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Determining the Optimal Load for Jump Squats: A review of Methods and Calculations

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Abstract

There has been an increasing volume of research focused on the load that elicits maximum power output during jump squats. Because of a lack of standardization for data collection and analysis protocols, results of much of this research are contradictory. The purpose of this paper is to examine why differing methods of data collection and analysis can lead to conflicting results for maximum power and associated optimal load. Six topics relevant to measurement and reporting of maximum power and optimal load are addressed: (a) data collection equipment, (b) inclusion or exclusion of body weight force in calculations of power, (c) free weight versus Smith machine jump squats, (d) reporting of average versus peak power, (e) reporting of load intensity, and (f) instructions given to athletes/ participants. Based on this information, a standardized protocol for data collection and reporting of jump squat power and optimal load is presented.

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