

# live

## The Essential Rules of Recovery

When the mountains call, make sure to answer with extra rest days.

BY ASHLEY MATEO



BRAD KAMINSKI

live/



Relieve stress and tension with this legs-up-the-wall pose (hold anywhere from 5 to 15 minutes).

The Ultra-Trail du Mont-Blanc (UTMB for short) is an ultramarathon trail race that covers 106 miles through France, Italy, and Switzerland and has a total elevation gain of around 32,940 feet. It's known as one of the toughest races in the world—and for good reason. An average of 39 percent of runners don't even finish, and those who do experience fatigue levels of up to 40 percent in their legs post-race, according to research published in *PLOS One*. It can take runners up to nine days to fully recover.

You don't need to run Mont-Blanc to know that trails take more out of your legs; that the uneven surfaces demand more from the small stabilizer muscles in your lower limbs, and inclines call for increased cardiac effort. Plus, "any time there's a downhill running component, that's going to cause more muscle damage, inflammation, and soreness," says Shona Halson, Ph.D., a recovery expert and senior physiologist at the Australian Institute of Sport. Translation: You need more time to recover.

The point of recovery is to allow your body to adapt to the work, so the next time you're tackling dirt and vert you'll feel even stronger. But no matter where you run—or how many miles you cover—recovering properly is key to optimizing your performance. These seven staples can help you do just that.

## 1. EMBRACE PASSIVE RECOVERY

Rest isn't synonymous with melting into your couch. Coaches have long preached the benefits of active recovery, but the problem is that adding in more exercise—even if it's as chill as a leisurely walk or bike ride—still has the potential to cause more muscle fatigue and damage, says Halson. "People are now focusing on more passive recovery strategies," she explains. Think: pneumatic compression devices like NormaTec or Rapid Recovery boots and electrical stimulation like PowerDot.

One study on ultramarathon runners

published in the *Journal of Orthopaedic & Sports Physical Therapy* found that post-exercise pneumatic compression therapy offered the same benefits as post-exercise massage, specifically lowering overall muscular fatigue. The verdict is still out on e-stim; one scientific review did find that it had subjective benefits, but no statistically significant effects. Still, the placebo effect is real. "We know how important the power of the mind is in athletes," says JoEllen Sefton, Ph.D., associate professor of kinesiology at Auburn University. "In people who believe a recovery technique is effective, researchers have found more positive results." So if you find something you believe is effective (as long as it's based in science), it can be a powerful tool in your recovery arsenal.

## 2. TURN UP THE HEAT

Soaking in a hot tub feels like an indulgence. But it can also be a soothing post-workout strategy for sore muscles and tired legs. "A lot of athletes I work with use hot baths as a relaxation method," says Halson. Theories about whether hot water immersion increases blood flow to the muscles or if it flushes metabolites like lactic acid are still up in the air, though, she adds. But if immersing yourself in hot water feels like you're doing something productive for your body, then turn that knob all the way to the left.

Hot water can also be a training stimulus, helping you make gains during your time off without adding volume

BRAD KAMINSKI

## “In people who believe a recovery technique is effective, researchers have found more positive results.”

and/or intensity or upping your risk of overtraining or injury. Sitting in a 102 degree Fahrenheit bath for 30 minutes three days a week after moderate-intensity workouts led to improvements in  $VO_2$  max, lactate threshold levels, and running economy in a study by researchers at Western Colorado University. (It takes a minimum of six to seven exposures to heat to induce adaptations, according to an scientific review in *Frontiers in Physiology*.)

### 3. ICE DOWN

The scientific consensus on ice baths has shifted over the years, but they're not passé. Cold-water therapy can speed up recovery on strength-training days (FYI: that applies to hill workouts), according to research in the *Journal of Physiology*. It was also shown to reduce delayed onset muscle soreness (DOMS) in a scientific review by researchers at the Cochrane Library. “The exact mechanism as to how this works is not entirely clear, and may be a combination of neurophysiological, vascular, thermal, and/or psychological effects,” says study author Chris Bleakley, Ph.D., a lecturer at the School of Health Sciences at Ulster University in the United Kingdom.

To reap the rewards of cold water immersion, you should spend 11 to 15 minutes in water that's between 52 and 60 degrees, a review published in the journal *Sports Medicine* found. “It's best to do this after intense exercise in the heat, mainly because it's a good way to

control core temperature, and it reduces thermal strain, fatigue, and perception of recovery,” says Bleakley. This is particularly important in situations where athletes undertake multiple bouts of competition in a short space of time, he adds—like a multiday trail race.

### 4. INVEST IN MASSAGE

There are a lot of percussion guns and vibrating recovery tools on the market right now, but a trained professional is going to give you the best massage available. “Having a highly trained therapist's hands working on you, deciding what you need—whether it's monthly, bi-weekly, or weekly—can help keep you from getting injured,” says Sefton. “Post-workout massage or even massage on your rest days may help soreness, fatigue, and even biomechanics.” It alleviated DOMS in research published in the *Frontiers in Physiology* and reduced pain intensity in runners' quads in a study from the *Journal of Physiotherapy*.

