

Overtraining: Myths, Facts and Fantasies



Are your workouts leaving you overwhelmed or overly sore? Before you blame it on overtraining, consider whether one of three more likely scenarios might be to blame. Then learn to train smarter and harder — without doing yourself in.

Listen to enough gym chatter, and you'll probably get an earful about the dangers of "overtraining." Unfortunately, most of what you hear will be wrong — or at least somewhat confused.

Although workout aficionados may bandy the term about like it's a source of daily concern, the condition physiologists refer to as "overtraining syndrome" is, in fact, a rare phenomenon.

Unlike the fatigue and muscle soreness virtually all active individuals encounter as the result of exertion and overexertion, true overtraining is typically seen only in competitive athletes.

"Ninety-nine-point-five percent of the population simply doesn't train hard enough or frequently enough to have this problem," says Eric Cressey, MA, CSCS, co-owner of Cressey Performance, an athletic training facility in Hudson, Mass.

So if you're super-sore and exhausted, what is going on? There are several possibilities:

1. You may have just had a tougher-than-normal series of workouts. Provided you follow them with ample recovery time, that spike in intensity can be a very good thing and an integral part of an effective training program.
2. You may have overdone it — pushed too hard given your level of training — or you may be training too irregularly.
3. You may be guilty of under-recovering — sabotaging an otherwise smart exercise regimen with less-than-optimal sleep, diet and stress-management strategies.
4. You may, in fact, be overtraining (although, as noted, this is unlikely).

Whatever the case, understanding the difference between an optimal training regimen and a counterproductive one can save you a lot of wasted time and trouble. Read on to learn from four case studies how you can avoid such problems before they occur. And if, despite your newfound wisdom, you should find yourself hobbled by your own fitness excesses, we'll also show you the fastest, safest ways to recover, refocus and get back on track.

Just Right Lessons From an Optimal Trainer

Heather has been swimming competitively for four years. She tracks her progress in a journal, backs off on training when she's stressed, and is disciplined about her eating and sleep habits. Every couple of months, she and a few of her pals get together for an open-water swim of up to 5 miles, after which she takes a few days off from training. Heather has been pleased with her progress lately: She's rarely sick, her energy is high, and lately she's been getting faster on her long swims.

By luck or by training, Heather has put together a workout program that's close to optimal for her. Crucial to the success of this or any workout program, of course, are hard work and consistency. Without regularly pushing yourself a little more than you're used to (as Heather does periodically with her long swims), you're simply not going to get fitter in any meaningful way.

“Intensity drives progress,” says Dustin Slivka, PhD, assistant professor of health, physical education and recreation at the University of Nebraska at Omaha.

But since intensity can’t be nonstop, Heather also rests when she needs to and pays attention to her eating and sleeping habits, all of which contribute to her excellent results.

The body’s response to an optimal training program like Heather’s is fairly predictable. Immediately after an intense workout, you’ll experience a slight drop in absolute fitness due to fatigue and minor damage to muscles and other tissues. Over the next hours and days, as your body repairs itself with sleep and nutrients, you’ll gain a little strength, allowing you to perform at a slightly higher level the next time you exercise.

Ideally, your next workout will take place just as this “super-compensation” period peaks, allowing you to make steady progress over time.

If you were to plot the ideal fitness program on a graph, you’d see a line trending steadily upward, with small dips in performance following each workout, before the body has had a chance to recover.

Heather’s occasional super-swim is a great example of what exercise physiologists call “functional overreaching”: a workout or series of workouts during which an exerciser deliberately pushes his or her limits by upping the quantity or intensity of exercise.

Other examples include the weekly “long run” favored by running coaches or a heavy week in the weight room, where you test your max efforts or up the volume on various big lifts.

If followed by a deload (a period of rest or lowered intensity and volume of exercise), functional overreaching can enhance the super-compensation effect and stimulate exceptional fitness gains. As a general guideline, you’ll probably need to deload for a day or two after a mild overreach, perhaps as long as a week after a tough one.

Overreaching causes a larger-than normal dip in performance — followed by a larger-than-normal rebound effect as your body grows ever stronger.

Technically, says Slivka, “Any intense workout is a kind of overreach.” But a deliberate overreaching period now and then, followed by deload, can be one of the best things you can do for your body — and one of the most fun.

Fundamentally, the key to any optimal training program is balance. “The people who make the best fitness progress are the ones who are motivated to work hard, but who are also willing and happy to rest when they need to,” says Jim Vance, elite coach and three-time world champion triathlete.

Overtraining, overdoing and under-recovering all throw this balance between stress and recovery out of whack, flattening out or even reversing your climb toward long-term health and fitness.

Too Hard, Too Much
Lessons From an Overtrainer

Kate's been a recreational marathoner for four years. Over the last year, unbeknownst to her coach, she has added additional running and strength-training sessions to speed her progress. The results, though, have been disappointing. She feels heavy and sluggish most of the time, her sleep patterns and moods are erratic, and recently she's been underperforming. Though she used to look forward to exercise, she's now operating on sheer willpower — and she doesn't have much more of it left.

