

# Dealing with Exercise-Induced Muscle Soreness

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Muscle soreness often results from increasing exercise intensity or trying a new type of physical activity. Using the muscles in new ways or exercising harder than usual may cause soreness. Soreness causes uncomfortable symptoms. This discomfort affects both new and experienced exercisers.

understood. Very small tears in the muscle and surrounding connective tissues may cause DOMS. The muscles swell as they repair and rebuild.

DOMS can result from strength training and aerobic exercise. People who have been exercising regularly may experience DOMS after

increasing frequency, intensity or duration of workouts.

Trying a new type of physical activity can also cause DOMS. Those who are new to exercise or who have had a lapse in their regular exercise routine often experience soreness when starting or restarting

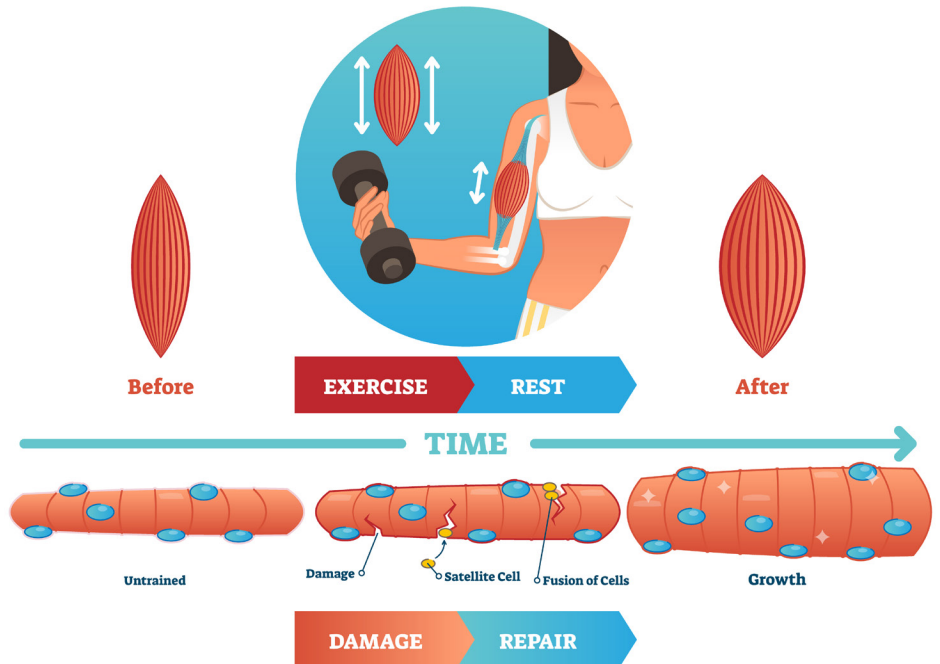
## What is Acute Muscle Soreness?

Soreness during or right after a workout is acute or immediate muscle soreness. The body constantly burns energy by breaking down glucose. This action also produces some byproducts, like lactic acid. In normal daily activities, the body can use or dispose of byproducts before they build up. Intense exercise can produce byproducts so quickly they accumulate. This build-up causes soreness during or right after exercising. Save the last five to 15 minutes of an intense workout for a cool-down that includes light exercise and stretching for the muscle groups involved. Acute muscle soreness should go away when you stop exercising or soon after, usually within an hour.

## What is Delayed-onset Muscle Soreness (DOMS)?

**Delayed-onset muscle soreness (DOMS)** is soreness felt a day or two after exercise. Causes of this type of muscle soreness are not fully

### HOW MUSCLES GROW



an exercise program. This should only last a day or two, but may last three to five days. If DOMS lasts more than two to three days, it can be a sign of overtraining or illness.

Muscle soreness is not a bad thing. It can be a way to tell you are making progress after increasing exercise intensity. Muscles are strengthened by mending the tiny tears resulting from exercise that stresses the body more than it is used to. Soreness indicates muscles are adapting to your exercise routine and getting stronger.

Mild to moderate soreness is generally harmless. Severity of soreness usually lessens as your body adapts to your exercise routine. Having muscle soreness after an exercise session can protect you from experiencing soreness from the same exercise intensity for weeks or months, or until intensity increases again.

## How Can I Recover from Muscle Soreness?

Recovery is an important part of improving fitness. Muscles need time to repair. If you have a good workout one day and are sore the next day, it is okay to take the day off to recover or do a lighter workout, like going for a walk.

You do not need to completely avoid exercise until muscle soreness disappears. Often, symptoms of soreness will fade during physical activity but will return after your exercise session. If exercise feels too hard or painful because of soreness, take a few days off from physical activity. Exercising with severe symptoms of soreness can make it worse. Light activity should not hinder your recovery.

Full muscle recovery usually takes two to three days. The amount of time depends on the type and intensity of the exercise.

Avoid strength training for the same muscle groups two days in a row. For example, people who lift weights on consecutive days may plan to do lower body strength training on Monday, followed by upper body moves on Tuesday. Another option is to work

all major muscle groups on a Monday and take Tuesday as a recovery day. Larger muscle groups, like those of the lower body, may need up to three days to recover. Smaller muscles and core muscles may need two days to recover.

## How Can I Relieve Symptoms of Soreness?

Unfortunately, researchers have not found any treatments to speed up recovery from DOMS. Reducing symptoms can help relieve pain from muscle soreness. Ice, massage, acupuncture, stretching and use of over-the-counter medicines like ibuprofen or other NSAIDs (nonsteroidal anti-inflammatory drugs) may have a minor impact on relieving sore muscles. Ice can help decrease swelling and inflammation in muscle tissues. A heating pad or a warm bath can help with symptoms. These treatments may temporarily reduce pain, but do not mend muscle damage or improve function. Rest and recovery activities will help muscles repair. Gentle exercise, like walking or light stretching, may help relieve muscle soreness.

## Can I Prevent Delayed-Onset Muscle Soreness?

Muscle soreness cannot be completely avoided. Improving fitness requires challenging the body to a greater load

**In general, healthy adults who are new to exercise should allow at least four to six weeks for initial conditioning before increasing intensity of aerobic or strengthening exercises.**

than it is used to. While a challenge or “overload” is needed, this does not necessarily suggest one should rapidly increase exercise intensity. This also does not suggest high intensity exercise should be avoided. High intensity exercise can improve fitness.

Taking time to gradually progress is an effective and less painful approach to improve fitness. Progressing slowly in a new exercise program, allowing muscles time to adapt, can reduce DOMS. New exercisers should start out with a low intensity and slowly increase as fitness improves. Experienced exercisers trying a new workout or activity can prevent DOMS by starting slowly and allowing the body time to adapt.

An adequate cool-down after an intense workout can help prevent or reduce severity of DOMS. Try five minutes of light exercise followed by five to 10 minutes of stretching for the muscle groups worked.





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