



Previously: running technique

This one: technology

Next: nutrition

Last time, talking about running technique, I brought in a few complications (elbows, hips etc.). This time it's back to simplification, and a look at how technology may or may not help.

There's a lot of smart stuff out there. You may already own a GPS watch, a heart rate monitor, or a smartphone with a running app. How do they help? How might they get in the way? It's not enough that the gadgets are clever, the question is whether you're able to use them with intelligence. And I'll say something about headphones and music too.

As ever, make your own decisions based on what works for you, not just what I say – and certainly don't do things just because you see other runners doing it. If it doesn't help you then it's a distraction (and costs you time or money).

Priorities for success

What matters is marathon day, so when you think about the various technologies, think about what's actually going to help you on that day, and in preparing for it. The main challenges are probably:

- Minimise the things that can go wrong
- Try to run at an appropriate effort level or pace
- Be aware of your body and what's around you
- Have banked an appropriate mix and quantity of training

If technology can help with those, great. But if not, and if you're just generating information and complication for no purpose, then ask yourself why? There *are* potentially valid reasons (e.g. some people would argue they're just 'numbers people' and need that kind of information in order to feel they are making progress), but make sure you're clear why you're doing what you're doing.¹

¹ A great podcast on this theme is <https://play.acast.com/s/realscienceofsport/4628a60f-e998-45fc-b16a-a52ee2ba2a3f>, from the 48 min mark. I'd recommend a listen. They suggest data is useful if a) it creates motivation b) it simplifies c) it helps you make better decisions. If it doesn't then it might be data but it's not insight or intelligence. Earlier, they discuss the controversial Nike shoes you may have heard about. If you're thinking of going down that route feel free to ask for my opinion, but to summarise - genuine injury risk, obscenely expensive, unspeakably ugly.

None of it is 'necessary'

People have been training and running for a long time. Maybe with nothing more than a rough sense of time and distance, maybe with pencil and paper, and perhaps a stopwatch and a map. That told them what they'd done, how far they'd gone, how long it took, and therefore how fast they'd been moving. They knew their bodies well enough to know whether they were working hard or taking it easy – they didn't need a heartrate monitor for that.



If you go to Iten in the Kenyan Rift Valley, where huge numbers of incredible runners live and train, you'll only see only a limited number with even so much as a cheap Chinese watch. It works for them. They include some of the fastest endurance athletes on the planet. The point is that the lack of dependence on dubious data is what makes them fast, not that they're 'too good to need it'. They listen to their bodies and that's what makes them great.

So just because other people may have spent a lot on fancy kit, that doesn't mean you need to. It's perfectly possible to keep it very simple and still get the key information that you need (how hard, how long, how fast, how far).

Running is not an activity where you can easily spend your way to making things easier, and your watch or your app won't make you faster on their own. Either use them (and I mean *really* use them) or save your money and your time for something more productive.²

Data – mindful or mindless?



People like the UK cycling team have focused on using data to identify 'marginal gains' – small improvements that could add up to a big difference. But they do it in an intelligent way, mindful of how it'll be interpreted. Data isn't generated at random. It's used and analysed, and they know what they'll do with it before it's gathered. And they're only doing this when the big improvements have already been found.

Today's phones and watches can also generate a lot of information, both 'live' and for the purposes of post-analysis. But what are you going to do with that info? How will it help you become a better runner? If it's just a case of wanting to look and feel like a runner then fine, there will be some placebo effect. But if you want to make a real dif-

² You'll get more value from spending time with a coach to chat things through, or getting someone to give you feedback on your form. But I would say that, wouldn't I?

ference you should think about how you'll use the info, and don't waste your time and money on something irrelevant.

In the world of business performance there's a principle around 'what gets measured, gets done'. If you know something is being monitored, then you'll make those things happen, or that's the argument. But it also means that 'what doesn't get measured, won't get done' (ie things that aren't easily turned into a number become ignored). And also 'what gets done, gets measured' - people try to produce statistics on everything, generating a wall of information which obscures the real story and eats up resources and thinking capacity.³

All that really needs to be known is whether something is good news, bad news, or somewhere in the middle. Or to put it another way, is there something I need to stop doing, start doing, or continue doing?

In a running context, the same applies. Just because a number can be produced doesn't mean it is accurate, meaningful, or helpful.⁴ Sometimes you just need to know whether it was a hard day, a medium day, or an easy day. Or whether you feel tired or full of energy. And many of the things that make a difference to marathon performance aren't about numbers. Nutrition, race-day tactics, mental solidity etc. Many of those are qualitative measures and not easily put into accurate numbers.

So don't let yourself get lost in numbers unless you make them count.

Is it science?

