



## We deal with heat the wrong way. At least most of us do. How our bodies can adapt better to the heat:

Reading time 8 minutes

It is possible to train our bodies to cope better with high temperatures in just a few weeks. I recently read a fascinating [article](#) in the New York Times that turned my intuitive approach to heatwaves on its head. And since we can expect more hot days, it makes sense not only to engage in climate activism, but also to better prepare ourselves physically for this future.

The NYT article starts with this short story: In a small, sealed room, Olivia Leach swallowed a 'pill' that would soon monitor her internal temperature. Then she got on a stationary bike and got ready to sweat. As she pedalled slowly, the room began to warm up by one degree every five minutes.

It felt "like a hot, humid summer day when you're drenched in sweat," said Ms Leach, a PhD student.

Ms Leach works in the lab of Larry Kenney, a professor of physiology and kinesiology at Penn State University. The lab's work is part of a growing body of research looking at how the body deals with heat and how to help people acclimate to hotter weather.

### There are more heat-related deaths

This type of research has become more urgent as more parts of the world face an increasing number of dangerously hot days. In the United States alone, extreme heat caused at least 2,302 deaths in 2023.

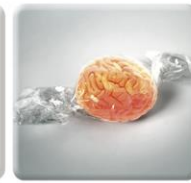


Source: istockphoto.com: humonia

In 2023, German Health Minister Karl Lauterbach warned that there had been 8,000 heat-related deaths in Germany and that he would endeavour to halve this figure. After that, however, I heard nothing more about it. As is so often the case with the announcements of the traffic light coalition ministers. Minister Lauterbach did not cite any reliable sources, perhaps he just wanted to be quickly taken on board the climate activists' PR bandwagon. Lauterbach's proposed solutions follow the zeitgeisty Berlin idea of the helpless citizen who needs the nanny state for everything:

- # Drink enough water
- # stay in the shade
- # Eat light food
- # Keep your home cool
- # Avoid exertion
- # take care of yourself and others

The Americans are taking a refreshingly proactive approach to the problem.



Without proper preparation, overexerting the body in extreme heat can be deadly. According to the Occupational Safety and Health Administration, nearly half of all heat-related worker deaths occur on the first day of working outside in intense heat, and more than 70 percent occur within the first week. Recognizing these risks, the Biden administration has proposed new regulations to protect workers who work in the heat.

The proposal stipulates that employees are entitled to so-called acclimatization plans, which enable new employees who are not used to high temperatures to safely adapt to the heat by gradually increasing their working hours. This is help for better resilience, instead of Lauterbach's passive protective behaviour.

"Heat is stress, and our bodies adapt to stress when we are repeatedly exposed to it," says William Adams, a kinesiologist at the University of North Carolina.

Heat acclimatization is often used to support people who regularly engage in intense outdoor activities, such as athletes, outdoor workers and military personnel. When temperatures rise, people can benefit from trying to increase their heat tolerance.

"Start exercising in the fresh air, expose yourself to heat and work your way up," says Michael Sawka, associate professor of biological sciences at the Georgia Institute of Technology, who has studied heat acclimatization. "You'll find that your heat tolerance increases"

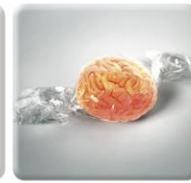
### **The advantages of adapting to the heat**

When it's hot, our body looks for ways to cool down. You start to sweat and your heart starts to pump harder. But extreme heat can make the heart beat too hard. Blood pressure can start to drop. You can sweat so much that you become dehydrated or dizzy.

The idea behind acclimatization is to train our bodies to cope better with the heat, starting with small doses. You could start by doing half an hour of light or moderate exercise in the heat for a few days, followed by an hour over the next few days. Gradually increase to more intense activity in higher heat and for longer periods of time. Generally, two weeks of daily heat exposure with 60 to 90 minutes of physical activity is sufficient for the body to acclimatize to the heat.

The body learns to regulate its core temperature better and better. The total water content in the body increases and the blood plasma expands. This means that the heart fills up faster and no longer has to beat as often to transport oxygen. In addition, more blood can flow towards the skin, where it can be cooled.

Over time, you sweat earlier and more. This helps the body to stay cooler for longer in hot weather. You also store more salts, which means that fewer electrolytes are lost through sweat. In addition, the body produces more heat shock proteins, which help to protect against and relieve heat stress.



Some of these effects can be seen after just a few days.



Source: istockphoto.com: elenaleonova

### How to acclimatise

What this process looks like depends on your state of health, fitness level and your heat requirements. The body adapts to the strain you place on it. Light exercise in dry heat, for example, only acclimatizes you to light exercise in dry heat.

"You can adapt by just resting in the heat, but you won't achieve the same adaptation as being physically active in the heat," said Dr Sawka. "You don't want to overdo it. But you should adapt so that it's not harmful to your body when you're exposed to it."

And although acclimatization can make it easier to cope with hot days, everyone has a limit, Ms Leach said. "There's an upper limit to the adjustments that can be made."

If you're able to increase your heat tolerance, working in hot temperatures one or two days a week should help your body maintain its adaptations, Dr Adams says.

However, without regular exposure to heat, the effect wears off after about a month. However, the body remembers some of the adjustments, which should make it easier to acclimatize the next time.

I'm travelling to southern Italy in four weeks' time, where there is currently a heatwave. I will be consciously preparing myself for the next few weeks. Until now, I've always complained about my gym being too hot in summer. Now I'm using it with a smile. If it's still hot in Puglia in mid-September, I'll prioritize daily exercise sessions once I arrive to acclimatize further.

I probably should have written somewhere in this BrainCandy: "Ask your doctor or pharmacist" before you just start self-motivated, but I'm talking to smart people who don't need the nanny state, right? And one more thing, the New York Times article negates the helpful support of our adaptation to the heat by regularly taking electrolytes. If you don't eat a diet primarily of highly processed foods with high salt content, then you can boldly reach for appropriate supplements. I love LMNT (pronounced: *element*) - but it's currently difficult to get hold of in Europe. But Amazon and the like offer a huge selection for athletes, so there's something for everyone.

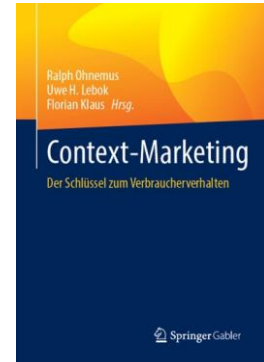


## Book recommendation

By Ralph Ohnemus, Uwe H. Lebok, Florian Klaus:

### Context marketing

The key to consumer behaviour to [order](#).



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