

POSTER PRESENTATION

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# Higher-protein diets do not hinder athletic performance in male fighters

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## Background

As Mixed Martial Arts grows in popularity, more athletes are participating in “weight cutting” to compete in weight classes that are below their regular weight. Current weight cutting techniques include dehydration, food restriction, diuretic use and self-induced vomiting to rapidly decrease weight. All of these can inhibit performance and negatively impact the health of an athlete. It was hypothesized that the use of a higher protein diet could be used to replace current weight cutting practices resulting in safer measures for the athlete without hindering athletic performance in male fighters.

## Design

US Army soldiers (n=13, age=24±4yr, weight=75±13kg, body fat=14±7%) in the Combatives training program were recruited for this study. Prior to the start of the 6-week training program participants were prescribed one of three diets: PRO (40% carbohydrate, 30% protein, 30% fat), CHO (65% carbohydrate, 15% protein, 20% fat) and control (no dietary restrictions). Pre-test and post-test assessments of vertical jump height, explosive leg power index (LPI), 600m shuttle and 1.5 mile run were completed during the first and last week of the 6-week program.

## Results

Control group consumed 16.49±4.8 MJ daily, 41±10% carbohydrates, 23±2% protein and 33±9% fat. PRO consumed 8.34±2.2 MJ, 36±10% carbohydrates, 30±10% protein and 35±8% fat. CHO group consumed 14.54±6.9 MJ, 58±10% carbohydrates, 17±2% protein and 26±10% fat. Control group significantly decreased their 1.5 mile time, significantly increased highest power

factor and significantly increased VO<sub>2</sub>max. There were no significant differences in the changes in performance variables between groups, except for the LPI. The CHO had a significantly different change in the average power factor and highest power factor compared to the control group, but not compared to the PRO group.

## Conclusion

Higher-protein diets do not appear to hinder athletic performance in male fighters.

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