The *time* is accurate, unless you're running close to the speed of light. But everything else is an estimate. *Recorded distances* are more or less correct, but will be influenced by the way in which your device converts altitude differences, how tightly you corner, and whether you're running under trees or high buildings. They'll average out more-or-less right, but for shorter sections, they're not totally trustworthy. *Effort* levels – measured by heartrate – have a significant lag, and people's highest readings normally occur after the end of a hard effort, rather than during it. For short intervals heartrate isn't much help and you're far far better off just getting to know your body.⁵ And *calorie* figures are based on a whole range of assumptions about your history, habits, and efficiency of movement. Basically it you just say '100 calories per mile' that's good enough, whether you're walking or running.

³ I'm focusing on GPS-watches and similar devices here. There are some even more spurious things out there, and just as two examples among many I'd mention 'Stryd' and 'Humon'. Feel free to look them up. Expensive pseudoscience.

⁴ Even the best watch brands don't really claim to be any better than +/- 10% of the 'true' figure. And you could probably guesstimate things yourself just as well.

⁵ Having said that, heartrate *can* be useful as a gauge to how well you've recovered from a hard session, or whether your immune system is having to fire up to deal with something. And also as a 'maximum', to ensure you don't do your easy runs too hard.

In reality it's weak data, especially in terms of 'live' stats during your training. If you put your faith in it then you're handing responsibility to something unreliable.

Your watch will lie to you. So don't worry about decimal points and details, they don't matter. A run of 5.9 miles is just as good as one of 6.0, and a perceived effort of 8/10 is as precise as you need to be. A watch might give you a rough estimate of speed, distance or heartrate, but your body is smarter and gives the best holistic gauge of how hard you work. So above all trust your intelligence, not that of some gadget.

Potential benefits - before, during, after

Having chipped away at the value of technology, I'll be more constructive. There are a few ways that technology *might* play a useful role.

- It could be in telling you what to do, how far and hard to run. Training plans can be loaded onto a watch or phone, and that can be used to give you instructions or a session plan in advance.
- It could be during a run itself, telling you your distance, your pace, your splits. Certainly many people spend a lot of time looking down at their watches during races, rather than focusing on what's in front of them.
- Or it could be used more as a backward-looking record, so that you know what you've done, how much time you spent at different effort levels, how far you ran. But after pressing 'start' you don't look again until pressing 'stop'.

To some degree, the planning ability can be useful – but if you've kept things simple and are using some kind of zones to plan your sessions, you could hold the shape of the session in your head without needing something to tell you what to do.

Live stats during the session aren't of great value, and in any case, you should know for yourself whether you're running Hard/Medium/Easy or Red/Yellow/Green/Blue (or whatever zones you use), based on your feeling and breathing. Why would you need a device telling you how hard you're working? The stats won't tell you effort (which is what matters). They'll tell you speed or heart rate, both outcomes rather than effort.

So of the three, for me, it's only the last that's really of much value, because it tells me how my actual session compares with what I'd intended, and gives me a sense of what I've actually done with my session, my day, or my week. Really I'm watching out for overload and ensuring that there's enough easy work, recovery, and crosstraining.

What do you really need to know?

If you need to, you can probably work out the important stuff in other ways as well:

- How long – if you're doing a certain time for an interval or your workout, any watch will tell you this
- How hard – your judgement (1-10) is as useful and accurate as any other data
- How far – you can get this from a map or from the internet

- How fast – if you know the distance, you can work this out from your split times or your total workout time, with a stopwatch

'Roughly right' is good enough, and the effort and expensive that would be necessary for anything more precise could probably be used more effectively for something else. Resting, eating well, focusing on form, fundraising....

Avoiding raceday meltdown

As a bit of a test of whether you're becoming dependent on your technology, here are some extremely common situations at the London Marathon, each of which can send people into such a panic that they ruin their race. How would you handle them?

- The start. The crowd is shuffling anxiously towards the starting line. You're nervous. 40,000 other runners all seem to have a signal, watches are beeping all around you. But for some reason, your watch isn't working and no signal comes⁶. *What do you do – hold back and not cross the line? Did you forget to charge it? Will you be chuntering about it to yourself for the first few miles?*
- You've got a pace in mind for the first stretch, but you keep looking at your watch every few seconds and you're always a bit fast or slow. And you're not beeping exactly on the mile markers. *Should you keep surging and slowing? Should you use up energy worrying that the official distance is 'wrong'?*
- You're running around Canary Wharf, a GPS graveyard with tall buildings and a tunnel. The distance and pace readings are crazy. *How will you know where you are and how fast you're running?*
- You accidentally press the wrong button and cancel the workout⁷. *How do you know your time and distance, and how fast you're moving? How can you get to the end unless you know those things?*
- You're on the Embankment with about two miles to run. You think you're right on the limit for your target time – but you go through an underpass and lose the signal. *How will you hit that precise time, when every second could count, without a watch to tell you your pace?*
- You're crossing the finish, this could be your proudest achievement and a photo that you'll put on your wall. That photo could be what clinches your fundraising target. You're wearing a chip on your shoe which provides your official race time. *Should you look down at your watch and fiddle about with buttons? Or should you smile and look wonderful, and let the timing chips do the timing?*⁸



⁶ Confession time – I have done this. The first Surrey Half Marathon..