While it's unlikely you can spring for a professional rubdown after every run, foam rolling is a great substitute. Not only has recent research shown that foam rolling can reduce muscle stiffness, just 60 seconds of foam rolling your lower back and hamstrings can significantly improve the flexibility and range of motion in those areas, according to a study published in the *International Journal of Research in Exercise Physiology*.

### 5. PRIORITIZE SLEEP

No matter what you're doing in the gym, a good night's sleep is fundamental to staying healthy and making gains—in fact, new research from the *International Journal of Sports Medicine* argues it may be the single most important factor in exercise recovery. “Most adults secrete growth hormone—which is central to athletic recovery, protein synthesis, and immune system/inflammatory modulation—primarily during deep sleep,” says W. Chris Winter, MD, sleep specialist and author of *The Sleep Solution: Why Your Sleep Is Broken and How To Fix It*. “Athletes who sleep poorly take longer to recover and get injured (and sick) more,” he adds.

If you can't manage the seven to nine hours of sleep recommended by the American Academy of Sleep Medicine, a nap could boost your performance. A 30-minute nap before a workout can help you overcome cognitive and physical deteriorations in performance caused by sleep loss and training fatigue, research published in *Medicine & Science in Sports & Exercise* found. But naps are a quick fix, not a long-term recovery solution. “Naps are like sleep supplements—you should not live off of them and they should not overtake or encroach upon the main sleep period,” says Winter.

### 6. FOCUS ON NUTRITION

Refueling isn't just about hitting the perfect balance of protein and carbs exactly one hour after exercising.

## NEW TOOLS OF RECOVERY

You can't get back to your best without the core principles you've been reading about—sleep, nutrition, etc.—but adding some key accessories on top of proper recovery protocols can boost your bounce-back effectiveness.

Eventually, “you have to have a well-balanced, complete meal,” says Ryan Maciel, RD, the head performance-nutrition coach for Precision Nutrition. “You need protein to preserve your lean muscle and gain muscle, carbohydrates to refill your glycogen stores for your next workout, and healthy fats to help with inflammation.”

For a quick fix post-workout, chug a glass of cherry juice. The tart beverage boosted recovery in marathoners who drank it for five days before, during, and 48 hours after their race. It improved recovery by increasing antioxidative capacity, reducing inflammation, and aiding in the recovery of muscle function, according to research published in the *Scandinavian Journal of Medicine and Science in Sports*. “Tart cherry juice can help with muscle soreness and improving your recovery time because of the high concentration of antioxidants,” says Maciel. Opt for 8 to 12 ounces.

### 7. MIND YOUR STRESS

If you're feeling more beat-up than normal after a workout (especially an easy one), it may have nothing to do with your training and everything to do with the external stressors—whether that's work-related stress, health issues, or just the extended uncertainty of living through a pandemic. People dealing with prolonged mental stress take four times longer to recover from exercise than people with normal levels of stress, according to a study published in the *Journal of Strength and Conditioning Research*.

Remember that exercise is a stressor, and if your levels of stress are already high, it can tip you over the edge. You may want to do your typical training, but “recognize that if you're not sleeping as well or you're stressed during the day, you want to lean in to recovery a little more than you usually would,” says Halson. “Recovery is also about taking care of yourself psychologically.” ♦



#### Hyperice Hypervolt Plus

A fan favorite in the percussion therapy department, this massage gun is powerful, quiet, and equipped with built-in pressure sensor technology to help you get the most out of every session. Use the five interchangeable head attachments and three speed settings to help boost circulation, relieve sore and stiff muscles, and improve range of motion in your most overworked areas. \$400, [hyperice.com](http://hyperice.com)

#### Theragun Mini

The one downside to all the trendy handheld percussive therapy guns on the market? They're not necessarily the most travel-friendly. Until now. Theragun's newest model delivers the most portable massage device on the market, and with three speeds and 150-minute battery life, your muscles will still get high-caliber treatment. \$200, [theragun.com](http://theragun.com)



#### RollRecovery R4 Deep Tissue Body Roller

Using feedback from elite athletes and physical therapists, this foam roller is all about the details. The surface pattern and high-density EVA foam deliver the best feel and friction (while also being built to last for years). The unique center groove is designed to relax the spine while rolling back muscles, but it can also be used to alleviate IT band and achilles tendon tightness by targeting surrounding muscles. \$50, [rollrecovery.com](http://rollrecovery.com)

#### Addaday BiOscillator

This small vibrating massage roller is designed to alleviate trigger points in hard-to-reach areas that are sometimes tough to treat with a traditional, larger foam roller. Perfect for easing knots and tightness in your hips, shoulder blades, glutes, and bottom of your feet. \$80, [addaday.com](http://addaday.com)

