic home fitness models, classic gym bike with sofa like saddle, Spinning bikes with large fixed flywheels and top end cycling training specific smart enabled models.

### PROS

- Always setup and ready to go.
- Can be very stable for hard sprint efforts.
- You can keep your road bike setup for the road.
- Less wear on your road bike.
- Higher end models provide excellent training feedback and data.

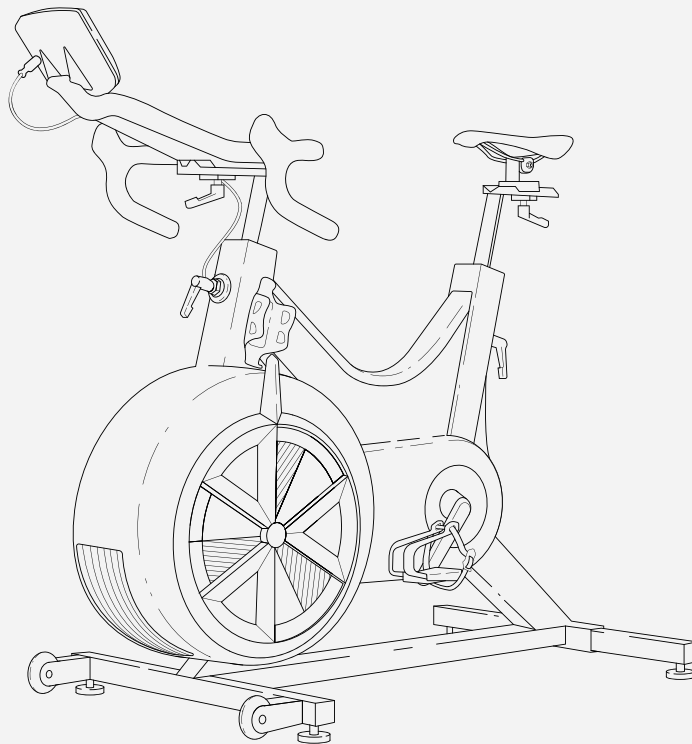
### CONS

- Worthwhile models are expensive.
- Big, heavy and, once installed, you can't fold them away.
- Your position on them may not exactly match your position on your road bike.
- Won't benefit balance or bike handling skills.

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## PRICE GUIDE

£100-£2250



# SMART VS DUMB TRAINERS

A smart trainer “talks”, using Bluetooth or ANT+ connectivity, to training platforms on your laptop, tablet or mobile phone. This means that interval style sessions can be precisely controlled and it opens up a whole world of “virtual reality” cycling.

Erg Mode is one of the key features of a smart trainer. In Erg Mode, if a particular section of a workout or ride requires for example 250W, the trainer will automatically adjust its resistance, according to your gear and cadence, to hold you precisely at that effort.

Alternatively, if you’re riding a virtual landscape, a smart trainer will adjust its resistance to mimic the ups and downs of the virtual road you’re riding.

With an old fashioned “dumb trainer”, you manually control the resistance but, by using heart rate or power, can still be a highly effective training tool.





# 10 INDOOR TRAINER SESSIONS TO TRY

# 1

IF YOU'RE JUST GOING TO DO ONE...

**2X20 MINUTES**

A classic session that, for its FTP boosting properties and lessons in pacing, is hard to beat. Do it regularly and you'll improve your climbing, time trialling and ability to sustain a long hard effort.

[LINK TO PLAN](#)

# 2

**20/40**

Sprint for 20 seconds and recover for 40 seconds. A simple structure that's great for boosting your ability to make repeated sprint efforts. Great for cyclo-cross, track and circuit racing.

[LINK TO PLAN](#)

# 3

**PYRAMID INTERVALS  
TWO**

With sprints from 10 - 50 seconds, this session will test and develop your top end sprint and your speed endurance.

[LINK TO PLAN](#)

# 4

**RUSSIAN STEPS**

A classic killer from the Cold War that'll see your heart rate soaring. The 45-second sprint followed by a miserly 15-second recovery and then straight into a 30-second sprint is brutal.

[LINK TO PLAN](#)

**NEED FOR SPEED**



# 5

## RAMPED INTERVALS

How bad can 5 minutes be? These VO2 intervals with a final minute spike are probably one of the toughest you can do. Tackle it regularly though and you'll be mentally and physically harder by the Spring.

