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Physiology

Effect of exercise on blood pressure

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Hypertension affects 25% of the world's population and is considered a risk factor for cardiovascular disorders and other diseases.

Exercise training has been shown to reduce blood pressure (BP).

However, studies reporting a reduction in BP resulting from chronic exercise might disregard an acute effect following the exercise session (*i.e.*, post-exercise hypotension [PEH]) that is lost over time.

Although the mean reductions in ambulatory systolic BP (sBP) and diastolic BP (dBP) monitoring over 24 hours are 3.2 mmHg and 1.8 mm Hg, respectively, the magnitude of the reduction is greater during the first few hours after the exercise, to the point that some subjects with hypertension achieve normal BP values.

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Physically active individuals achieved higher BP decreases after the exercise session.

This seems to support the theory proposed by some authors who observed that some physiological mechanisms that chronically reduce BP also play a role in the onset of PEH.

For example, exercise training has been shown to cause a systemic adaptation of the arterial wall in healthy individuals, which might translate to better arterial vessel compliance that may facilitate the decrease in peripheral resistance following an exercise session.

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that central and peripheral factors responsible for a reduction of BP after acute exercise,

1-particularly lowered sympathetic nerve activity

2-decreased cardiac output, and

3-increased local vasodilation

Thank You