Stop Muscle Soreness Before It Starts

Tired, stiff legs don't have to dog your dive vacation.

Fire up your fins with these 10 beat-the-soreness tips. ~ *by David Taylor*

It's the price we often pay for a sedentary life—muscle soreness, typically brought on by a bout of intense activity preceded by a long lapse of non-use.

Sound familiar?

It should. Tired, sore legs are often one of our body's first signs we're on a dive vacation. But it doesn't have to be that way. Not even for the softest of couch spuds.

Eccentric vs. Concentric Movements

Divers do them both.

Although muscle soreness can be caused by a variety of movements, the most common culprit is an "eccentric" movement—when a muscle lengthens under tension during exercise. During a "concentric" movement, the muscle contracts—the up phase of a biceps curl, for example—and is followed by an eccentric movement, or lengthening of the biceps muscle as the weight is lowered.

Similarly, during the two-cycle kick most often used with scuba fins, leg muscles must continuously contract and lengthen against the resistance of water, with the knees, ankles and hips providing pivot points.

Quick Tip

Fluid replenishment before and after diving is essential to avoid dehydration—a leading precursor of decompression illness. Always consume more fluids than you think you need, at least six to eight ounces for every 20 minutes of bottom time.

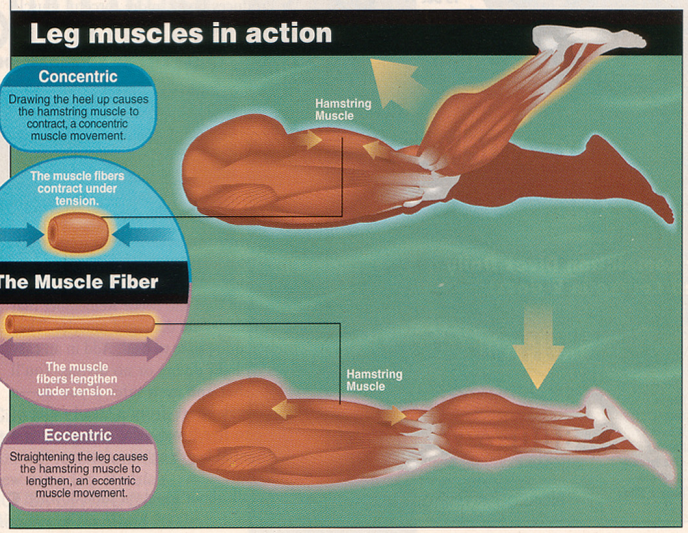
Temporary Cures

Relieving symptoms—until the next time.

There are as many research studies about how to treat muscle soreness as there are about its cause. Most of the treatments that weekend athletes are familiar with provide some immediate relief, albeit temporary:

- ▶ gentle stretching
- ▶ application of ice
- ▶ athletic balms
- ▶ massage
- ▶ hot baths and saunas
- ▶ NSAIDS (non-steroidal anti-inflammatory drugs), such as aspirin or ibuprofen.

Usually the application of ice, hot baths and saunas are done after exercise; gentle stretching and massage with athletic balms are usually done before. To maximize their effectiveness, NSAIDS should be taken on a regular basis per instructions until symptoms subside.



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How to Prevent Muscle Soreness

The progressive application of stress.

The good news: You can dive hard after a layoff and prevent leg soreness—if you play it smart. The one thing we know for sure about muscle stress: it produces a rapid adaptation response. Once you've adapted to a given level of intensity, soreness won't occur unless you increase it suddenly. The trick, therefore, is to stress muscles in a way that allows adaptation yet minimizes soreness. You can do both on a dive vacation if you:

Safety Stops—Beyond the Basics

There's more to it than "three to five at 15." Here are 16 tips and techniques for hanging out at the local bar. ~*By David Taylor*

Safety stops work. Research confirms their ability to reduce the likelihood of decompression sickness. Indeed, the precautionary stop at 15 feet for three to five minutes is considered one of the most important safety advances of the past 10 years.

