

# Delayed Onset Muscle Soreness

Delayed Onset Muscle Soreness or DOMS is a phenomenon familiar to all athletes from the novice to the elite – even if you may not recognize it by name you’ve likely experienced it. Symptoms, can range from muscle soreness, to swelling of the affected limbs, joint stiffness, tenderness to the touch, and temporary reduction in strength. DOMS usually occurs 12-24 hours after the exercise has been performed, peaking around 24-72 hours. One common misbelief is that this type of soreness is related to “lactic acid” build up. However, it appears that the actual cause of DOMS is related to the microscopic muscle damage and it’s repair process.

DOMS is caused by activities which cause the muscles to lengthen while force is applied, otherwise known as eccentric muscle action. One example is the down phase of a bicep curl. There are many activities which can cause DOMS – especially if it is a new activity. The good news is that one episode of soreness causes a partial protective effect therefore reducing the pain the next time the activity is performed.

How can you prevent DOMS? Typically the best way to reduce the severity of DOMS symptoms is to gradually begin any new exercise program. This gives your muscles time to adapt to a new stress. You should always “warm up” before and “cool down” after exercise. Unfortunately, it is unlikely that you will be able to eliminate all pain.

When you do develop DOMS (which you probably will at some point) what should you do? There is little evidence that treatment strategies will quicken recovery and return your muscles to “normal” function. Ultimately your muscles need time to heal. However, some treatments may ease the pain. Treatment options include: ice packs / baths, gentle massage, over-the-counter anti-inflammatories. You should also make sure you are drinking an adequate amount of water and maintaining a healthy diet.

When should someone seek medical help? Typically the duration of DOMS is anywhere from 3-5 days and you do not need to see a physician for DOMS. However, if the pain becomes debilitating, if urine becomes dark, or you have lower extremity swelling then you should seek prompt medical attention. If you have pain / joint stiffness not related to exercise then you also should be evaluated for other causes of muscle / joint pain.



**Lucie Brining, MD**  
Internal Medicine

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