[LINK TO PLAN](#)



## STRENGTH AND PUNCH

# 6

## UNDER/OVER WITH SURGES

A cruel twist on the classic Under/Over session with 10-second sprints every 2 minutes. It trains your ability to recover while still working hard and to kick when already riding at high intensity.

[LINK TO PLAN](#)

# 7

## BIG GEAR/LOW CADENCE

Like lifting weights on the bike. Grind away to build cycling specific strength, stability in the saddle and some serious mental toughness.

[LINK TO PLAN](#)

# 8

## LEG SPEED

Looking to add some zip to your legs but not wanting to build fatigue? A brilliant leg loosener that's especially suited to rollers.

[LINK TO PLAN](#)

# 9

## SPIN-OUT SESSION

Got a race or a club ride that you want to shine on tomorrow? Need to do a recovery session but don't just want to do a boring one paced bibble? Get in a spin.

[LINK TO PLAN](#)

# 10

## 20-MINUTE WARM-UP

Tried, tested and used by the Great Britain Cycling Team. A warm-up for many other sessions but also a great standalone session, that can be down twice through, for recovery days.

[LINK TO PLAN](#)

## REST AND RECOVERY



# PICKING AND SCHEDULING YOUR WORKOUT

- The high intensity nature of most of our indoor trainer sessions means the emphasis should be on quality, not quantity; don't try and do one every night of the week!
- Allow a full days recovery between sessions. If you must do something on those rest days, opt for restorative cross training activities or one of the recovery sessions.
- For the vast majority of riders, consistently doing two quality indoor sessions during the week and an endurance focused ride outdoors at the weekend will give significant improvements.
- Opt for longer efforts and strength focussed sessions, such as 2X20 minutes and Big gear / Low cadence at the start of the winter
- Bring in punchier sessions such as Ramped intervals and Under/Over with surges through mid-winter.
- Sharpen your fitness with sprint and speed workouts such as 20/40 and Russian Steps as you head into Spring.

[Find more British Cycling Indoor Training Sessions here](#)



# CAN I USE MY CARBON BIKE ON A TURBO?

Whether you can safely use a carbon bike on a turbo is a perennial question and always a topic of hot debate on cycling forums. We get a definitive answer from Cervélo composite engineer, Richard Matthews.

## **ARE PEOPLE RIGHT TO WORRY ABOUT USING THEIR CARBON BIKES ON A TURBO?**

Riding a bicycle fixed in a trainer imparts very different loads on it compared to riding on the road. In the latter case, the bike is able to move from side to side. On a turbo trainer the rear wheel is locked and not able to move side to side. This puts much higher stresses on the frame than normal riding. The industry standard ISO tests only specify testing a bike in pedalling fatigue (simulating long use with high pedal forces) with rotation at the rear wheel. This test is good for simulating real world conditions but is unable to replicate most trainer load cases. For this reason, many bicycle manufacturers specifically disallow the use of their carbon fibre frames in trainers.

## **WHAT ABOUT CERVÉLO FRAMES?**

In Cervélo's case, we permit the use of all of our frames in fixed trainers. We have developed our own specific tests, beyond the ISO standards, which fix the rear wheel and test pedalling fatigue. In fact, in the case of the new P5X, we were concerned about the use of this bike in a trainer as the frame has no seat stays or seat tubes to help support the load. We actually tested a frame to over 1 million cycles in our fixed frame test – 10x the ISO standard, with no damage. This type of extensive testing gives us the confidence to allow all our customers to use their bikes in trainers without voiding their warranties.

