

CONCURRENT TRAINING OR COMBINED TRAINING?

TREINAMENTO CONCORRENTE OU TREINAMENTO COMBINADO?

¿ENTRENAMIENTO CONCURRIDO O ENTRENAMIENTO COMBINADO?



LETTER TO THE EDITOR
CARTA AO EDITOR
CARTA AL EDITOR

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There is a consolidated line of research in the literature on a phenomenon commonly known as *Concurrent Training*, which investigates the fact that aerobic training performed immediately before or after strength training in the same training session limits muscle strength, power and hypertrophy gains.¹⁻⁸ Researchers have studied the load standards (volume, intensity, and frequency of sessions in each sport) that promote concurrence,^{2,4,7-10} the mechanisms involved,¹⁰⁻¹⁴ and alternatives to minimize it.^{5,15-18}

Meanwhile, publications have frequently appeared on a line of research in which aerobic and resistance exercises are combined, not from the perspective of the deleterious effect on muscle hypertrophy and strength performance, but with potential additional health benefits.¹⁹⁻²¹ These studies have demonstrated that the combination of the two types of exercise improves cardiovascular parameters in older people,^{22,23} neuromuscular parameters in youths²⁴ and older people,²⁵ hormonal parameters in older women,²⁶ and immunological and virological parameters in HIV/AIDS patients,²⁰ while increasing excess post-exercise oxygen consumption time^{21,27} and simultaneously improving lipid profile and body composition.²⁸ In all these studies, the combination of the two forms of exercise was just as if not more effective than one of the exercises alone. In fact, the American College of Sports Medicine suggests that the combination of aerobic and resistance exercises promotes more benefits than just one of these individually.²⁹

Even within the scope of high performance sport, studies have emerged indicating that the combination of aerobic exercises with muscle strength exercises improve athlete conditioning. The results indicate, for example, that even individuals with a long history of strength training can still improve their lower limb strength with an adequate combination of strength training and aerobic training.³⁰ An improvement in muscle power and strength has also been observed in rowers after 8 weeks of combined strength and aerobic exercises,³¹ while increased performance was found in elite middle-distance runners in terms of running economy and in maximum strength tests.³²

In light of the foregoing, it is our understanding that the term *concurrence* expresses the opposite of what has been observed in studies in which benefits of engaging in both types of exercise were seen. As the combination is beneficial, we cannot call this phenomenon *Concurrence*. From this research perspective a *combination* of and not a *concurrence* between aerobic and resisted exercises has been investigated.

Therefore, the purpose of this letter is to suggest to the scientific community that the term *Concurrence* is poorly applied when there are additional health and sports performance benefits, based on the combination of aerobic and resistance exercises in the same physical training session. Thus, we propose that the expression *Concurrent Training* be replaced by *Combined Training* in the next studies in which this phenomenon is observed.

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