3 vs. 5 sets for strength development in trained adolescent Rugby Union players

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INTRODUCTION & AIM

- Ambiguity, contradiction and conflicting recommendations exist for optimal training volume (dose) upon strength development (response) [1].
- Manipulation of training volume is important for optimising physiological adaptations (muscular and neural) whilst minimising injury risk [2].
- Much research on the dose-response relationship between training volume and strength development focuses on the debate concerning single set training versus multiple set training [3].
- There is a considerable lack of recent, published research pertaining to optimal volume prescriptions for competitive adolescent athletes, specifically U18 rugby union players.
- The aim of this study was to compare the effects of resistance training volume (3 versus 5 sets) upon strength levels in trained, adolescent male rugby union players.

METHODS

- Sample: 20-29 year old male players (n=36) with a minimum of 1 year of resistance training experience.
- Design: Single blind, randomised controlled trial (parallel group).
- Randomisation: Randomised into 3S (n=18) and 5S (n=18) groups.
- Programming: 12-week programme of linear periodisation.
- CRITERIA: Performance criteria for the bench press, clean and bench squat exercises.
- ATTENDANCE: All participants attended 88% of sessions.

RESULTS

- Table 1: Pre and post changes for bench press, clean, back squat & Chin-up (mean(SD)). *Denotes significant difference from pre-to-post.

CONCLUSIONS

- Over a short time period, there is no additional benefit of increased training volume (5 versus 3 sets) for augmenting strength gains in adolescent rugby union players.