## **AM I BETTER OFF USING AN ALLOY FRAME?**

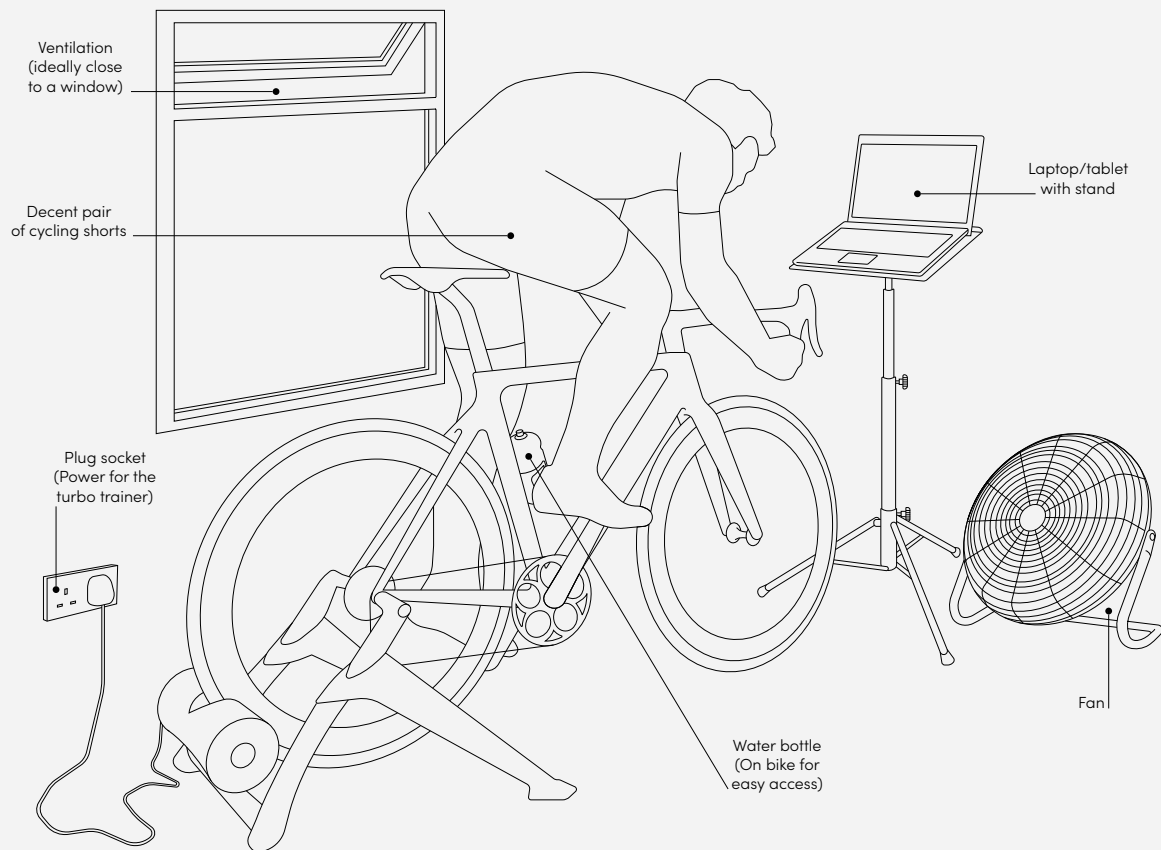
While use in a trainer does increase the stress in a frame, the method of failure we normally expect to see is fatigue failure – which is where small amounts of microscopic damage build up over time until the frame breaks. In general, carbon fibre materials are much more resistant to fatigue failure than most alloys, in particular aluminium. In reality then, carbon fibre bikes should be less susceptible to failure in a trainer than aluminium bikes.

## **ANY OTHER TIPS FOR SAFE USE?**

One key thing to consider is mounting and general handling of a frame. Some carbon frames, especially high performance light weight ones, may have less strength in non-typical load cases (clamping around the top tube in a stand or impacting a seat stay). Care should always be taken when mounting a frame in a trainer. In particular, you should never try and move a trainer with a bike mounted in it. This is bad practice and not something the bike is designed to withstand.

[Separate carbon fact from carbon fiction here](#)

# INDOOR TRAINING TIPS



# 1

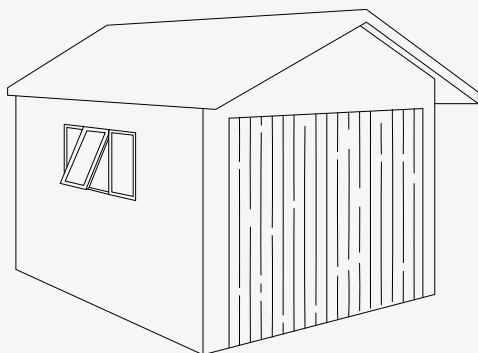
## READY TO GO

The ideal is to have your indoor trainer permanently set-up and ready to go. Whether before or after work, if you have to go through the faff of setting it up before your session, the duvet or the sofa can often prove too alluring.

