



GET IN THE ZONE

Using your heart rate monitor isn't rocket science claims **HARRY BLACKWOOD**, it's just a case of getting yourself in the right zone...



Training with a heart rate (HR) monitor really couldn't be simpler as long as you understand the basics.

There are many ways of structuring HR training plans, but all of them employ the basics of training within personal zones.

Eddie Fletcher of Fletcher Sport Science (www.fletchersportscience.co.uk) is amazed by how many people have HR monitors and download all the numbers, but haven't a clue what they mean. "Men are by far the worst. They like to brag about how high their HR was during a session and for how long. That's not good training at all. Find your resting HR, get the best idea you can of your max HR, and then work your zones out. That way those random numbers will start to have some meaning."

RESTING HR

The best way to get your resting HR is to take it first thing in the morning every day for a week and work out the average. Make sure you are well rested and not ill or under any stress. Put your HR strap on and just lie there for a couple of minutes, trying to relax as much as possible. Note the lowest figure you see and repeat the

procedure the following day. At the end of the week you'll know what your resting HR average is and you can confidently use this figure as the basis of your training. But don't be fooled by thinking that having a low resting HR means you are super-fit. "A low resting HR is indicative of a well trained athlete," explains Fletcher, "but it's not always the case. There are people who have a genetically low HR regardless of fitness."

FACT!
 A low resting heart rate doesn't always mean you're fit – there are people who have a genetically low HR even when unfit

MAXIMUM HR

Many believe that you can calculate your maximum HR by using the formula of 220 minus your age. For some people this may be accurate, but for many it will be wildly out. A much more accurate formula is 210 minus half your age, then subtract 5% of your body weight in pounds. Add four for a male and 0 for a female.

The only way to get a truly accurate max HR figure is to get a physiological test at a sport science centre, but you can get a reasonable estimate by doing your own max HR test. Only undertake this test if you are fit and exercise regularly, though.

Warm up thoroughly for at least 15 minutes. On a long, steady hill start off

fairly briskly and increase your effort every minute. Do this seated for at least five minutes until you can't go any faster. At this point get out of the saddle and sprint as hard as you can for 15 seconds. Stop and get off the bike and immediately check your HR. This is your max HR.

"Don't forget that your max HR figure is sport specific," says Fletcher. "This means that your maximum on a bike will invariably be much lower than it is when you are running because the bike is taking some of your weight."

HR ZONES

Having established the key numbers (max HR and resting HR) you are now ready to work out your training zones. There are lots of calculators on the web and, while many use five training zones, Fletcher is a big fan of the six zones, as prescribed by the Association of British Cycling Coaches. He points out that it includes an all-important recovery zone. "If athletes are to perform well they need to recover well," he says. You can find a calculator here: tinyurl.com/hrzone

AVERAGE HR

Beware your average HR. A ride with an average of 130bpm, which would in theory be a Zone 2 ride could be far from it, with →



Training with a heart rate monitor should mean no more 'junk miles'



peaks over 150 and sometimes over 160.

Make sure you discipline yourself to spend 90-100 per cent of your ride time in the right zone. This may mean getting off and walking on hills in the early days but stick with it. The results will amaze you.

As cyclists we demand a lot from our training. We want to climb hills like Alberto Contador, sprint like Mark Cavendish and time-trial like Fabian Cancellara. We'd also like our cycling to fit in around our family and work life, and if we can also shed a few pounds while continuing to eat pies and cream cakes then that would be nice too. Training using an HR monitor may not turn you into a world-beating cyclist but it will make you an infinitely better all-round cyclist.

If you are training for specific events such as a hilly 100-mile sportive or a 25-mile time-trial, you can tailor your training to suit. If you just want to lose weight, cycling in the correct zones will burn fat and you'll shed excess pounds in no time. Here are some key sessions that will make you a fitter and faster cyclist.

GO SLOWER, GET FASTER

It sounds impossible but this is the basic starting point for HR training. This winter, you should start off by doing long Zone 1 and Zone 2 rides. It may be slow, boring and tortuous at times but what will happen over the next few months will be amazing. In a nutshell you'll still be riding in Zone

2 but zipping along compared with when you started. By going slower you'll make make your body more efficient. And just think: if you can go this fast in Zone 2 then just how fast will you go in higher zones?

Fletcher, who's an exercise physiologist, is adamant that by going slow you will get faster. The Evesham-based coach even has a mug on his desk emblazoned with the words 'slow is the new fast'. But he has some sage words for anyone who thinks that HR training is like waving a magic wand. "Training is boring. Anyone who says they can make base training sessions more entertaining and can introduce fun is kidding you. Just accept it that those

FACT!
Just accept that those long, steady base building HR Zone 2 rides will be boring – but they will bring results

long, steady rides on the bike will be boring but they will bring results. There are no shortcuts or quick fixes." Because discipline for these slow rides is so important, it's probably a good idea to ride them on your own, without the temptation of trying to keep up with mates, or rising to the bait of sign sprints or traffic light grands prix.

KEY SESSION 3hrs in Zone 2. Stay in the zone and stick to it. Don't be tempted to push on the hills.

