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Surprise -- cholesterol may actually pose benefits, study shows

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If you're worried about high cholesterol levels and keeping heart-healthy as you get older, don't push aside bacon and eggs just yet. A new study says they might actually provide a benefit.

Researchers at Texas A&M University have discovered that lower cholesterol levels can actually reduce muscle gain with exercising. Lead investigator Steven Riechman, assistant professor of health and kinesiology, and Simon Sheather, head of the Department of Statistics, along with colleagues from The Johns Hopkins Weight Management Center and the Northern Ontario School of Medicine, have recently had their findings published in the *Journal of Gerontology*.

Bottom line: Before you have that second helping of oatmeal, it's very possible that cholesterol may not be the mean Mr. Evil thing we tend to believe it is.

"We were not expecting to get these kind of results," Riechman explains.

"We need further research in this area, but what we found could really make us look differently at cholesterol, especially as it relates to a vigorous workout."

The team studied 55 men and women, ages 60-69, who were healthy non-smokers and were able to perform exercise testing and training.

Three days a week for 12 weeks, participants performed several

exercises, including stretching, stationary bike riding and vigorous weight lifting. Those who had to miss one or more sessions all conducted make-up sessions so that by the study's end, the entire group had engaged in uniform activities. Also, all participants consumed similar meals.

At the conclusion of the study, the researchers found that there was a significant association of dietary cholesterol and change in strength. In general, those with higher cholesterol intake also had the highest muscle strength gain.

Cholesterol circulating in the blood also appeared to have contributed to greater muscle gain in the participants, Riechman said.

"One possible explanation is through cholesterol's important role in the inflammation process," he noted.

"As you exercise, your muscles can become sore because they are rebuilding muscle mass. More cholesterol may result in a more robust inflammatory response. We know that inflammation in some areas, such as near the heart, is not good, but for building muscles it may be beneficial, and cholesterol appears to aid in this process."

Riechman said that subjects who were taking cholesterol-lowering drugs while participating in the study showed lower muscle gain totals than those who were not.

"Needless to say, these findings caught us totally off guard," he explains.

"From here, we need to look at a number of questions, such as what exactly happens to cholesterol while you are exercising? What role does protein intake have in all of this? What we really need to do is to trace cholesterol the moment it goes into the muscles."

Combined with exercise, cholesterol appears to play a role in contributing to muscle gain, Riechman says. The key here is working out – it doesn't mean sitting in front of a television all day thinking you don't have to worry about cholesterol levels.

"Our findings show that the restricting of cholesterol – while in the process of exercising – appears to affect building muscle mass in a negative manner. If it's true, as our findings suggest, that cholesterol may play a key role in muscle repair, we need to know exactly how that happens. And because cholesterol is negatively associated with cardiovascular health, we need further study in this area. It shows that there is still a lot about cholesterol that we don't know."

Source: Texas A&M University