This story of a real college athlete exemplifies true overtraining syndrome: a high volume of the same type of exercise performed for long periods with no breaks and little variation, eventually leading to depression-like symptoms, an increased susceptibility to injury and illness, physical indicators of stress, and, most notably, a steady, inexorable decline in performance.

The fitness progress for a person with overtraining syndrome looks like the reverse of someone following an ideal training program. Instead of getting stronger and more able, he or she experiences an overall downward fitness trend (interspersed with smaller bumps upward), as the body tries, without success, to repair itself between workouts.

This drop in performance — unrelated to illness, soreness or nontraining-related stress — is an essential component of overtraining. “Unless your all-out performance has dropped by 5 percent or more, and has stayed that way or declined for several weeks,” says Slivka, “you definitely don't have overtraining syndrome.”

Short of this long-lasting and measurable drop in performance, there are no reliable markers of true overtraining syndrome — which makes it difficult to predict or diagnose.

“Previously, we thought elevated resting-heart-rate readings and various hormonal markers were clear indications of overtraining,” says Slivka. And, indeed, such indicators are often (but not always) present in overtrained athletes. “It's very difficult to separate what's happening in the body due to overtraining from what might just be a normal response to a significant amount of exercise.”

That's why coaches like Vance often rely on an athlete's mood as an early signal that he or she may be pushing too hard. “An athlete who is doing too much is almost always less motivated to train,” he says. Beginners or sporadic exercisers, of course, may already be undermotivated. For dedicated exercisers and athletes, however, it's definitely something to monitor, because it's out of the ordinary.

In recent years, coaches have found that overtraining syndrome usually results from going too long rather than pushing too hard. For anaerobic athletes like strength-training enthusiasts, that means it's wise to avoid marathon gym sessions, and to monitor the number of sets you perform during a given workout (20 to 24 total sets per workout is a good guideline).

For endurance athletes, like runners and cyclists, it means varying your distances and intensity levels, and experimenting with cross-training. Vance suggests runners switch from long, slow distance runs to sprints once or twice a week, and occasionally substitute swimming or an elliptical workout for your usual run.

Remember, though, that overtraining syndrome is extremely rare, and unless you've been pounding away at the same activity for hours at a stretch, weeks at a time, you're probably more at risk of overreaching or overdoing (more on that, next) than of overtraining. “I see

lots of people who need to back off on their training, who could make better progress if they took it easier sometimes,” says Vance. “But real overtraining syndrome? I’ve never seen it.”

Hard, But Haphazard Lessons From an Overdoer

Greg puts in long hours at work, and as a result, his gym visits are erratic: Some weeks he gets to the gym five times; other weeks not at all. Because he never knows when he’ll be able to squeeze in a workout, Greg tends to lift and run as hard as he can every time he gets the chance. Lately, though, Greg has been frustrated with his progress. He’s frequently very sore, has trouble falling asleep, and feels less and less motivated to train.

An overdoer like Greg is doing one thing right: He’s working hard. Unfortunately, he’s too inconsistent in his efforts to get the results he’s working for.

Greg’s body isn’t benefiting from the classic “work out, rest, recover” pattern because he’s either damaging too much tissue for his body to repair between sessions, or he’s waiting too long between workouts to trigger steady progress. And since there’s no rhyme or reason to his workout schedule, his joints and muscles aren’t prepared for the workouts when he does get around to them.

The overdoer’s training results fluctuate wildly, then flatline, as he alternates between long, intense workouts and no workouts at all — perhaps due to other schedule demands, or perhaps due to soreness, listlessness or injury.

Eventually he recovers, only to pummel himself into a tired pulp once again. As a result, an overdoer’s fitness outcomes tend to stagnate over time. They might not backslide much, but they don’t progress much, either.

Greg would get much better results (and incur less misery) if he did less more often, and more less often — aiming for shorter workouts three to five times a week, and tougher, “overreaching” workouts less frequently (once a week at most).

Classic weekend warriors, who exercise long and hard just once a week, perhaps playing touch football or basketball, often fall into the overdoer camp. Though their workouts are much less frequent than Greg’s, the long periods of inactivity that fall between hard workouts leave them prone to injury. Because they don’t do anything to build or maintain basic strength, endurance and resilience between workouts, their bodies aren’t ready for the stress when they hit the playing field.

The key distinction between an ineffective “overdoing” workout and a tougher-than-usual workout in an optimal exercise program is context: If you’re an all-out-all-the-time or a sporadic weekend-warrior type, pushing extra hard will only set you up for soreness and injury. But if you exercise consistently, tough workouts lead to enhanced fitness and performance.

