

Owner's Manual: Sleep Your Way to a PR

The importance of sleep

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For years J.D. Byrne had considered trying to qualify for the Boston Marathon. A former 16:20 5K runner and top-seven cross country runner in high school, his training went south during his late 20s as his career in the financial services industry started to soar.

He finally got around to training again in his mid-30s, but by then he and his wife had three young children, so he really had to squeeze out time for his runs, and that often meant running late at night or early in the morning.

And that meant he was always fatigued -- at work, before, during and after training, and even during meals. He had logged plenty of miles and anaerobic workouts during his 16-week training program, but instead of running 3:10:59 to earn a trip to Boston, he managed only a 3:21.

Weeks later, he still found himself physically and mentally fatigued, and that's when he knew he'd have to get more rest if he was ever going to qualify for Boston. "I was always tired and fatigued, especially during long runs on weekends," he says. "It was rough."

While elite marathoners often have the luxury of sleeping eight or more hours a night and can afford mid-day naps to help their bodies recover from their training, that's not realistic for fast recreational runners. But whether you run 2:25 or 3:15, you should consider sleep an important part of your training regimen, says Dr. Bob Gazzola, a longtime runner and Mankato, Minn., physician.

"Sleep is really important when training for an endurance event," Gazzola says. "During sleep a lot of important things are happening to aid in the recovery process. Besides just feeling more rested and ready to tackle the day ahead, adequate sleep -- at least seven hours, uninterrupted -- can make a big difference in your recovery."

It's during the third and fourth stages of a typical sleep cycle when a body heals itself. That's when the human growth hormone (HGH) is released from the pituitary gland. Although it's gotten notoriety as a performance-enhancing drug, in its natural form it plays a key role in building and repairing muscle tissue and bones, as well as acting as a catalyst for the body to use fat as fuel. Without the right amount of HGH in the blood, recovery from workouts is hindered, prolonging the time it takes the body to build a strong aerobic engine.

When a person is chronically sleep deprived their level of HGH decreases and another hormone, cortisol (also called "the stress hormone"), increases. Too much cortisol can be dangerous because it can prohibit the body from recovering fully and it can also interfere with the repair and growth of soft tissue.

A study published in the British medical journal *The Lancet* showed that a period of decreased sleep of only a few days can cause a disruption in glucose metabolism. Glucose metabolism is the process responsible for storing energy from the food we eat and is why marathoners carbo-load before a big race or long run.

"With impaired glycogen synthesis runners can't get their glycogen stores as high, which means they may bonk sooner during longer runs or races than if they were well-rested," Gazzola says.

Other recent studies have revealed that people suffering from sleep deprivation often experience adverse changes in their diet (they eat more and often an unhealthy diet), make poor decisions, can't focus, and become unmotivated. And those things can throw a wrench into your training plans and not allow you to

reach your workout goals.

Quality Counts

Sleep experts say while most people need seven to nine hours of sleep a night to feel fully rested, the number of hours varies by the individual. Some people seem to do fine on less, while others need more. The best way to gauge how much sleep you need is to go to bed at the same time every night and then wake up on your own, without the aid of an alarm clock.

While you may need to sleep a little longer when training for a half marathon or marathon, the key to fully recovering from your workouts is not just how many hours of sleep you get, but the quality of your sleep. The more fit you become, the more likely the quality of your sleep will also improve.

"Some miles are more important to your training and give you more benefit," Gazzola says. "Well, the same is true of your sleep. There are different stages to your sleep, and training helps you achieve a more restorative sleep. People who are restless in their sleep don't get to those deeper states of sleep where a lot of the significant emotional and physical benefits occur.

"For the highly trained athlete, sleep becomes more important but the hours might be less because their sleep is more effective sleep," he says. "Most people find when they are in the midst of their training and they're feeling good and confident, their sleep comes much more readily versus the tossing and turning that, unfortunately, a lot of people do."

Jenna Boren, a 2008 U.S. Olympic trials marathon qualifier, seems to do well no matter how much sleep she gets. The St. Paul runner logs 100 miles a week and works full-time as a chiropractor but only averages five to six hours of sleep a night.

"When I am stressed, it tends to affect my sleep more than anything," she says. "Ironically, the one remedy I use to manage stress is to run. Often, when I run the most, I sleep the least."

The one thing most runners, coaches and doctors agree on is being well-rested leading up to a race. "The one thing I tell all my runners is that, in the final weeks of training -- or actually tapering -- you can do more by sleeping than you can by running," says Chicago-area running coach C.J. Welter.

"That's when sleep should really become your primary training component and biggest focus."