Every diver should be as committed to stops as they are to other essentials of dive safety, from equipment maintenance to skills acquisition. And rest assured, performing a safety stop effectively requires both skills and knowledge:

Tools for the Safety Stop

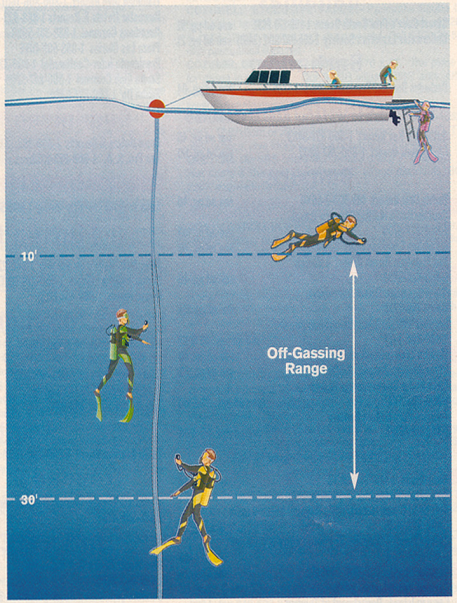
- ▶ **Gloves**—even the newest anchor line can cut water-softened hands. The stinging hydroids and other creatures that collect on older lines can seriously injure.
- ▶ **Gavin clip**—a length of line with a gate clip can allow you to hook onto a line and get some distance from other divers.
- ▶ **Accurate pressure gauge**—analog gauges with 100 psi increments can give false readings of plus or minus 300 psi when tank pressures are low. The digital readouts of air-integrated dive computers are far more precise, accurate to plus or minus 10 psi, even at low pressure.

DO

- ▶ Strictly follow the routine outlined in the divemaster's dive briefing, including the use of hang bar, hang line or hang tanks.
- ▶ Remain aware of those around you, especially divers below you. Remember that your fins extend well beyond your feet.
- ▶ Position yourself so you don't interfere with other divers or their equipment.
- ▶ If you explore a shallow reef or wreck as part of your safety stop, do so in a relaxed way, expending as little effort as possible.
- ▶ Always remain in the off-gassing range, 10 to 30 feet.
- ▶ Before ascending, check for propeller movement or noise and remain clear of the boarding ladder until it is your turn.

DON'T

- ▶ Don't depend on the line or bar to keep you vertically stationary; you should be neutrally buoyant.
- ▶ Don't hold onto a bouncing line or bar, which could cause sudden depth changes.
- ▶ Don't confuse no-decompression limits with safety stops. Perform your stop regardless of having ample no-decompression time at that depth.
- ▶ Don't limit yourself to three to five minutes. The deeper and longer the dive, the longer your safety stop should be—up to 10 or 15 minutes, gas supply permitting.



Thomas Bradley Illustration & Design

Are You a Decompression Diver? Yes, You Are

How is that possible? Because every dive is a decompression dive. Each time we breathe compressed air at depth, our bodies absorb nitrogen, some of which must be off-gassed before we surface to avoid the risk of decompression illness. Thus every diver should practice these three decompression techniques:

DECOMPRESSION TECHNIQUE: **Ascend slowly.** To allow sufficient off-gassing, do not ascend faster than 60 feet per minute if you are below 60 feet and 30 feet per minute when shallower.

DECOMPRESSION TECHNIQUE: **Watch your NDLs.** Another form of decompression is ascending to a shallower depth in order to avoid exceeding a no-decompression limit (NDL). Rodale's ScubaLab recommends that you not exceed 90 percent of any NDL.

DECOMPRESSION TECHNIQUE: **Make a safety stop.** Besides the off-gassing benefits, a safety stop also provides the diver an opportunity to collect and calm himself for the final ascent to the surface, the time and place when the greatest proportion of dive accidents occur.