



DR ANDREW MURRAY

Dr Andrew Murray is a sports and exercise physician and is the first physical activity champion for the Scottish Government. He has a special interest in ultramarathon running and in this interview he shares some of his insights with us.

As an introduction, can you give us a list of your most significant achievements (and why they are important to you?)

Regarding doing the sports myself I won 14 international ultramarathons or marathons on five different continents and in varied terrains. These included the Sahara and Gobi deserts, jungle races and at the North Pole. I also completed various "challenges" to raise awareness of the health benefits of physical activity, and funds for charity which included running 4300km from far north Scotland to the Sahara Desert, running up various hills/ mountains in various parts of the world and running 7 ultras on 7 different continents in under a week.

I have subsequently worked for our (Scottish) government as their first "physical activity champion" – and our levels are going up which is the thing I am most pleased with. I have also served at Olympic Games, Paralympic Games, Commonwealth Games as a physician, and have led the medical and scientific teams at World and European Championships in various sports.

What is the most challenging aspect of these ultra-endurance events? And the most rewarding?

The most challenging thing is doing the training. For example, when I ran to the Sahara, I averaged 62km every day for 11 weeks which was fine when in the excitement of a challenge but getting up at 0300 to go for a 5-hour run before work to train for it is not always great fun.

The most rewarding is that running (as well as working in sport) can be an amazing way to see the world. We tend to drive around quickly, whilst seeing things at the pace you can run is a real pleasure.



Something that I think challenges and rewards in equal measure is working out the science of competing in different environments. Having some great medical and scientific colleagues helped me massively here. Sometimes it is also practical issues – for example do you race using snow shoes, or shoes with spikes in Antarctica? Do you use a "normal" size shoe or go up a size? How do you stop your food/ energy gels freezing?

How do you manage to go from one ultra-endurance event to the next without getting overuse injuries?

I raced to see a part of the world I would like to go to. Once I had the three or four target races for the year (doing more than 4 ultras per year usually leads to a decline in performance) I would figure out what I'd need to do to be competitive (generally being as specific as possible for training) and avoid injuries (gradually increasing the volume and intensity of training, and concentrating on my biomechanics and some conditioning to limit injury risk, as well as getting ready for the terrain I would be exposed to).

I would then pay close attention to the foundations of getting good sleep, having good nutrition and protein intake, and taking advice from fantastic physio, sports med, podiatry, and other colleagues if matters arose. If I were getting an overuse injury in training, I'd often do quite a bit of my training on the cross trainer.

In saying that, I still got a tibial stress fracture, and a 2nd metatarsal stress fracture, along with various tendinopathies. I

feel that when I had a tendinopathy, I would be able to change my biomechanics and not have to alter my volume or intensity but if I got a stress fracture, I'd need to cross train to permit healing.

Why ultra, rather than multi-sport?

I actually enjoy all sports including multi-sports and will give anything a go.

How different is running on ice (North Pole Marathon) from running on sand (crossing Namibia) in terms of injury and performance?

Running on soft snow (for example at the North Pole) and running on sand dunes (for example running in the Sahara, or Namib or Gobi deserts) actually has a lot of similarities – indeed to train for snow running I'd quite often run through sand dunes in Scotland. Basically, it saps more energy and choosing the best path is important. Obviously, the difference is the temperature. With the desert you are wearing wicking light-coloured clothing. Keeping cool in a desert is much, much harder than keeping warm in a cold location. Avoiding over-heating often is a limiting factor in how fast you can run, and I averaged about 11 litres of fluid per day when running across the Namib desert. Running in the cold is actually fine. In very cold polar regions multiple thin layers are the way forward as this helps making small adjustments, while having full body cover to avoid frostbite is often needed depending how cold it is.

How do you manage your food, hydration, sleep, and rest?

I will aim to get as close to 8-9 hours sleep as possible during training and competition. I'll aim to maintain hydration if doing a multi-day/stage race – if it's a shorter race then finishing with a degree of dehydration is fine.

I'll generally ensure good regular protein for muscle repair and plenty of fresh fruit and vegetables for immune function. I'll use carbs as fuel when having to run at a high percentage of max. Just doing the basics well – nothing fancy.

For races that last multiple days where I had to carry all my own supplies including food – then I'd train to fat burn and try and bank good amounts of sleep in advance. Basically, I have copied what the Kenyan distance runners do. I spent 6 years growing up in Kenya and have been out there with groups of athletes more recently.

How much do you run and how much do you walk?

Always aim to run unless the terrain is steep and an exceptionally long run or very deep snow or dune.

What about the psychological/mental aspects – do you get lonely? What do you think about when you run?

The main thing for me was to train in the hills or in places I enjoyed training in and for races I in places I wanted to see or enjoyed seeing. I did a couple of representative races that were multiple loops of the same course that I enjoyed less and found mentally demanding.

My general tactics were to try and take in the surroundings for as long as I was ok physically. When things started to become demanding about halfway into a race or long training run, I'd put some music on and remember enjoyable races and challenges and how I'd gotten through them. I'd also use caffeine in the second half of a race.



In general, I like the great outdoors so wasn't really bored or lonely in those environments. I did sometimes get bored when training as there were only so many routes I can do from my house. Having someone doing the training with you helps for sure.

Is it ever too late to start?

No. There are people like Fauja Singh running marathons at 100 years old now. And for ultra-marathons often some life experience can be quite helpful, and you perhaps don't need the top end speed.

What is an absolutely necessary personality trait you need to have to be an ultra-endurance runner?

There are many fantastic ultra-endurance runners with all kinds of different personality traits. Some helpful ones include perseverance, patience, and attention to detail. Often, they will have supportive families also, which I am blessed with and grateful for.

What do you bring back to your patients from these events?

Really, health and performance are often about doing the basics well. Excellent quality and quantity of sleep, optimal nutrition and doing the right sort of training for the event or sport you are doing is far more effective than many of the gimmicks people try. I think I help people with what is most effective with health and performance and how to get to the finish line or perform if they have an injury or something troubling them. There is often a way.

You're a physical activity champion. When is exercise no longer healthy? Will you recommend these types of events for your children?

We do know that regular physical activity adds years to life and has a range of physical and mental health benefits. Doing some exercise is better than nothing and doing more is generally better. However, the amount of mileage I was doing for 5 years was beyond what has health benefits. Probably better than being a couch potato, but beyond the sweet spot for optimal health.

My girls Nina and Fran are nine and seven and enjoy biking to school, dancing, ball sports and going out into the woods. Sonny (five), my youngest, also loves dancing but also likes football, and multi-sport. What they enjoy is what's most important. They will be able to make their own decisions in life – but with our support.

Interview by Liesel Geertsema MBChB, FACSEP