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How effective is exercise training for the treatment of hypertension?

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Abstract

OBJECTIVE: Exercise is often recommended as therapy for hypertension, yet its use is not widespread among clinicians. Reasons include uncertainty regarding its efficacy, the relative importance of the exercise prescription determinants (intensity and frequency), or confounding variables including patient characteristics such as age and gender. This review will present the evidence for exercise as a treatment for hypertension using a search of the English language literature from January 1966 to January 1998.

DATA SOURCES: A search of MEDLINE articles using the MESH headings and textwords of blood pressure, hypertension, exercise, and exertion as well as hand searches in related articles and cross-referencing.

DATA EXTRACTION AND SYNTHESIS: Identified articles were reviewed for their design characteristics, and specific attention was made of the subject characteristics, the exercise training protocol, the magnitude of the blood pressure-lowering response, and the influence of pharmacologic treatment on blood pressure lowering.

RESULTS: A total of 39 studies representing random and nonrandom designs using predominantly walking-jogging exercise were identified. These studies showed reductions in blood pressure (systolic blood pressure/diastolic blood pressure) of -13/ -18 mm Hg in hypertensive patients. Most of the antihypertensive effect of exercise training was observed after 10 weeks, whereas training more than three times per week or for more than 50 minutes did not confer added benefit. Lower intensity exercise resulted in greater blood pressure reduction than did high intensity exercise. No gender differences in the antihypertensive effect of exercise were observed although most studies were performed in men. Although few studies were performed in older patients, there did not appear to be an age-dependent antihypertensive effect of exercise. There was a paucity of literature regarding the interaction of pharmacologic therapy and exercise in hypertensive patients.

CONCLUSIONS: The results support the use of exercise as an effective therapy in hypertension. Studies were generally lacking in adequate control groups. Future research opportunities are many and should include studies using ambulatory monitoring and stratification of patients with different degrees of hypertension, undergoing different pharmacologic regimens.

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