Efficacy of exercise-based cardiac rehabilitation post–myocardial infarction: A systematic review and meta-analysis of randomized controlled trials

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Setting the scene:
A systematic review and meta-analysis of randomized controlled trials to study efficacy of exercise-based cardiac rehabilitation post-myocardial infarction.

What did they do?
Researchers identified 34 RCTs (N = 6,111). Overall, patients randomized to exercise-based CR had a lower risk of re-infarction (odds ratio [OR] 0.53, 95% CI 0.38-0.76), cardiac mortality (OR 0.64, 95% CI 0.46-0.88), and all-cause mortality (OR 0.74, 95% CI 0.58-0.95). In stratified analyses, treatment effects were consistent regardless of study periods, duration of CR, or time beyond the active intervention. Exercise-based CR had favorable effects on cardiovascular risk factors, including smoking, blood pressure, body weight, and lipid profile. The quality of included RCTs was assessed using the Jadad scale. Briefly, RCTs were scored as either “high” or “low” quality based on 3 primary questions: was the randomization adequate and explained? Was the study double-blinded appropriately? And was there a description of withdrawals and dropouts?

Takeaway message:
Exercise-based CR reduces the risk of re-infarction and cardiac, cardiovascular, and all-cause mortality when used as secondary prevention post-MI. Even if more modest benefits are obtained when CR is used in everyday current practice, our results suggest that exercise-based CR is efficacious for secondary prevention. Examination of RCT-level characteristics suggests that even short-term CR programs post-MI could be of benefit and that the overall observed benefits persisted beyond the period of active intervention. These results encourage future RCTs to compare the efficacy of short- and long-term CR programs for the secondary prevention of cardiovascular events.