

2015

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Recommended Citation

Charles Cocke, Jay Dawes, and Rob Orr. (2015) "The impact of two different conditioning programs on fitness characteristics of police academy cadets" the Asics Sports Medicine Conference, 21-24 October 2015, Gold Coast, Australia. Gold Coast, Australia. Jan. 2015.

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The Impact of Two Different Conditioning Programs on Fitness Characteristics of Police Academy Cadets



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Introduction

- Tactical athletes serve in a physically demanding occupation¹
- Adequate conditioning is needed as preparation for occupational duties¹
- Trainees have an increased risk of injury^{2,3,4}
 - Recruiting and training a new police officer: \$85k⁹
- Used adhoc /randomised PT
- Would a structured periodised program be better?



Methods

- Design
 - Retrospective data of Police Cadet training collected pre- and post- training programs
- Intervention
 - 6 month voluntary physical fitness training
 - 2 programs
 - Random, “workout-of-the-day,” 4 classes (n = 65)
 - Periodised, 1 class (n = 25)



Methods

- **Anthropometric Measures**
 - Body weight / Fat mass / Lean body mass
- **Muscular Fitness Measurements**
 - Bench press 1RM
 - Push-up reps and Sit-ups in 1 min
 - Vertical jump height / Power production
- **Metabolic Fitness Measures**
 - Anaerobic sprint (300 m) / Aerobic run (2.4 km)





Methods

- Statistics
 - Paired t-test within group changes
 - Independent sample t-tests for between group differences
 - ANOVA for between individual RTG and the PG differences
- Ethical approval provided by:
 - UCCS IRB (15-074)
 - BUHREC (RO 1927)

