**Heart-rate training has many benefits for all runners because it teaches you how to pace and listen to your body. Here’s our simple guide to get you started**

Far from being just for the elites, newer runners have the most to gain from heart-rate training. And it’s not as confusing as you might think.

**What are the benefits?**

Using a heart-rate monitor will help teach you how to run at the right pace. It will slow you down and make you more efficient. They are perfect for new runners who often push themselves too hard. By running in the right zones more often, you will train your energy systems in the correct way, teach your body to burn fat, and conserve precious carbohydrate stores.

Most runners don’t work on this easy aerobic base level enough. Most runners also tend to have a narrow “pace window” – often with little difference between training and racing pace. Using a heart-rate monitor will encourage you to slow your easy runs down and speed up on your faster runs. Monitoring your resting and recovery heart rates can indicate overtraining, illness and fatigue.

Most runners set out to run at a specific pace and glance at their heart-rate data as “interesting information” afterwards. Instead make heart rate your priority, not pace. Allow your heart rate to guide you, and listen to your body rather than trying to force a pace. Make a note of your pace for information, but don’t force it. You pace will be the outcome of your training, not the other way round.

**How do I know what heart rate to run at?**

The majority of your training should be in your aerobic zone, at a pace where you can chat comfortably and you’re not out of breath. The point of training at this pace is to build a solid foundation of aerobic fitness. In this zone your body is primarily using fat stores for fuel instead of stores of precious glycogen, and you need to train your body to do this specifically. This is especially important for marathon runners and beginners. This pace is about 70-75 percent of your maximum heart rate (I’ll explain how to calculate that later on) and you should do around 80-90 per cent of your running in that zone.

When you first try running at this pace it will feel painfully slow. It can feel quite demoralising, and you might even have to walk up hills. But stick with it. In only a few weeks, your pace for the same heart rate will soon come up and you’ll become more efficient and fitter. At the other end of the scale, it can be a good idea to train your “anaerobic threshold” and do some running at a higher heart rate. This pace is about 85 percent of your maximum, and if you’re not used to it, it can feel quite difficult.

Most runners do very little of this sort of training, and generally tend to run in the mid-zone most of the time. You only need to do about 10 percent of your weekly mileage at this pace though, and you can mix it up with some longer tempo runs, interval work and hill work, depending on your goal. Only attempt this sort of training when you have been running for at least six months, you are injury-free, and you are running regularly two to three times a week.

**How do I measure my heart rate when running?**

Invest in a good heart-rate monitor, which will track your heart rate as you run. Most monitors have a chest strap and watch, and they have a variety of features measuring ‘real time’ heart rate, average, maximum, etc. You can buy a basic model for about £40-£50. For a top-of-the-range integrated GPS model, expect to spend up to £400.

**How do I measure my resting heart rate?**

The first thing you need is your resting heart rate. Take your resting heart rate first thing in the morning, before you get out of bed and before you’ve had coffee. If you have a heart-rate monitor, put it on and lie down. If not, find your pulse at your neck or wrist and count for 60 seconds. Repeat it two minutes later and take the average. Make a note of the figure.

The average resting heart rate is around 65-75 BPM (many runners are as low as 45-50). As your heart becomes more efficient and stronger with increased fitness, your resting heart rate will get lower. Keep track of it over a few months to monitor improvements in your fitness. An unusual rise in your resting heart rate can indicate illness, overtraining or fatigue, so keep an eye on it and if it’s 5-10 beats higher than normal, then take some time off and rest.

**How do I work out my maximum heart rate?**

Unlike your resting heart rate, your maximum heart rate has little to do with fitness, and you can’t really influence it with training. It’s hard to measure your maximum heart rate. You have to push yourself to your absolute limit, in either a controlled assessment in a sport physiology lab or out on the road yourself. Neither method is especially realistic, so we tend to use a formula to estimate it instead.

The outdated and somewhat crude method of using the calculation of 220 – age has been replaced by the following calculations:

Women 209 – (0.9 x age)

Men 214 – (0.8 x age)

Both of which tend to give a more accurate, although still fairly general result.

**How do I calculate my zones?**

Keep things simple and just work with two main training zones: Easy/aerobic pace (70 percent) Harder/anaerobic pace (85 percent+) You don’t need to make things complicated and train at lots of different zones. Keep it simple.

To work out these zones, you need to calculate your working heart rate: Maximum HR – Resting HR = working HR. Then calculate 70 percent and 85 percent of your working HR and add your resting HR back on.

Taking our 45-year-old female runner.

She has: Resting HR = 60 Maximum HR = 168.5 168.5 – 60 = 108.5 (Working HR) 108.5 x 0.7 (to calculate 70 percent zone) = 75.95

Then add on Resting HR 75.95 + 60 = 135.9 (round it up to 136). 136 BPM is the 70 per cent training zone for our runner in his example.

That is where she should run for around 80-90 percent of her training. You can do the same for 85 percent zone.

**How should I use my zones?**

After you’ve worked out your zones, you can set them up on your heart rate-monitor or set an alert to let you know if you’re out of zone. Set up two main zones to run under 70 percent and over 85 percent. That’s all you need. Try doing most of your running at under or around 70 percent for the first four to six weeks. Keep it under 70 percent (not an average) and if it creeps over that, then walk or slow down. It will feel slow, but it’s the vital part of re-training your aerobic base.

It might mean you need to find a new (slower) training partner for a while, or run on your own until your pace comes back up. At this stage it’s really important to ignore pace (in terms of minute per mile), and just focus on heart rate. Your pace will soon come back up and you’ll find that within four to six weeks, you’ll be able to run faster for the same heart rate. Then after six weeks or so, when you have a solid aerobic base, you can start to add some harder runs at the 85 percent level. Try five minutes at 85 percent x 3 to begin with and gradually increase it until you can sustain the pace for 10-15 minutes or more.

**What about recovery heart rate?**

A great way to see if you’re getting fitter is to monitor how quickly your heart rate drops after exercise. As soon as you stop running, measure how long it takes for your heart rate to drop back down to 90 BPM. Over time you should see this improve. If you notice it’s not dropping quickly or seems to be more variable, then take some time off and pay more attention to your recovery and sleep.

My maximum heart rate doesn’t seem right?

Around 10-20 per cent of runners will find that they have a much higher maximum heart rate than the formula predicts. With these runners, it’s important to look for evidence over time when running hard. Have a look at your heart rate when racing or running at your hardest – and make a note of the highest you can get it to. It’s unlikely that will be your true maximum, but it will give you a good idea of where it might be. As a rule of thumb you can add on 5 BPM from your hard run to predict your true max.

The Maffetone Method

Coach Phil Maffetone has a useful and very easy method of calculating your zones. Instead of worrying about your maximum HR – which we know can be inaccurate – he uses a very simple formula: 180 – age = 70 percent training zone.

If you’re fit and have been training for a year without injury + 5 If you’ve been ill or had time off training – 5 For our 45-year-old female runner this would be 135 BPM. This correlates nicely with the 70 percent figure we calculated above to be 136.

That figure should correlate reasonably well to your calculated zone you worked out using maximum and resting heart rates. If you’re unsure or there’s a big discrepancy, go for a figure in the middle between your own calculation and the Maffetone method figure.

**Are there any downsides?**

While heart-rate training can be a fabulous tool to help you train and recovery properly, it’s important to keep it in perspective. Remember why you run. Get out there with your running buddies and just enjoy yourself. Don’t forget we run for many reasons and don’t take it too seriously. Run for fun, fitness and pleasure. Look up from your watch from time to time and enjoy the scenery.