

FORGED IN THE FURNACE

Want to fire up your speed and endurance? Here's how one man ignited his ability to run faster than ever.
By Bob Parks

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DRIPPING SWEAT AND NEARLY DELIRIOUS, I'M RUNNING ON a treadmill inside a torture chamber: the prison-cell-size "heat sensory lab" of Doug Casa, Ph.D., a professor of kinesiology at the University of Connecticut's Korey Stringer Institute.

The room is stewing at 104°F and 40 percent humidity. And my insides are slowly cooking too, at least according to the thermometer I have stuck up my butt. (Another torture.) My core body temperature hit 101° after about 30 minutes of jogging. Now, 20 minutes later, I'm hovering around 103°—dangerously close to heatstroke. My limbs feel heavy; my brain is foggy. I'm working twice as hard to keep moving, but time feels like it's standing still, which makes me increasingly agitated.

There's a training method to this madness. As a 40ish runner who's lost a step over the years, my mantra about exercising in extreme temperatures is usually "Heat? Ack!" In other words, I avoid it. But then I started hearing rumors about a new style of training dubbed "heat acc," short for heat acclimatization. The legendary triathlete Jesse Thomas reportedly caps off his hard workouts in a sauna. (In May, he won the Wildflower Triathlon for the fifth time; it's one of the largest in the world.) And Ironman Chris Thomas (no relation) cranks his own climate at his home. (At 42, he won three races in the open amateur category last year against guys half his age.)

The protocol they're both using is becoming standard among athletes seeking an edge. Originally developed by Chris Minson, Ph.D., of the University of Oregon, and outlined in the *Journal of Applied Physiology*, the idea is to push your core temp up to 101.3° and then train for an hour at that threshold or just above it. Do this for 10 days straight, and you can condition yourself to use oxygen more efficiently and tire less quickly, the researchers report.

How effective is it? Casa, a Minson disciple, works with NFL players, the U.S. Army Special Forces, and elite athletes to safely heat up their potential. "It's basically natural blood doping," he says.

AFTER CASA TAKES MY VITALS, HE SENDS ME HOME WITH instructions to keep the workouts going. His pep talk is more clinical than rousing. "Even three days in, you'll already have some adaptations, so it should feel easier," he says. "After 10 days you'll have achieved the full effect."

It sounds easy, but I'll be initiating some complex processes that will alter my VO₂ max and lactate threshold—that is, how much air I can suck in under stress and how long it takes for my muscles to cry uncle. Both hinge on a broader physiological factor: blood plasma volume. During heat acc, your kidneys register stress from your reduced blood oxygen and higher heart rate, and release chemical signals to produce more blood plasma. The more plasma your body makes, the more easily it can circulate oxygen-rich blood, keeping your skin cool, muscles clear of lactic acid buildup, and gut primed for efficient hydration.

Sure, those heaters blow a few fuses, but I have to congratulate myself: I've managed to replicate what hell feels like.

Time to bring the heat. I drag my treadmill into the laundry room, stuff the windows with insulation from Home Depot, and crank up three space heaters and a humidifier. When all that gear is turned on, the room easily hits 115°F. Each of my training sessions lasts 90 minutes: It takes half an hour of steady running to hit that 101.3° mark, and another hour of furnace-fueled punishment to start sparking gains. Sure, my rig blows a few fuses, but I have to congratulate myself: I've managed to replicate what hell must feel like.

Would Satan insist on regular rectal probing? Casa does. To hit 101.3° safely (see "How to Avoid Heatstroke" on page 129), you'll need to put a thermometer up your arse about every 10 minutes during the first few torchings. After you're more experienced, you can do it every half hour.

There is an alternative: the CorTemp Ingestible Sensor, a vitamin-size digital thermometer pill. You swallow it and wait for readings to pop up on a handheld receiver. I tried a demo and the pills worked, but I had to plan ahead—the pill needed time to settle in my stomach for accurate readings. Then I had to train right away or risk "downloading my data" too early. At \$2,600 for the wireless receiver plus \$40 per pill per session, I figured I'd stick with the rectal probe.

Men training this way may lose up to 2 quarts of water an hour, Casa says, so you have to hydrate constantly. Another problem: roast beef sandwiches and Heineken. I'm burning tons of calories but replacing them so lazily that I gain a pound or two.

Then there's the heat from my wife. At UConn, Casa had warned me: "Spouses hate me because the room will stink long after you're done working out," he said. Or, as my wife puts it one day, "Are you trying to replicate Gwyneth Paltrow's experiments with vaginal steaming?" That's funny, until later in the week when we try to have sex. For some reason, I'm erect but can't climax—probably because I'm so physically drained. She's happy but I'm annoyed. Not the endurance I'd had in mind.

ON MY RETURN TRIP TO CASA'S LAB, I LEARN that suffering pays off. After 10 days, my VO₂ max has improved by 9.3 percent. My lactate threshold is at...wait, what threshold? In interval workouts, my legs feel so light that I rock a 5:27-mile pace.

When my wife finally demands that I dismantle the hotbox, I agree. But from Casa's recent experiments, which he expects to publish in the next year or two, it appears that I'll need to reignite myself once every five days to maintain my gains.

Now I run exactly when I always feared it the most—at noon, under the summer sun. The best part is, I've ditched that crappy thermometer. After a few uncomfortable spot-checks with it in a nearby porta-potty, I learned to gauge exactly how hard my body is working.

At a recent 5K in Fort Devens, Massachusetts, I finished third overall, dropping several guys who used to beat me. No sweat. ■