

Recovery: Why it's Overlooked, Why it's Essential, How to do it Right

By Carly Wynn

Stimulus + Recovery = Adaptation. It's easy to see why workouts are an important part of training, but the functional purpose of recovery is less obvious, and is often under-prioritized. We overlook one simple fact: training makes us (temporarily) weaker, while recovery makes us stronger.

Training is simply another stress on the body. Just as chronic stress in daily life wears us down, in the long term, no amount of training will make us any stronger without adequate recovery. In training, we break down muscle tissue, decommission mitochondria, kill blood cells, and tax our nervous system. When we apply a reasonable training stimulus, and give the body appropriate recovery resources, all these systems build back stronger, thanks to the protective mechanism of adaptation.

Why is it so easy to get wrapped up in the workout side of training, and skimp on the recovery piece? Many of us are simply so enthusiastic about our sport that it's hard to take days off, or wrap up an amazing ski. It may also be that recovery is not as easy to measure and track as training volume.¹

There is the cultural component as well: for competitive athletes, it can be easy to believe that more is always better, get caught up in a competitive training environment, or feel pressured to train the way another athlete does. Thinking in terms of the power of recovery may require a shift of mentality, to help young and competitive athletes understand that while the workouts make them tough, the recovery makes them superhuman.

Athletes can also get into trouble if they underestimate the effects of non-training stress on the body. Mental and emotional stress can cause oxidative damage and contribute to allostatic load just like a hard workout can. If one of my athletes is having a stressful day, or is in a period of emotional upheaval, I reduce their training load confidently, knowing that *they will adapt best to the training demand that matches the resources they have to spare.*

When the balance of training stimulus (plus other stresses) and recovery gets out of whack, scary things can happen. While performance-focused athletes and coaches may intentionally apply a controlled form of over-training called *functional overreach* to see accelerated fitness gains, it's all too easy for enthusiastic and competitive athletes to slip into *nonfunctional overreach*. That's the flat, stale feeling that often follows the "best week of my life" skiing you might get during a high-altitude vacation, or in the final marathon you tack on at the end of a long race season.

One common way athletes end up in nonfunctional overreach is to notice they feel really good in training, and respond by training a lot more. Been there? The tendency was once referred to by Kikkan Randall as "The Temptation." Don't do it.

Short term detours into nonfunctional overreach can usually be resolved relatively easily if they are identified quickly. Though not a scientifically based ratio, I encourage my athletes to assume they will spend *one month* recovering (by training very little) from every *one week* they spend training in nonfunctional overreach. In other words, we all want to give 100%, but it's disproportionately better to hit 95% than 101%.

Athletes who chronically hit 101% may be headed for *over-training syndrome* (OTS.) Without appropriate recovery resources and time, the body will be unable to keep up with repairing the breakdown caused in our workouts. When this happens, not only do we cease getting stronger and

faster, we start to go the other way. OTS results from enormous chronic stress on the body, and training, like any other stress, can cause all sorts of problems when left unchecked.

For the skiers out there who just can't seem to stop pushing yourselves, keep this in mind: in 2018, I developed OTS. I had been training just a *little* harder than normal, going through an emotionally turbulent time, and not focusing enough on my recovery. OTS brought my racing career to a full stop, and three years later, I'm still recovering.

The protracted and indefinite recovery period faced by some athletes with OTS may be due to the damage excessive strain does to the nervous system. In my case, OTS led to years of inactivity, constant illness, and periods of crippling fatigue that left me too weak even to walk. While my experience has been extreme, the behavioral and thought patterns that led me here are common.

The good news is that athletes usually start to feel pretty crummy before long term OTS sets in. Mood tanks, training sensation is on the floor, motivation goes out the window. That makes it hard for OTS to happen by accident. Take care to not get blinded by your goals and enthusiasm, and don't misread the rapid fitness gains of short term functional overreach as a sign to train more. Don't succumb to the temptation. Stay healthy so you can keep loving your sport.

Here are some recovery strategies you can implement today:

1) Build post-workout recovery time into your training plan, and pre-sleep preparation into your nightly routine. Assume you will spend 10-30 minutes jump-starting your recovery immediately after your high-load workouts (long sessions and intervals.) During this time, get a snack with protein and useable sugar, (the kind that comes from real food, not processed stuff,) and start rehydrating. Get off your feet. This is a good time to foam roll or static stretch, or maybe put your feet up or have an ice bath. Before bed, implement a sleep hygiene routine, perhaps including meditation, putting screens away, turning down the lights, or cooling off your bedroom. Different activities work for different athletes, so try some things out, trust your intuition, and perhaps use a recovery-tracking device¹ to help you sort out what works for you.

2) Use active recovery and cross training. Active recovery is a low-intensity activity that may not prompt aerobic adaptation, but supports recovery by getting your blood flowing, bringing new metabolic resources to where they need to be, and flushing away waste. Cross training is at or just below L1 training exertion, and uses different muscle groups than does your normal training activity, allowing cardiovascular adaptation (or maintenance) to continue, while resting tired muscles.

3) Take off days and active recovery days on a regular schedule. An easy rule of thumb may be to take one day per week completely off from all training. Active recovery days include some light movement, but off days should be off from all forms of exercise, and focus on restorative activities such as foam rolling or yoga. Off days should always follow close behind workouts that are significantly harder than average, or periods of training with higher than average load. Learning when to take off days and recovery days requires more than following a formula: it requires an athlete to tune-in to their body's needs. It is therefore a very important aspect of the athlete-coach relationship, and of the athlete's relationship with themselves.

4) Balance annual training load. Just because you race all winter doesn't mean you could race all year. You can race all winter *because* you "rest," (relatively,) all spring. If you don't, you won't be fresh for next race season.

In short: the training stimulus and the recovery are powerful tools for growth, but only when used together. Build your rest in at the micro and macro level, and let it make you superhuman.

¹I recommend a tool called Whoop, which helps athletes track recovery numerically using heart-rate variability and sleep data, and parse out which recovery activities offer their body the most support. You can get a free month here: <https://join.whoop.com/EABF79>