

Should Resistance Training Also Be Considered a Mandatory Component?

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I have read with interest the Brazilian Guidelines for Hypertension 2025, specifically Chapter 6: Nonpharmacological Measures (Physical Activity and Exercise). Although the current guideline¹ has interesting practical applications for endurance training, some methodological issues might be of interest to readers, especially regarding the practice of resistance training (RT) for hypertensive patients.

The guideline¹ states that aerobic training is a mandatory component, whereas RT is considered only complementary. However, this approach underestimates the clinical relevance of RT. Recent international guidelines²⁻⁵ recommend a structured exercise program that includes both aerobic exercise and/or RT. Notably, the Japanese Society of Hypertension⁴ highlights that regular aerobic and RT are equally effective in lowering blood pressure, and both are therefore strongly recommended.

The 2025 American Heart Association Scientific Statement² recommends RT at moderate-to-high intensities (50–80% of 1RM, 6 exercises, 3 sets/exercise, 10 repetitions/set, 90–150 min/wk). RT has been shown to reduce resting blood pressure in individuals both without hypertension (–2 to –5 mmHg systolic) and with hypertension (–2 to –7 mmHg systolic), supported by vascular mechanisms³ including improvements in endothelial function, vasodilatory capacity, and vascular conductance.

A meta-analysis⁶ of randomized controlled trials (5065 hypertensive patients) showed that all exercise (aerobic, dynamic RT, isometric RT, and combined) significantly reduced systolic and diastolic blood pressure compared to non-exercise. In addition, the results demonstrated that dynamic RT has a similar antihypertensive effect to aerobic exercise in hypertensive patients, and both are strongly recommended.

Epidemiological evidence indicates that muscle-strengthening activities are associated with a reduced risk of all-cause mortality and cardiovascular disease (CVD) morbidity

and mortality.^{7,8} Adults who participate in RT have ≈15% lower risk of all-cause mortality and 17% lower risk of CVD, compared with adults who report no RT.² Previous studies⁷⁻⁹ have reported that muscle strength has cardioprotective properties and that higher levels of muscle strength are associated with lower mortality rates in both the general population⁸ and hypertensive people.¹⁰ Furthermore, RT contributes to improvements in glycemic control, lipid profile, body composition, and physical function.³ Outcomes that directly impact cardiovascular risk and long-term adherence in real-world practice.

Hypertension is the most common cardiovascular disease in older adults. More than 60% of older present hypertension, characterized by a high prevalence and low rate of blood pressure control.¹ The aging process is associated with increased arterial stiffness,¹ as well as progressive declines in muscle mass, strength, power, and bone mineral density. All of these morphofunctional changes can be attenuated or minimized through RT. Therefore, RT should not be regarded as merely complementary,²⁻⁶ but rather as a co-primary strategy alongside aerobic exercise in the treatment and control of hypertension.

In light of this evidence, dynamic RT should not be viewed as merely complementary but rather as a co-primary strategy, alongside aerobic training, for the treatment and control of hypertension. Moreover, RT is a valuable option for individuals with low tolerance to aerobic exercise (physical incapacity) and osteomuscular limitations.³ The central purpose of this comment is not to diminish the well-established benefits of aerobic exercise, but to emphasise that dynamic RT must also be considered a mandatory component to maximize the cardiovascular and cardiometabolic benefits. Adopting such an approach would bring the Brazilian Guidelines into closer alignment with global recommendations and maximize their applicability in diverse clinical settings.

Keywords

Endurance Training; Resistance Training; Arterial Pressure.

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