BURN FAT, SAVE TIME

We all have to manage our work-life balance but don't think that wanting to burn fat means you have to go out for five or six hours on the bike riding in Zone 2. By using HIIT methods (high intensity interval training) you'll burn far more fat

and become a fitter and faster rider into the bargain. Yes, it's going to hurt but it will do you the power of good and the whole session will take less than an hour.

Make sure you do a decent 15-minute warm-up and you are ready to go. Depending on your level of fitness you are going to do 4-6 all-out sprints of 30 seconds with 4-5 minutes of easy pedalling. During these all-out efforts expect to see your HR rise to 85-90% of your HR max. Give it all you have right through the 30-second burst. Do these for 6-8 weeks and marvel at the fat you've lost.

But don't think that training hard means you can eat like a pig. Fletcher has a word of warning for those who think they can ignore their diet and just ride to lose weight. "Weight control has to be about diet," he says. "If you want to lose weight you'd be better off concentrating on what goes in, and concentrating on quality rather than necessarily reducing quantity." **KEY SESSION** 15min warm-up, then 4-6 30sec sprints with 4-5min rest between.

BE AN ENDURANCE MONSTER

Hands up if you've got to the last 20-odd miles of a big sportive and found that you're absolutely done in and can barely turn the pedals. That sinking feeling can be attributed to a number of factors such as going off too fast, insufficient fuelling or hydration, or just too many hills. But the main culprit is likely to be a lack of endurance, which is where targeted HR training comes in.

What you need to do is LSD – no, not the mind-altering drug, it stands for 'long,

steady distance'. By doing one session of 3-4 hours in Zone 2 and another session of 2 hours in Zone 3 every week your endurance will come on in leaps and bounds. Add a few long intervals once your base is more established and you'll develop both endurance and speed. This is an area Fletcher specialises in. Endurance training is his forte and he cautions those who think unfettered big miles will produce endurance no matter what.

"It's amazing how many cyclists do loads of junk miles," he says. "It's all about balancing the session length and the zone you're riding in."

KEY SESSION 3-4hrs in Zone 2 with 10min burst of Zone 3-4 every hour

EASY DOES IT

It's time to confess. Are you a serial over-trainer? Do you habitually train too much too hard? Have you suffered loads of injuries and too many lacklustre performances? If so, now's your chance to start training smarter by making things simpler: mainly by making your hard days very hard and your easy days very easy. Because now you know that your very low HR is actually doing you good by allowing

Make sure you have at least one rest day per week and another with a slow recovery ride done in Zone 1 or even lower...

your body to recover. Make sure you have at least one rest day per week and another day that is a really slow recovery ride done in Zone 1 or even lower.

KEY SESSION 1hr flat ride with HR constantly below Zone 2.

TESTING, TESTING...

As you get fitter and stronger, your cardiovascular system will get more efficient so that you can do more work for the same effort. In heart rate terms, this will mean at a set HR you will be able to ride a set distance faster as you get fitter.

One of the most well known of such aerobic improvement tests is the Maximum Aerobic Function, or 'MAF' test, named by American heart rate training pioneer Dr Phil Maffetone, and it's a great way of proving to yourself that all those long hours of winter base training are actually paying dividends towards your goal. Regular self-testing is not just an indicator of how well you're responding to the training load but also a great way of

monitoring your over-all well-being. Keep an eye out for sudden performance drop-offs as they can be the early warning signs of either overtraining or impending illness.

Maffetone suggests planning a route that initially takes about 30 minutes to complete and then, after a warm-up, riding it at a precise heart rate, while timing yourself.

"The important thing is to pick a heart rate that falls within your base training zone and to stick to it," says Maffetone, "both throughout the test and in every subsequent retest." This submaximal aerobic effort is typically 65-75% of your Max HR – in Zone 2.

"Perform the test regularly to chart your fitness progress," says Maffetone, "perhaps once a month. Doing it more frequently won't realistically reflect your progress and might lead to obsession with the results, while any less frequently means you'll miss out on the other benefit of this kind of test, which is to flag up any underlying health or overtraining problems."

KEY SESSION Time this monthly test ride over a set distance at a set aerobic heart rate in Zone 2 (65-75% of your Max HR). Record your times so you can chart your progress over the months. **PLUS**

THE ZONES (% OF YOUR MAX HR)

ZONE 1 (60-65%)	ZONE 2 (65-75%)	ZONE 3 (75-82%)	ZONE 4 (82-89%)	ZONE 5 (89-94%)	ZONE 6 (94-100%)
The active recovery zone, for long, easy rides, to improve your body's combustion and storage of its fat reserves	This is the most important base training zone. These should be longish rides of medium intensity	For development of aerobic capacity and endurance with moderate volume at a very controlled intensity	For simulating typical average race pace intensity when tapering for a race. Not a good zone for actual 'training'	For raising anaerobic threshold and improving lactate clearance. Good for 10 and 25-mile time-trials training	For high-intensity interval training to increase maximum power and speed. Best performed on hills or a turbo trainer