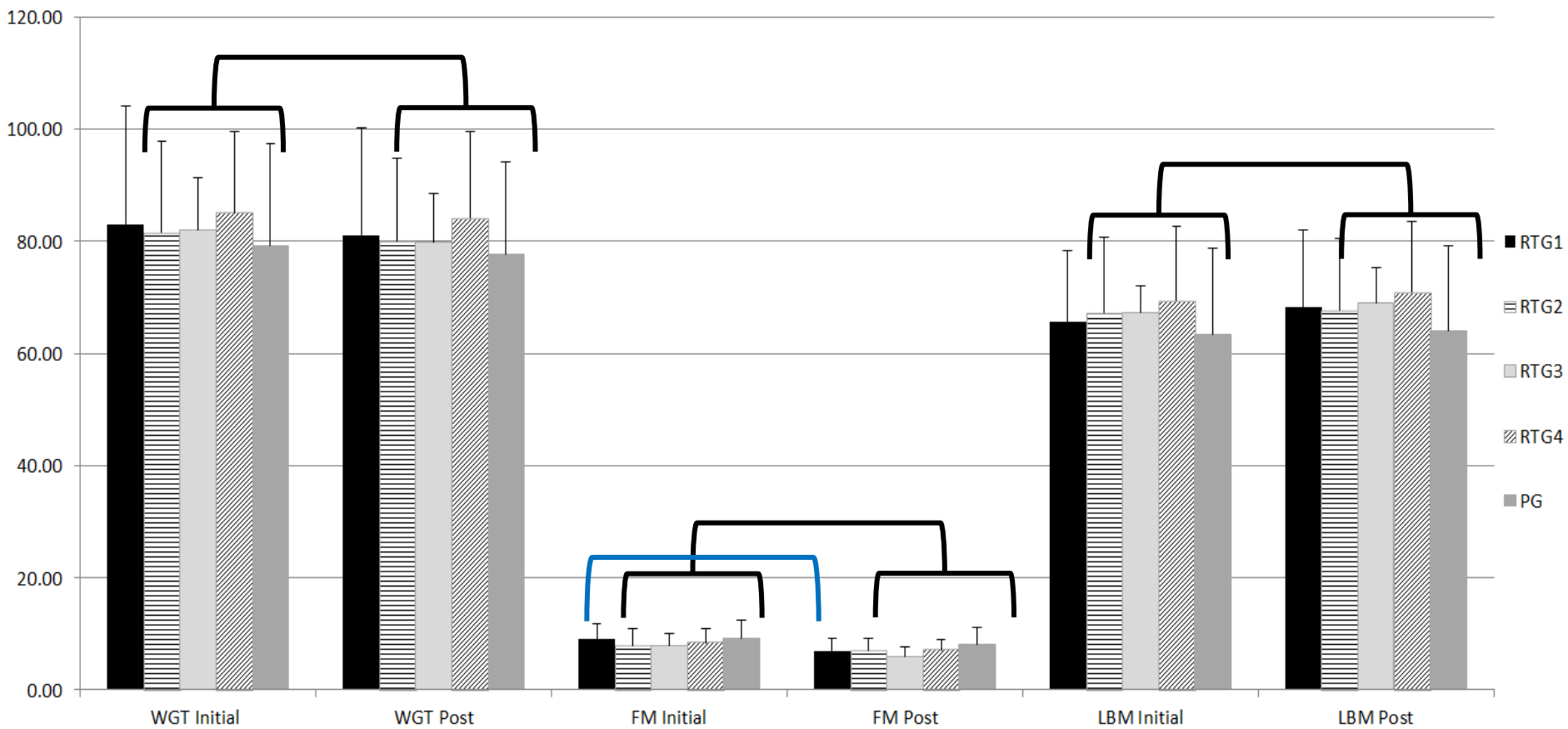


Results

- 4 RTG (n=65),
 - age= 28.96 ± 6.34 yrs
 - weight= 79.44 ± 18.06 kg
 - LBM= 63.41 ± 15.45 kg
- 1 PG (n=25),
 - age= 21.76 ± 5.37 yrs
 - weight= $83.15.66$ kg
 - LBM= 67.55 ± 11.62 kg

