

Support Muscle Recovery with

ASTAREAL® ASTAXANTHIN FOR MUSCLE HEALTH

Reduce muscle soreness after exercise

WHY DO WE FEEL SORE AFTER EXERCISE?

1 WHAT CAUSES MUSCLE DISCOMFORT?

Exercise puts mechanical stress on muscles. This leads to micro-traumas or tears in the muscle tissue. Lactic acid and free radicals are by-products of energy production that build up during exercise. Free radicals also contribute to additional discomfort or muscle damage after exercise.

2 4 HRS after exercise THE BODY REPAIRS DAMAGED TISSUE

White blood cells begin to migrate into muscles 4 hours after exercise to begin cleaning up damaged muscle tissue. The activity of white blood cells is accompanied by a second wave of free radical production that lasts up to 24 hours post-exercise.

3 24 HRS after exercise INFLAMMATION SETS IN

White blood cell activity and free radical production triggers exercise-induced inflammation that can be felt as delayed onset muscle soreness (DOMS) starting 24 hours post-exercise.

4 48 HRS after exercise DELAYED ONSET MUSCLE SORENESS

Muscle soreness continues to build and peaks 48-72 hours after exercise, making it hard to recover and return to an exercise routine. It can take as long as 96 hours after exercise for muscle soreness to subside.

SORENESS IS A MOMENTUM KILLER!

When starting a new exercise routine, soreness often sets in before the results of the workout.

HALF of the people starting an exercise routine will drop out in the first **6 MONTHS**

The next day or 2 after a workout, DOMS sets in and soreness kills motivation to continue your routine.

30.7% of U.S. adults get the recommended amount of exercise. Some factors preventing people from exercising: motivation, time, and access to facilities or equipment.

YOU CAN BEAT DOMS and alleviate that soreness with AstaReal® Astaxanthin. Get the edge you need and stay motivated so you can crush your fitness goals!

Neutralized free radicals

By neutralizing free radicals that damage muscle during and after exercise, AstaReal® Astaxanthin helps alleviate exercise-induced inflammation.

This allows you to work out longer, harder and more frequently, without the soreness that's been slowing you down.

ASTAREAL® ASTAXANTHIN Great for your muscles & health

AstaReal® Astaxanthin is a completely natural plant-based supplement derived from algae. Our Astaxanthin is grown indoors in a controlled environment in the United States, for the highest potency and effectiveness.

PROOF THAT IT WORKS: ASTAREAL® STUDIES

ASTAREAL® GROUP	CONTROL GROUP
0% CRP increase	57% CRP increase
NO INCREASE in exercise-induced inflammation	BIG INCREASE in exercise-induced inflammation

Serum levels of the pro-inflammatory marker, C-reactive protein (CRP), was monitored in two groups of professional soccer players while training. The control group experienced a 57% increase in CRP, which is an indicator of chronic inflammation caused by muscle damage. In contrast, the AstaReal® Astaxanthin group, supplementing at 4mg/day, had no increase in CRP. These results suggest that AstaReal® Astaxanthin promotes muscle protection against exercise-induced inflammation.

ASTAREAL® GROUP	CONTROL GROUP
2+2 = 4	2+2 = ?!
LOWER mental & physical fatigue	HIGHER mental & physical fatigue

Healthy, but physically untrained volunteers were challenged with mental calculations and a physical cycling task designed to induce daily levels of fatigue. The AstaReal® Astaxanthin group, supplementing at 12mg/day, reported reduced levels of mental, physical, and overall fatigue following both challenges, whereas the control group did not report improvement in these parameters.

ASTAREAL® GROUP	CONTROL GROUP
LESS muscle damage	MORE muscle damage

Muscle damage markers, creatine kinase (CK) and aspartate aminotransferase (AST), were measured in two groups of professional soccer players while training. The AstaReal® Astaxanthin group, supplementing at 4mg/day, showed significantly less exercise-induced muscle damage after training and exercise compared to the control group.

DON'T LET MUSCLE SORENESS SLOW YOU DOWN!

AstaReal® Astaxanthin can help you stick to your workout routine, take on new challenges and help you feel less sore!

To learn more about natural astaxanthin and your health visit www.astaxanthin.net

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