In one study, Slivka found that a group of well-conditioned elite cyclists actually improved their performance after a three-week, 3,211-kilometer ride. These results point to a high level of conditioning among the participants, but also to the benefits of a well-conceived — and executed — training program.

“One obvious way to avoid overdoing it is to have a professional create a program for you instead of just winging it every time you go to the gym,” says Cressey.

Stressed Out, Burned Out Lessons From an Under-Recoverer

Most nights during the workweek, Pete hits the gym and does a balanced combination of strength, cardio and flexibility work. Away from the weights and cardio machines, however, it's another story: With three young kids and a stressful job, Pete usually eats poorly and in haste. He also doesn't get enough sleep. Although he's committed to his fitness routine, he's not getting the results he wants, and he can't understand why.

Pete is pursuing a sensible workout routine, but he's failing to support his exercise efforts with good sleep, quality food and stress management. As a result, he's not giving his body the resources it needs to recover, to repair tissue damage, and thus, to make fitness progress.

This explains why the under-recoverer's fitness level typically hovers along the same, flat line. With no chance to super-compensate between workouts, it's all Pete's body can do to get back to its preworkout status. Over time, he runs a greater risk of illness and injury.

Exercise feels good and can help to reduce chronic stress over the long haul, but under-recoverers often don't realize that a demanding workout is itself a form of stress — a physiological stress from which the body needs time and resources to recover.

“People think they can segment the different types of stress in their lives,” says Slivka. “They say, ‘This is work stress,’ or ‘This is family stress.’ But our bodies don't experience it that way. Stress stacks up, whether it's something negative, like a conflict with your employer, or something relatively positive, like exercise,” he says. “When we look at all the factors that lead us to burn out, it may be that the demands of exercise are only a relatively tiny part of that equation, and that the main factors have to do with diet, sleep, outlook and lifestyle.” But if we aren't supporting our body properly, the exercise we're doing to offset stress can wind up exacerbating it instead, contributing to bodywide inflammation, low mood and a host of other health problems.

The solution lies in making sure your body is getting the resources it needs to accomplish essential repair tasks. That includes plenty of sleep, solid nutrition (plenty of healthy, anti-inflammatory whole foods), and time for relaxation. The tougher life gets, the more you need to amplify your commitment to self-care.

When high stress strikes, don't abandon your fitness program. But do consider scaling back your workout intensity and moderating your frequency. Swap a weight-training workout for a yoga class. Schedule a massage or meditation practice in lieu of a killer cardio session. Give your system a chance to catch up. During less stressful periods, you can throw yourself into training with more resolve.

“It's not rocket science,” says Slivka. “Exercise with intensity, then allow yourself time for recovery. Just know that you might have to play with it a bit, backing off one day and stepping it up the next, based on how you're feeling.”

Painful Playback Workout-Related Muscle Soreness

Delayed Onset Muscle Soreness, or DOMS, is the feeling of soreness and sensitivity in the muscles in the hours and days following intense exercise. Sometimes DOMS is mild and gone in 24 hours; other times it can make basic movements painful and can hang around for a week or more.

Sometimes it's tough to tell the difference between "good" soreness (indicating a great workout) and "bad" soreness (signaling overtraining or injury). Only a few things are definitively known about DOMS: It's typically caused by eccentric (lengthening) muscle contractions; you are likely to feel DOMS when affected muscles are touched or contracted, but not while they are relaxed; and it usually results in a dull, achy feeling, not a sharp or acute pain.

"Soreness is a normal part of being active," says Dustin Slivka, PhD, assistant professor of health, physical education and recreation at the University of Nebraska at Omaha. "But if DOMS interferes with your daily activities, you probably should take it a little easier on the exercises that caused it and ramp up your efforts more slowly."

And if any type of exercise-induced pain is worrisome, unusually sharp, or follows a traumatic event, consult a health professional.

Tips For Working Out (Without Burning Out)

- Have a plan. An unorganized, sporadic or overly intense exercise schedule can put undue stress on your body and rob you of fitness results.
- Mix it up. Periodic harder workouts (called "functional overreaching"), followed by periods of reduced training (called deloading), can lead to terrific fitness gains.
- Go hard, not long. Excessive volume (spending too much time exercising) is more likely to cause overtraining than excessive intensity.
- Embrace variety. Cross-train and adjust variables (like distance, speed, weight lifted, and sets, reps and exercises performed) in your workouts.
- Nourish yourself. The quantity and quality of the food, sleep, and social support you get can make or break the best fitness program.
- Recoup. A single "overreaching" workout can require days of recovery. Recovering from an extended period of "overdoing" may require a few weeks to a few months to bounce back. A serious case of overtraining can take several months (or even years) to repair.
- Seek balance. Remember that any and all forms of stress affect your body's ability to recover from exercise.
- Don't worry. Overtraining is unlikely unless you've been doing the same repetitive activity for years with no breaks. When in doubt, consult a trainer.