⁷ This too. My first Comrades race in S Africa. Distance markers had blown away in the wind, and I fiddled with my watch to recalculate, deleting everything. So I had no idea of my time, and just missed a silver medal as a result.

⁸ Yes. The first Royal Parks Half Marathon.

All of this is a strong hint that you should be prepared to do the race itself without being reliant on a GPS device. In any major race, the distance markers are clear and accurate. Your GPS distance will be wrong, and your recorded splits will be inconsistent. As long as you know your time from one marker to the next and have got to know your body's effort levels, you can pace yourself – you shouldn't need to check your pace more than 26 times in a race.

So my recommendation would be to run on raceday with a simple stopwatch with a lap function. No signal or battery problems, buttons you can use blind, it'll tell you your time for each mile or 5k split and you can restart the process at any point, running mile-to-mile then giving it what you've got in the closing stretch.

Running naked

If that's what you might do on raceday, then that's what you should practise, at least some of the time. Even if you will use tech to monitor your training, don't become overreliant on it. Aim to do at least one session a week where you leave it at home. Occasionally 'run naked' – I mean in terms of technology, though there *are* races for people who take this literally.⁹ Or just take a very simple watch, covered up or turned around so you can't see what it says.



Music?

To finish, a few thoughts on music. Huge numbers of people train and race with headphones, and many appear incapable of running without it. Again, decide for yourself whether this actually helps you, whether in training or in a race. It doesn't matter what others do.

There may be a motivational message in there, there might be a certain rhythm that fits your running style¹⁰, there may be a particular song which is meaningful. But there are downsides:

- You can't hear instructions
- You can't hear other runners
- You can't hear your breathing or how your feet are landing
- You can't hear the car that's pulling out of a driveway or closing up behind you
- You can't hear the sounds of the outdoors on a trail run
- You can't hear the crowd, cheering you to the finish, calling your name
- You get wildly overenthusiastic at the wrong point in the run

⁹ <https://www.naturistfoundation.org/5k-run/> - Sunday 17th May is the date for diaries!

¹⁰ You'll fall into step with whatever you're listening to, and unless you're careful that could be too fast (or too slow). Check your cadence at your marathon effort level, and find tracks with the right 'beats per minute' (BPM). I know someone who is convinced 'Nelly the Elephant' is his perfect running track. Don't just put on a random shuffle, and remember that at the start you need to be calm not pumped.

And there are downsides for others too:

- You get in the way of other runners, trying to tell you that they're coming past
- You make life hard for marshals, first aiders, emergency services, and people at drink stations, trying to keep you safe, and refreshed. You're not showing any respect for the job they're doing.

Most races discourage people from wearing headphones, and many don't allow them at all. All UK road races should disqualify you unless the roads are closed (it's a condition of their race licence and insurance). If they discourage it, then don't wear the headphones. If you do, and you go off route or get in someone's way, don't blame others for getting lost or being shouted at. If you're told to remove them (or disqualified) don't act surprised. It's entirely your fault.

I'm not totally against headphones. I've used them on long runs to learn Spanish, and listened to episodes of Marathon Talk.¹¹ But it's just another complication and it won't do anything for your running. If you absolutely must have music then at least carry it properly, clipped to your waistband rather than held in one hand, ruining your form.

London *is* noise

And of course, one of the whole points of the London Marathon is that it's noisy. 40,000 runners, huge crowds all the way, a wall of sound encouraging you. If you don't want to hear the crowd, the marshals, the drink stations, the bands, the other runners, charity supporters, then you've entered the wrong event.

My intention in these notes is to keep things simple, only adding complications if they help. I'm not totally anti-tech, but it's important to use it in a way that makes a difference. Otherwise it's just something else to worry about, something else to carry, and money that could be spent on (for example) a charity donation or some coaching input. Lots of runners have unused gadgets sitting in drawers, so maybe borrow one before getting your own?

Of course, make your own mind up and if you know how you'll get genuine value from it then great, but don't be a slave to the data and don't let it get in the way. Remember that your watch is not a reliable friend, you can't trust it and it will definitely lead you astray.

As ever, three points to close:

- **The most important technology is your brain. Above all, use that.**
- **Other devices can help, but if they will tempt you into focusing on the wrong things, leave them alone.**
- **Whatever you use, ensure you're capable of running without it.**

¹¹ <https://marathontalk.com/>