

# Yoga has the potential to reduce risk factors of cardiovascular disease

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There is "promising evidence" that the popular mind-body practice of yoga is beneficial in managing and improving the risk factors associated with cardiovascular disease and is a "potentially effective therapy" for cardiovascular health.

Indeed, following a systematic review of 37 randomised controlled trials (which included 2768 subjects), investigators from the Netherlands and USA have found that yoga may provide the same benefits in risk factor reduction as such traditional physical activities as biking or brisk walking. "This finding is significant," they note, "as individuals who cannot or prefer not to perform traditional aerobic exercise might still achieve similar benefits in [cardiovascular] risk reduction." Their study is published today in the *European Journal of Preventive Cardiology*.

Yoga, an ancient mind-body practice which originated in India and incorporates physical, mental, and spiritual elements, has been shown in several studies to be effective in improving [cardiovascular risk factors](#), with reduction in the risk of heart attacks and strokes. This meta-analysis was performed, say the investigators, to appraise the evidence and provide a realistic pooled estimate of yoga's effectiveness when measured against exercise and no exercise.

Results showed first that risk factors for [cardiovascular disease](#) improved more in those doing yoga than in those doing no exercise, and second, that yoga had an effect on these risks comparable to exercise.

When compared to no exercise, yoga was associated with significant improvement in each of the primary outcome risk factors measured: body mass index was reduced by 0.77 kg/m<sup>2</sup> (measured as a "mean difference"), systolic blood pressure reduced by .21 mm Hg, low-density (bad) lipoprotein cholesterol reduced by 12.14 mg/dl,

and high-density (good) lipoprotein cholesterol increased by 3.20 mg/dl. There were also significant changes seen in secondary endpoints - body weight fell by 2.32 kg, diastolic blood pressure by 4.9 mm Hg, total cholesterol by 18.48 mg/dl, and heart rate by .27 beats/min. However, no improvements were found in parameters of diabetes (fasting blood glucose and glycosylated hemoglobin).

Risk factor improvements (in BMI, [blood pressure](#), lipid levels) were significant when yoga was used in addition to medication. Among patients with existing coronary heart disease, yoga provided a statistically significant benefit in lowering LDL cholesterol when added to medication (statins and lipid-lowering drugs).

In comparisons with exercise itself, yoga was found to have comparable effects on risk factors as aerobic exercise. The investigators note that this might be because of yoga's impact on stress reduction, "leading to positive impacts on neuroendocrine status, metabolic and cardio-vagal function".

The similarity of yoga and exercise's effect on cardiovascular [risk factors](#), say the investigators, "suggest that there could be comparable working mechanisms, with some possible physiological aerobic benefits occurring with yoga practice, and some stress-reducing, relaxation effect occurring with [aerobic exercise](#)".

Commenting on the results, senior author Professor Myriam Hunink from Erasmus University Medical Center, Rotterdam, and Harvard School of Public Health, Boston, said that, although the evidence of yoga's beneficial effect in [cardiovascular health](#) is growing, a physiological explanation for this effect remains unclear. "Also unclear," she added, "are the dose-response relationship and the relative costs and benefits of yoga when compared to exercise or medication. However, these results

indicate that yoga is potentially very useful and in my view worth pursuing as a risk improvement practice."

Moreover, in view of yoga's ease of uptake, the investigators also note that evidence supports yoga's acceptability to "patients with lower physical tolerance like those with pre-existing cardiac conditions, the elderly, or those with musculoskeletal or joint pain".

Thus, they conclude that "[yoga](#) has the potential to be a cost-effective treatment and prevention strategy given its low cost, lack of expensive equipment or technology, potential greater adherence and health-related quality of life improvements, and possible accessibility to larger segments of the population".

**More information:** Chu P, Gotink RA, Yeh GY, Goldie SJ, Hunink MGM. The effectiveness of yoga in modifying risk factors for cardiovascular disease and metabolic syndrome: A systematic review and meta-analysis of randomized controlled trials. *Eur J Prevent Cardiol* 2014: [DOI: 10.1177/2047487314562741](#)

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