

Exercise trumps creatine in cardiac rehab

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Athletes have been enjoying the benefits of creatine supplements to gain stronger muscles since the 1990s, and the supplement has also proven beneficial among other groups. Could it help cardiac patients regain strength to help with their heart-training workouts as part of rehabilitation? The evidence at this stage suggests not - exercise alone proved a far more powerful tonic for patients in a study out today. The results appear in the journal *Clinical Rehabilitation*.

Drs Cornelissen and Defoor along with colleagues created a double blinded, randomised placebo controlled trial to test the effects of creatine supplements used alongside an exercise programme. The study focused on patients with [coronary artery disease](#) or [chronic heart failure](#) over a three-month period.

Creatine is found naturally in our diets, in particular in meat. Creatine is also produced naturally in the human body for use by muscles; skeletal muscles use the vast majority. The remainder is used in the brain and heart. Supplements improve muscle strength, particularly for short-term, high-intensity exercise, and are used by athletes to make their training more effective. It may also help with [muscle weakness](#) due to atrophy in a number of clinical conditions.

Previous studies have shown that chronic [heart failure](#) patients' skeletal muscle strength can be improved with creatine supplements giving better strength and endurance in cycle ergometry tests (on a stationary, gym-style bicycle). Cornelissen and Defoor wanted to find out whether creatine would help with cardiorespiratory endurance, muscle strength

and endurance during a [cardiac rehabilitation](#) programme, too. They reasoned that test results for older patients and cardiac patients may be likely to be lower due primarily to peripheral muscle weakness, and so giving these muscles a creatine boost may lead to more effective rehabilitation fitness results.

As well as measuring aerobic power, strength, endurance and recovery, the researchers looked at patients' quality of life scores and checked they were taking the supplements or placebos according to schedule. The bottom line was that among the 80 patients in the study, the researchers found no significant differences between the two groups.

"Contrary to our hypothesis, the magnitude of increase in muscle strength and/or endurance was not greater in the group with creatine supplementation," said study supervisor, Professor Luc Vanhees.

The rehabilitation programme led to better leg strength, and endurance and recovery and VO₂ peak were significantly higher than when patients started. It may be the case that the large effect of the exercise training covered up any smaller effect that was down to the creatine. The researchers also think it is worth considering a therapeutic role for creatine once cardiac patients are already well established with their rehabilitation programme, as it may further boost their performance and let them get past the 'training hump,' although further study is needed to test this hypothesis.

Provided by SAGE Publications

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