Muscle soreness and weightlifting

Dear Alice,

I am an avid weightlifter. I want to know how to prevent muscle soreness, or flush out the lactic acid from my system. Thank you.

Answer

Dear Reader,

Muscle soreness can happen to any of us at any time. It usually always happens to people who are just beginning an exercise program, but can also happen to trained exercise enthusiasts who overload excessively, or who change from one activity to another, or work the same set of muscles in a new and different way. You might want to make sure you are providing ample time for your muscles to recover from lifting — generally forty-eight hours. This means that your strength workouts should be every second or third day. If you have to lift every day, don't work the same muscle groups, or work opposing groups and secondary muscles. For example, work chest and triceps one day, back and biceps the next.

Although at one time lactic acid was believed to be involved in muscle soreness, exercise physiologists no longer believe this is so. Lactic acid is long gone from the muscles before soreness occurs. Soreness may be caused by several factors, including small tears in the muscle fibers or connective tissue, muscle spasms, and perhaps over stretching.

It is also known that eccentric muscle contractions and, to some extent, isometric contractions cause more soreness than concentric ones. As a reminder, in a concentric contraction, the muscle shortens as it overcomes the resistance, as in an upward curl with a weight. Lowering the weight, as the muscle acts to oppose gravity, lengthens the muscle and this is an eccentric contraction. An isometric movement is one in which the object is too heavy to move, even though muscle force is being applied.

To prevent soreness, don't overload, but gradually increase the amount of weight or number of repetitions you do. Give yourself time between sets... one to three minutes, and include warm-up and cool-down stretching exercises in addition to your lifting.

Eating a healthy snack after exercise can also be a no sweat way to help your muscles to recover and prevent soreness. Try to do this from 15 minutes to an hour after your workout has ended, and choose carbohydrate and protein-rich foods such as peanut butter on toast, slices of turkey breast or cheese on a bagel, or some milk and a banana. Because your
muscles can only store about an hour's worth of carbohydrates (in the form of glycogen), it's important to replenish that as soon as possible. The protein will help to maintain and rebuild your muscle cells, and depending on how much you're eating, can also be used in increasing the size of your muscles. For more information on the specifics of carb and protein loading, check out Different nutrient and energy requirements for endurance and resistance athletes [2] in the Alice Q&A archives.

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