

8 WAYS TO DEAL WITH DELAYED ONSET SORENESS



Soreness comes from Eccentric Muscle Contraction such as landing jumps, jogging and even walking and Concentric muscle contraction such as doing calf raises.

Delayed onset muscle soreness (DOMS) is the pain and stiffness felt in muscles several hours to days after unaccustomed or strenuous exercise. The soreness is felt most strongly 24 to 72 hours after the exercise. It's a result of your body healing, microscopic muscle-fiber tears.

WHILE GETTING FIT





"DOMS SORENESS IS DIFFERENT FROM ACUTE SORENESS"

This type of soreness is different from acute soreness, which is pain that develops during the actual activity.

One common misconception about DOMS is that it is due to lactic acid accumulation, but lactic acid is not a component of this process. DOMS appears to be a side effect of the repair process that develops in response to microscopic muscle damage.



EXAMPLES OF ACTIVITIES KNOWN TO CAUSE DOMS INCLUDE:

- Strength training exercise
- Walking down hills
- Jogging
- Step aerobics
- Jumping

Activities which cause DOMS all cause muscles to lengthen while force is applied. This is eccentric muscle action. Examples of eccentric muscle actions include the lowering phase of a bicep curl exercise or the lengthening of the thigh muscles while the limb brakes against your body's momentum as it walks or jogs down a hill. Jogging or running on a flat surface can also elicit DOMS symptoms for those who are unaccustomed to this type of activity.



“All people, whether elite or novice, are susceptible to DOMS, even those who have been exercising for years.”

Symptoms can range from muscle tenderness to severe debilitating pain. However, the severity of soreness normally becomes less as your body becomes adapted to work it regularly performs.

Just one bout of soreness-producing exercise actually develops a partial protective effect that reduces the chance of developing soreness in that same activity for weeks or months into the future.

Eccentric activities induce micro-injury at a greater frequency and severity than other types of muscle actions. The intensity and duration of exercise are also important factors in DOMS onset.

The severity of soreness depends on the types of forces placed on the muscle.

- Running down a hill will place greater force on the muscle than walking down the same hill.
- The soreness that develops will likely be greater after running down a hill.
- A high number of repetitions will cause more damage and soreness than a low number of repetitions.

As a result, work your way gradually into a new exercise program.



“DOMS can affect athletic performance by causing a reduction in joint range of motion as well as affect the ability of the muscle to handle shock”

The risk of injury increases as other muscles will compensate because of alterations in muscle sequencing and recruitment patterns may also occur, causing unaccustomed stress to be placed on muscle ligaments and tendons.

Risk of injury is especially increased if individuals return to exercising or training prematurely.



8 WAYS TO DEAL WITH DELAYED ONSET SORENESS

1

Eat anti-inflammatory and tissue-repairing foods that decrease the duration and intensity of muscle soreness

- a. Spices: Cinnamon, Ginger, Turmeric, Clove, Cardamom, Cumin, etc (all are anti-inflammatory)
- b. Cherry juice, tart Cherries
- c. Essential Fatty Acids – fish oil, Cod Liver Oil, Flax seed oil, salmon, sardines, tuna, cod, oysters
- d. Bone Broth – has glutamine. Glutamine depletion contributes to aching muscles. Restoring glutamine with daily intake helps.
- e. Supplementing with Amino Acids: Leucine with glutamine; and branched-chain amino acids
- f. **Talk to a Utopia WellCare Dietitian** to Help you Set Up an Amino Acid Protocol that helps you maximize your fitness and training.

2

Stay well Hydrated

- a. Consider how well a dry sponge works compared to a wet one.
- b. Consider that your muscles are like either a dry or moist sponge....you decide.

3

Eat within 30 minutes after exercising or training:

- a. Eating some protein and a carbohydrate right after a workout helps to repair your muscle tissue.
 - i. Examples of Carbohydrates – apples, crackers, carrots, celery, sweet potatoes, kale, Brussels sprouts, pineapple, mango, Berries, rice
 - ii. Examples of Protein – egg, poultry, fish, meat, shellfish, game
 - iii. Examples of Combinations (carbohydrate and protein) – milk, beans, yogurt, cottage cheese, chocolate milk, or chocolate plant-based milk

Use Body Work to help prevent soreness by keeping muscle fibers mobile

4

- a. Massage and self-massage: keep self-massage tools, like a foam roller, rolling stick, and tennis ball with you in your workout bag. Massage has shown varying results that may be attributed to the time of massage application and the type of massage technique used.
- b. Acupuncture and Physical Therapy
- c. Cryotherapy, stretching, homeopathy, ultrasound, and electrical current modalities have demonstrated no effect on the alleviation of muscle soreness or other DOMS symptoms.
- d. Exercise is the most effective means of alleviating pain during DOMS, however, the analgesic effect is also temporary.

Pace yourself while exercising and training

5

- a. Figure out how and when to use your energy. Work smart as well as hard.
- b. Consider whether you are tired or stressed or whether you can push through. Consider drinking 4-8 oz juice or eating $\frac{1}{2}$ an apple or an orange if you need some quick energy
- c. Athletes who must train on a daily basis should be encouraged to reduce the intensity and duration of exercise for 1-2 days following intense DOMS-inducing exercise.
- d. Consider doing exercises that target less affected body parts in order to allow the most affected muscle groups to recover.
- e. Make sure that when starting eccentric exercises or new activities, you introduce them progressively over a period of 1 or 2 weeks as you start a new exercise or training routine. This will help reduce injuries that can disrupt your training so you can ultimately reach your goals.



6

Make sure you COOL DOWN

- a. Stretching out and bringing your body temperature down after a workout will prevent or lessen your muscles from tightening up through the night.

7

Elevate your legs to decrease swelling

- a. After exercising and forming the micro-tears that cause delayed onset muscle soreness, your body sends blood to the micro-tears as a means of repairing them.
- b. Though this is a means of repair, it causes inflammation and may cause swelling
- c. Find your best anti-inflammatory process, Icing or heating. Experiment to determine which one feels best on your body (alternate between both as needed). Be cautious with overusing ibuprofen and naproxen as they can mask injury and prolong treatment.

8

Sleep, Sleep, and More Sleep

- a. Muscles have the best chance of recovery when you are sleeping.
- b. Full healing comes from resting.
- c. Aim for at least 6 hours of sleep. More is even better.
- d. Limit or avoid caffeine at night so you can get quality sleep. Consider lifestyle adjustments and or supplemental supports to help improve sleep. Reach out to a Utopia WellCare Dietitian who can help you design an effective sleep protocol.



UTOPIA WELLCARE DIETITIANS CAN HELP YOU CRAFT A FITNESS & NUTRITION PROGRAM TO REDUCE DOMS

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