

PREDICTION EQUATIONS OF 1-RM: VALIDITY IN FITNESS PROGRAM

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Purpose: The most popular method to determine the workload in the strength training is the one repetition maximum test (1-RM), which consist of the maximum load that can be lifted at once in a complete full range movement.

The purpose of this study was to determine the validity of the 1-RM prediction equations proposed by Adams (1994), Baechle(2000), Brzycki(1993) for strength assessment in fitness program.

Methods: Thirty one healthy male subjects (mean \pm SD: age of 21.8 ± 4.0 years, weight 75.9 ± 8.4 kg and height 178.1 ± 6.4 cm) performed two tests on the bench press exercise: (a) maximum test - determination of the 1-RM load and; (b) submaximum test - determination of the load correspondent to 4 to 10 maximum repetitions.

Results: The analysis of variance (ANOVA) found no significant difference ($p>0.05$) between maximum load determinate through prediction equations or through the 1-RM test. The coefficient of determination (r^2) ranged from 0,91 to 0,94, and the prediction equations had small standard error of estimative (2.7 to 3.2 kg).

The results indicate that the 1-RM prediction equations could be used to determine the maximum load at the bench press exercise of subjects with low strength training experience.

Keywords: strength training, 1-RM prediction, strength training experience

References

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