# 3

## LOCATION

Site your indoor trainer somewhere well ventilated, ideally with a solid floor, with power and somewhere you won't be disturbed or disturb others. A shed or garage can be great but, in the depths of winter, you might require some additional layers of clothing until you get warmed up.



# 2

## FUEL

Indoor trainers are most suited to shorter workouts so, although you shouldn't need to take on fuel during the session, you will need to be well fuelled beforehand. However, you will need to ensure your last meal is properly digested, so, try to leave 2-3 hours. If you need an energy boost closer to the session, a banana or gel can work well.

[Look here for more nutrition advice and recipes](#)



# 4

## PICK YOUR SESSIONS

Indoor trainers suit relatively short and intense sessions best. Sometimes injury or extreme weather might force you to do an endurance ride indoors but, for the sake of your sanity and bike handling skills, don't make it a regular thing.

# 6

## FAN, MAT AND SWEAT THONG

Three must have accessories. Even in a cold garage, once you get going, you'll appreciate the cooling breeze of a fan. A mat will protect your floor and make mopping up afterwards easier. A sweat thong will protect your bike from corrosive sweat.



# 5

## HYDRATE



You're going to sweat a lot so, it's important you're well hydrated before the session, keep sipping on an electrolyte drink during it and drink well afterwards. In a hard hour session on an indoor trainer don't be surprised if you easily get through 750ml - 1 litre of fluid.

[Learn more about hydration on the bike](#)

# 7

## SHORTS AND CHAMOIS CREAM

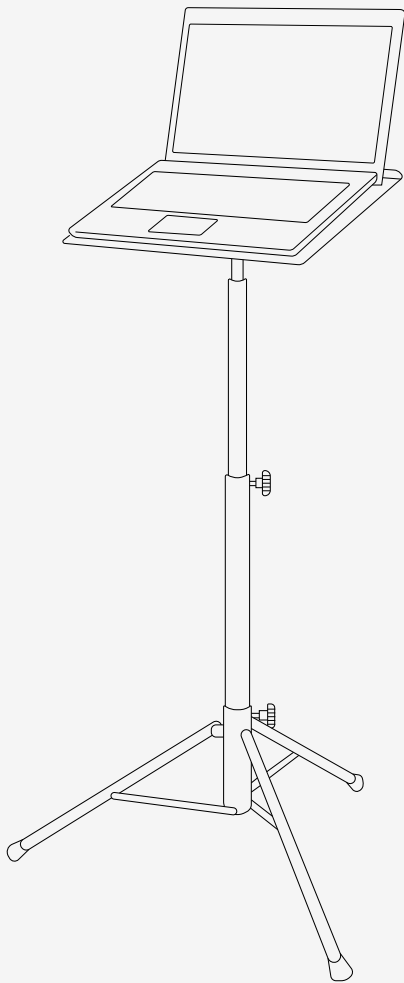
You move less in and out of the saddle on an indoor trainer and sweat more, making you more prone to saddle soreness. Make sure you wear decent shorts and liberally apply chamois cream before your session.

[Get more tips on preventing saddle soreness](#)

# 8

## ENTERTAINMENT

Even virtual reality cyclists will benefit from some great tunes and, if you're not riding in the virtual world, motivating music is essential. Some old race footage can also help you to dig in when it gets tough. A tablet stand means that your tablet, phone or laptop is within reach but out of drip range from sweat.



# 9

## TEST

If you're training using heart rate or power zones, it's not unusual to see a difference between how those zones feel indoors relative to riding outside. There are a number of psychological and physiological reasons for this so it's worth testing for your indoor FTP/FTHR, setting zones to it and not trying to hit your outdoor values.

[What are FTP and FTHR, how do I test for them and how do I set zones from them?](#)

# 10

## CONSISTENCY

If you're serious about your indoor training and wanting to monitor your progress, it's important that you calibrate your trainer regularly, especially if temperature changes significantly. Look at your trainer's users' guide for how to do this and, if using a traditional turbo, remember to check your tyre pressure too.



# VIRTUAL REALITY RIDING

Interactive indoor cycling platforms were first developed in the early 2000's but it's really in the last few years that they've genuinely revolutionised indoor cycling. With club rides, races and even tryouts for pro teams, indoor cycling has come a virtual million miles from staring at your garage wall with your intervals scribbled on a scrap of paper.

With roughly half a million people having gone for a ride on it, Zwift is by far the leader in virtual cycling peloton. So, what do you need to know to get riding on Zwift?



