



BY ASHLEY MATEO

# Tap Into Your Greatest Running Power

» **RUNNERS LOVE THEIR** data, and there are so many ways to analyze performance: distance, pace, heart rate, cadence—and now, power. Cyclists have long tracked power as a metric for effort, but it's a little harder to measure when you're not settled into a saddle. With technological advances, though, devices like the Stryd foot pod, NURVV running insoles, certain running watches, and treadmills can track running power from your foot or wrist.

Even pros pay attention to it. “One huge component I lacked in college and my early career was power,” Stephanie Bruce, 38, pro runner with Hoka Northern Arizona Elite, tweeted earlier this year. “I’m proud that after years of strength work and heavy lifting and hills, we have greatly improved my power and stayed essentially injury-free for 6+ years.” Less than two weeks after that tweet, in January 2022, Bruce won the Rock ‘n’ Roll Arizona half marathon in Phoenix.

Who wouldn't want to run faster and stay injury-free? Power is yet another piece of the puzzle that can inform your training so you can get the most out of every run. And now that it's more accessible than ever, it's time to tap into it.

● **What power tells you about performance**  
Imagine a sprinter's wide-open stride, and the amount of force they generate with each step. That's power. When it comes down to the numbers, though, “power is one of those metrics that you can use to gauge how hard you're going,” says Chris Myers, PhD, CSCS, a coach with Peaks Coaching Group and coauthor of *Triathlon Training with Power*.

What sets it apart from other metrics: It gives you a real-time effort assessment. Pace and heart rate, which can be affected by several external factors, won't do that. Power is kind of like your rate of perceived exertion—but instead of subjectively rating your perception of your effort during a workout on a scale of 0 to 10, you're getting a quantifiable metric that can inform your training.

Power is also a measure of efficiency, or running faster with less energy: “If you can generate more power with every step while at a lower heart rate or faster pace than in previous workouts, that's a sign of improvement,” says Colleen Brough, PT, DPT, director of Columbia RunLab at Columbia University.

Aisha McAdams

## YOUR POWER-BOOSTING WORKOUTS

Speed training functions as a kind of strength training, Brough explains, because it engages your fast-twitch type II muscle fibers—the ones you use for sprinting, not steady-state runs. Training those fibers is important for all runners.

Traditional, heavy lifting is just as important, as it improves speed, running economy, and muscle power, according to

research. The key, says Brough: increasing the speed of the movements and the weight. When you can produce force at a high enough rate while handling that load, it translates over to what you need to push your body off the ground with each step.

So to build power, first strength train, then apply that strength to running, Brough says. Here's how to do that.

### How to get a power measurement

Power is measured in watts. In running, the sensors in your trackers (and their partner apps) are using your weight, speed, and other metrics like cadence or stride rate, and vertical oscillation (how much you move up and down while running forward) to come up with your running power numbers, explains Myers.

What does that mean for you? “The higher the watts, the more power you’re generating with each and every step,” says Brough.


That’s not to say there’s a gold standard number for running power. What you want to see is a consistent level of output, says Brough. “Throughout a run, you should ideally be able to keep your power relatively steady despite the hill, despite the fatigue, despite that little bit of knee pain.”

### Training according to your power zones

Just like heart rate, power can help you train in the right zones. “The functional threshold power (FTP) test is the baseline benchmark to calculate training zones,” explains Myers. “FTP is defined as the power one can sustain for 60 minutes or a 10K time-trial run.”

Most people won’t actually go out and run a 10K time trial, says Myers, but a 5K time trial can be a great way to calculate your FTP at a shorter distance. (You’ll need a device that measures power to actually get your watts reading during an FTP test.)

To do the FTP test, after a 20-minute warmup, increase your pace to the maximal effort or the highest power output you think you can hold for 3.1 miles (not including the warmup/cooldown distance). Aim for a rate of perceived exertion (RPE) of 6 to 7. After finishing the 5K, cool down. The average power, or FTP, from that run can then be used to determine your power training zones, which your device may also help you determine.

Where power measurements really come in handy is for effort-based pacing. Let’s say you’re running a super hilly race. There’s no way you’ll be able to maintain equal splits on the ups and downs. But if you can sustain your power, that means you’re running at the appropriate intensity. 

#### STEP 1: LIFT HEAVY



#### ROMANIAN DEADLIFT

**WHY IT WORKS** / This move strengthens your hamstrings, which are crucial for push-off.

**HOW TO DO IT** / Stand with feet hip-width apart, barbell or heavy dumbbells in both hands, down in front of thighs. With a soft bend in knees and back straight, hinge at hips, sending butt straight back, as weight lowers toward ground until you feel a slight pull in hamstrings. Drive feet into floor, engage glutes, and stand up. Repeat. Perform 2–3 sets of 3–5 reps. Use weight that’s 75%–85% of one-rep max.



#### FRONT SQUAT WITH HEEL LIFT

**WHY IT WORKS** / In addition to developing the glutes, hamstrings, and quads, the squat develops the core muscles and hip flexors for stability and a powerful turnover.

**HOW TO DO IT** / Stand with feet shoulder-width apart, heels placed on a weight that elevates them 2–3 inches. Hold a barbell or heavy dumbbells at shoulders. Slowly send hips down and back, going as low as you can without breaking form. Pause, then push through feet to stand up. Repeat. Perform 3–5 sets of 5 reps at 75% of one-rep max.



#### STEP 2: RUN STRONG

This workout uses short bursts of speed to help you build power, says Brough. Start on the lower end of the range for this hill workout and as you get stronger, increase the incline, lower the recovery time, or do more rounds.

**WARMUP** / 5–10 minutes of easy jogging

**HILL REPEATS** / On a gradual hill or treadmill incline between 2% and 10%, run 200 meters or 60 seconds at an effort level of 7–10 on a scale of 1–10

**RECOVERY** / Easy jog or walk for 30–60 seconds

Repeat 4–8 times (effort level increases with each interval)

**COOLDOWN**: 5–10 minutes of easy jogging