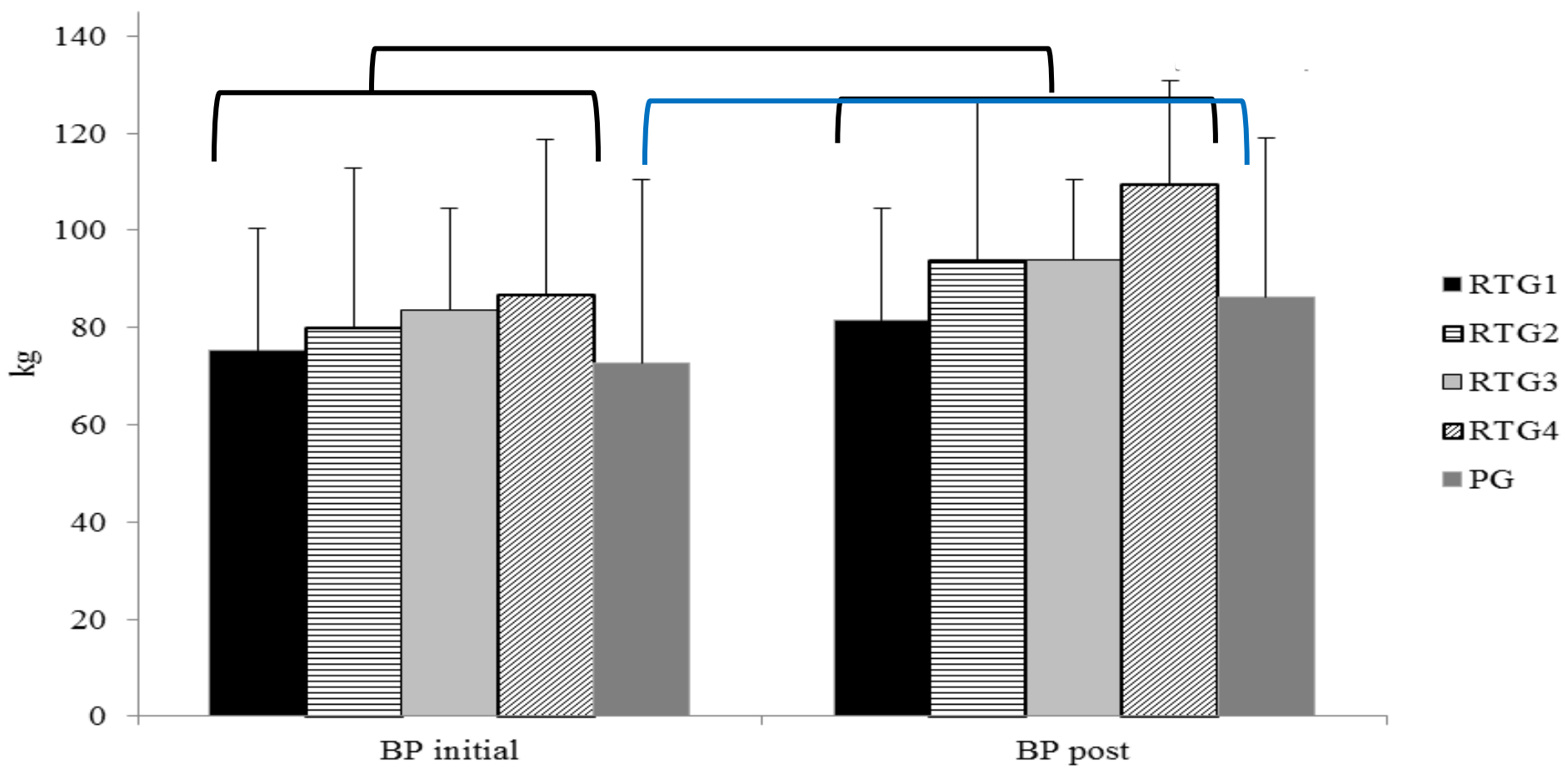


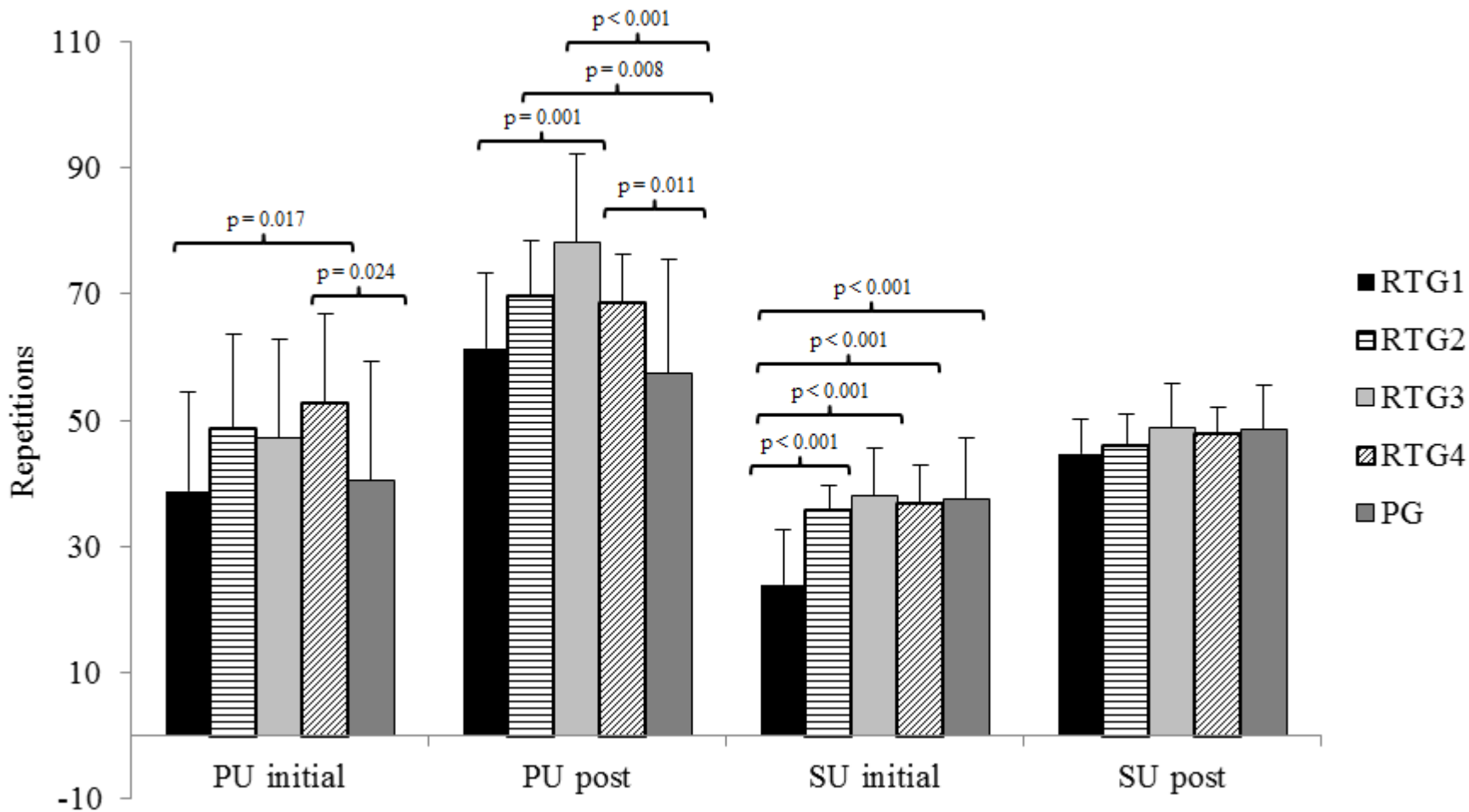
Results

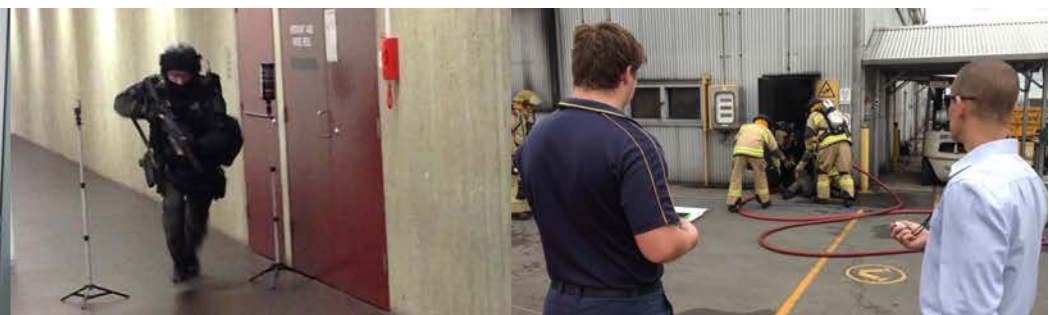




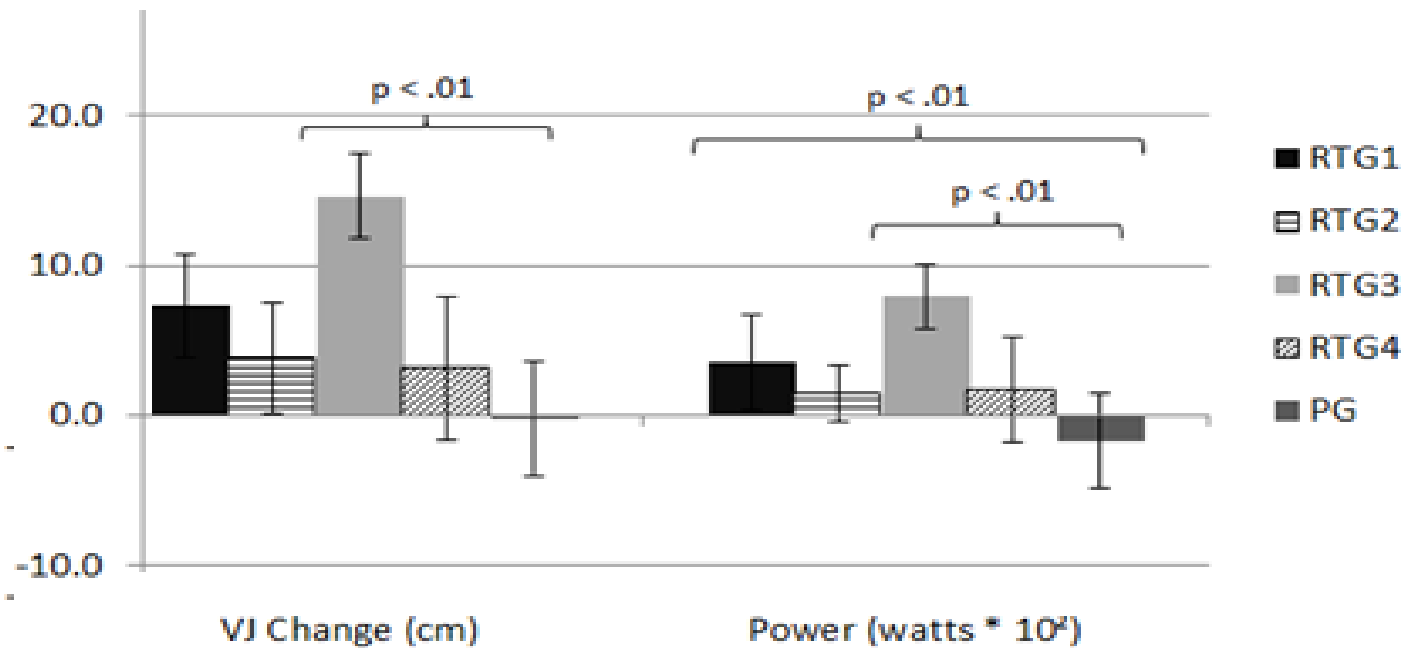
Results





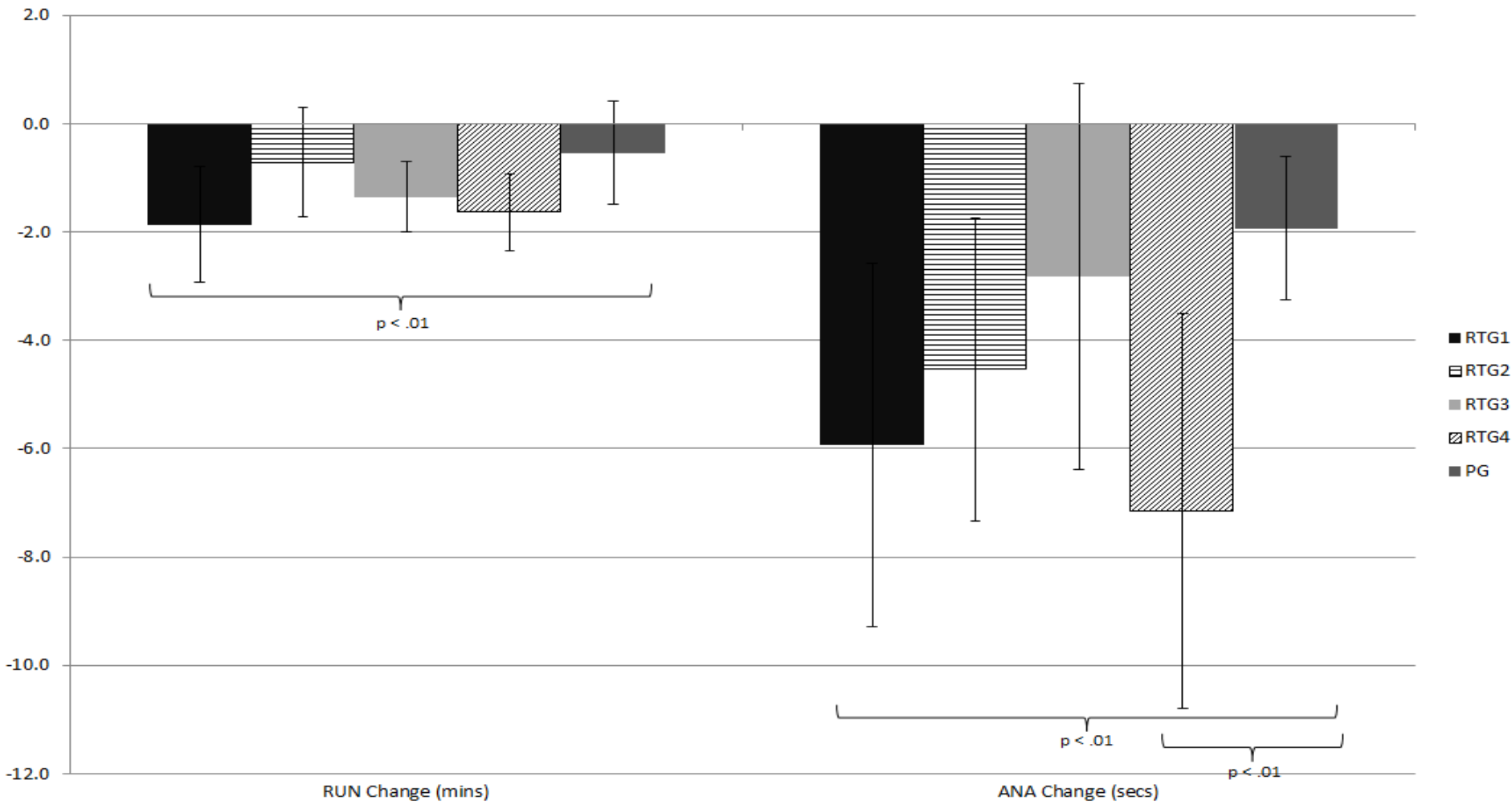


Results





Results





Discussion

- RTG and PG approaches both resulted in improvements
 - In general RTG > PG
- Previous research has shown periodised programs to be of greater benefit than a traditional basic training program in a military population^{5,7}
 - Push-up and sit up repetitions, long distance runs
 - Injury rate, attrition rate, and pass rate on a specific aggregated military fitness testing standard



Conclusion

- Standard Periodised programs may not be as effective for tactical athletes who are required to perform across a spectrum of activities
- PT programs – regardless of format – can improve the physical fitness of tactical personnel
 - **PT is of benefit to new trainees and should remain part of their initial training**



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