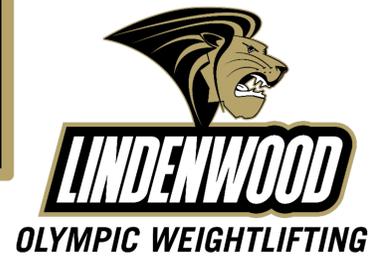


No Changes in Vertical Jump Height During Final Peaking Period Prior to National Competition in Male Collegiate Olympic Weightlifters



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Introduction

- > Power production is a vital athletic attribute that is highly predictive of Olympic weightlifting performance.
- > Force plate vertical jumps are a common means to assess power production in this population and provide valuable insight into neuromuscular fatigue and readiness to perform. However, little information is available regarding changes in force plate parameters in weightlifters during the final peaking period prior to competition

Purpose

- > To examine the changes in force plate-derived vertical jump height in male collegiate weightlifters during their peaking period in the final two days prior to a major national competition.

Methods

Participants

- > Healthy, college aged males ($n = 10$; Mean \pm SD; Age: 20.1 ± 1.2 years, Body Mass: 94.5 ± 21.0 kg) participated in this investigation.

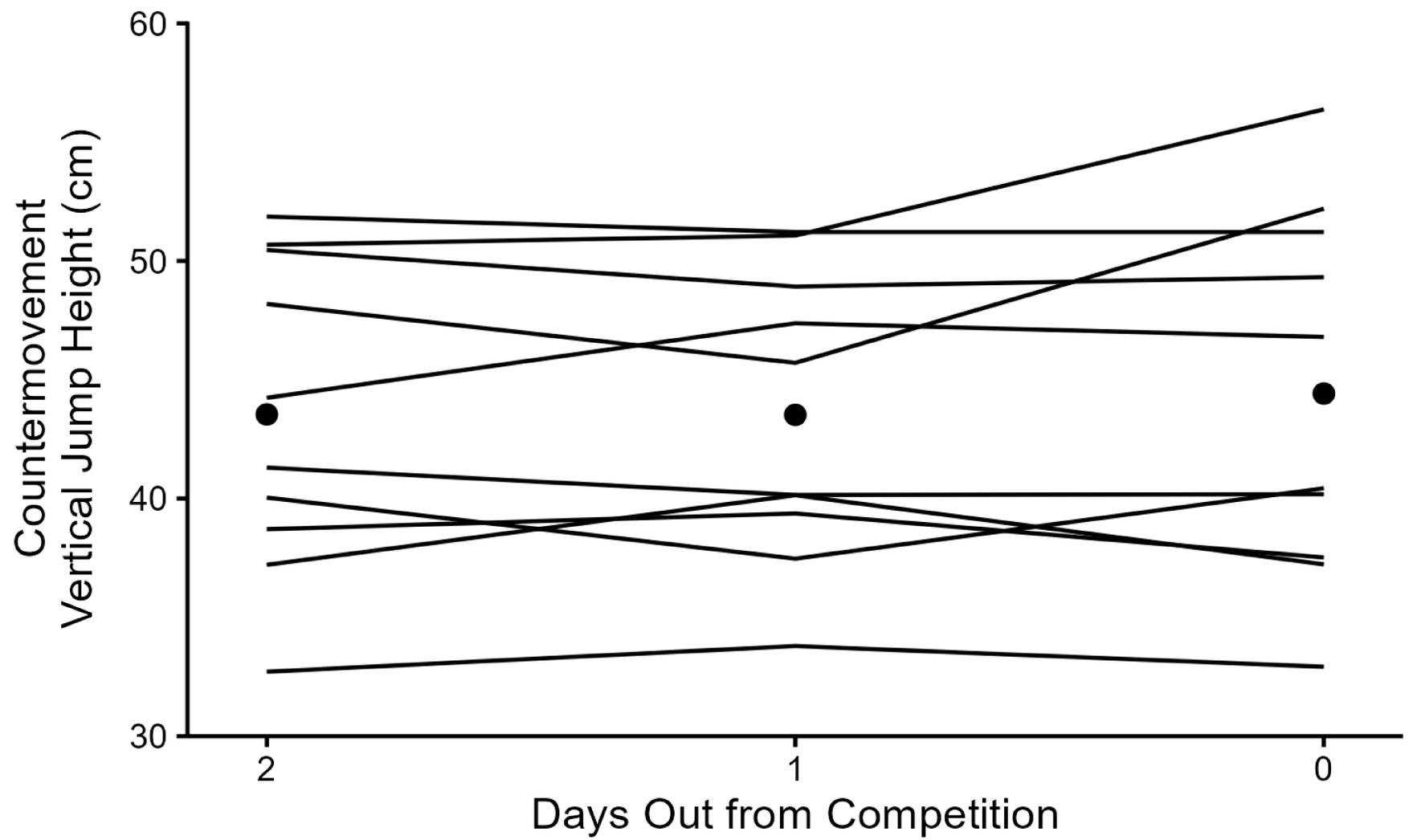
Data Collection

- > Following a self-selected dynamic warmup and a trial repetition at 50% effort, participants performed three maximal-effort countermovement vertical jumps on force platforms upon waking two days prior to, one day prior to, and the morning of competition. 30 seconds of rest were allotted between each attempt and participants were instructed to keep hands on hips during all trials.

Statistical Analysis

- > Daily peak vertical jump height was collected and compared across days via one-way repeated-measures ANOVA. The threshold of significance was set at $p < 0.05$.

Results



Results

- > No changes in jump height were observed across the three days ($p = 0.456$). Average jump height was 43.8 ± 6.6 cm across the three days.



Conclusions

- > These results suggest that vertical jump height does not change in the final days of a peaking period prior to competition in this population. However, a longer period of assessment should be conducted in future studies to examine whether these parameters might potentially change across a longer time-course.

Acknowledgements

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Practical Applications

- > The present investigation found that Olympic weightlifters displayed consistent performance in countermovement vertical jump height during the final days prior to competition. If coaches are using countermovement vertical jumps to track readiness and fatigue, it may not be beneficial to take multiple measurements during the final taper for competition as one test likely provides sufficient insight into athlete readiness during this time period. Greater efficiency in the performance assessment process will better help coaches, athletes, and researchers to focus on their success in sport.