## WHAT DO I NEED?

The basic requirements are a dumb trainer and an ANT+ or Bluetooth speed/cadence sensor. A power meter would deliver the next level of refinement but, for a truly interactive riding experience, a smart trainer is necessary. You'll then need an iOS phone or tablet, Mac or PC or Apple TV. If your sensors transmit using ANT+, you'll also need a dongle.

## WHERE CAN I RIDE?

You can explore routes inspired by Central London, New York and the 2015 World Championship course in Richmond, Virginia, or discover the virtual world of Watopia. Climb mountains, sprint down famous stretches of road or ride inside a bubbling volcano.

## WHAT CAN I DO?

You can join group rides, enter races, do workouts or just go for a solo outing and explore the Zwift world.

## CAN I DO MY OWN WORKOUTS?

Along with the wide range of structured workouts available, if you have a specific workout you're wanting to do, simply build it as a Planned Workout on TrainingPeaks, link to your Zwift account and, if you've got that workout to do in TrainingPeaks that day, it'll be waiting for you in Zwift.

## HOW MUCH DOES IT COST?

You can give Zwift a go with a 7-day no payment, no strings attached trial. After that, if you want to continue, it's £12.99/month.

[Click here to learn more about Zwift](#)



# CHECK OUT THE BRITISH CYCLING INSIGHT ZONE FOR:



[Training Plans for all levels of riders from complete novices to seasoned racers](#)

[Nutritional advice and recipes for on and off the bike](#)

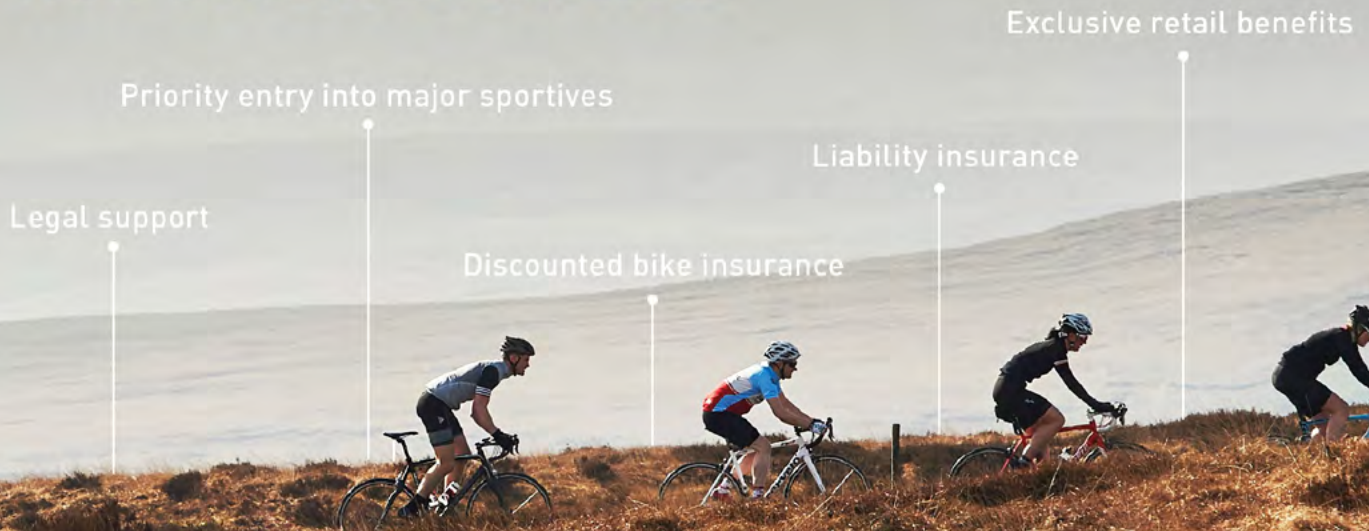
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[Maintenance videos and advice on bike set-up, kit and clothing](#)

# CYCLING MEMBERSHIP

THAT COVERS EVERY MILE



Becoming a British Cycling Member doesn't just give you the extra miles of liability insurance cover, great discounts and legal support, it is an investment in the continued support and development of cycling in Britain for the thousands of dedicated cyclists like you, together with those who don't know they're cyclists yet.

[britishcycling.org.uk/join](https://britishcycling.org.uk/join)

