



IS VERTICAL JUMP HEIGHT AND POWER IMPACTED ACROSS DIFFERENT PORTIONS OF A TRAINING SEASON FOR FEMALE COLLEGIATE ROWERS?

Tatum D. Robertson, Morgan E. Dickey, Hope D.K. Bates , Brooklyn R. Pilgreen & Eric C. Conchola

University of Central Oklahoma



INTRODUCTION

Power production is a crucial part of effective performance in high-level athletes. Proper training is essential to produce peak production for competitive periods. However, there is a need to assess power across different phases of training to ensure the training program is the most effective for increasing maximum wattage output.

METHODS

Sixteen division II collegiate female rowing athletes squat jumps were tested during two different training cycles (Off-season and Pre-season). A jumping mat was used to measure vertical jump height, and a linear transducer was used to assess power variables. Three squat jumps were performed with hands on hips, and the highest vertical jump height was used for data analysis. All squat jumps were performed at 110-degree knee flexion, no countermovement was allowed.

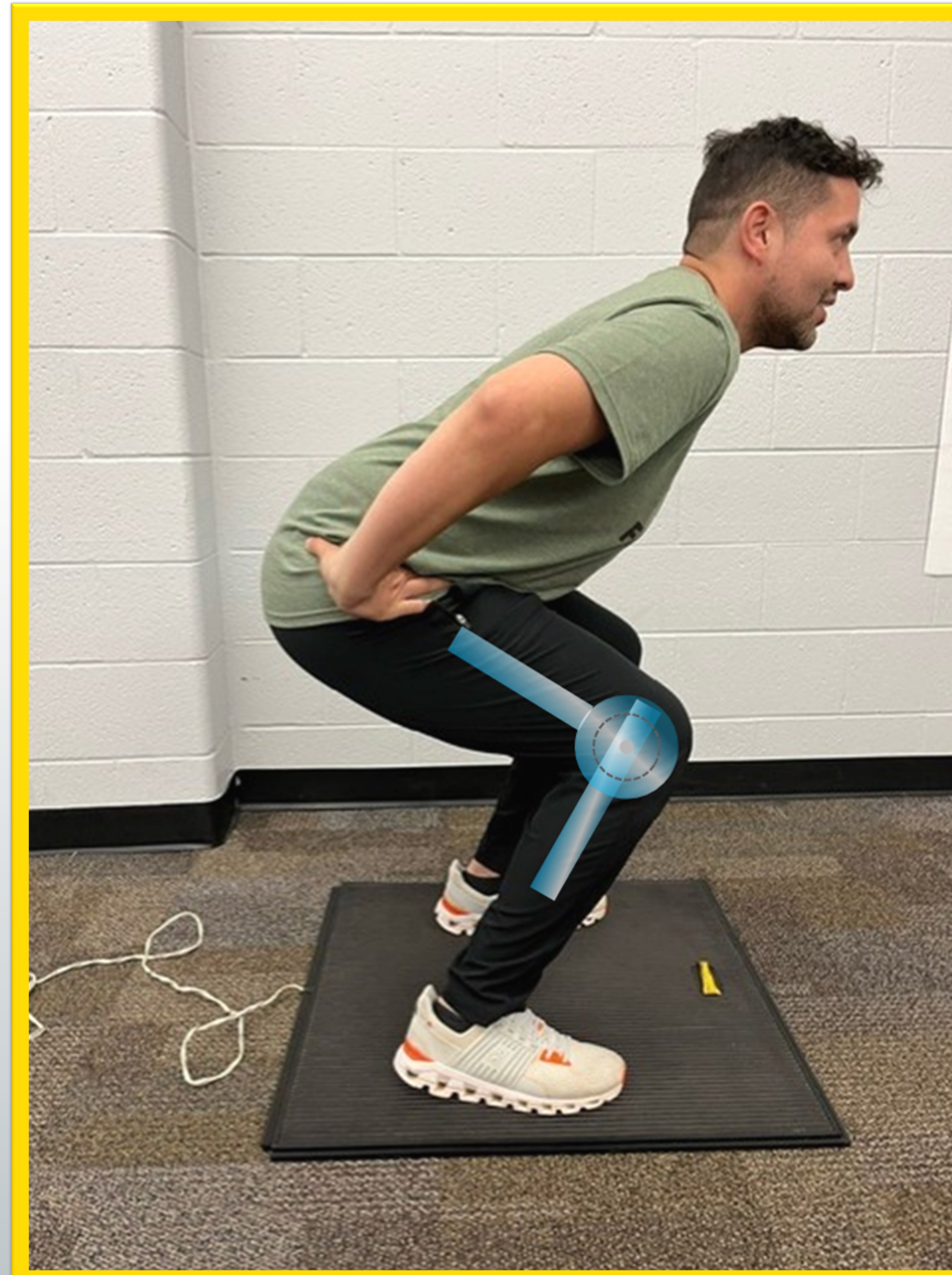


Figure 1. Representation of the squat jump format with the use of a goniometer to establish 110-degree knee flexion.

RESULTS

There was a significant difference in vertical jump height ($P = 0.018$), however no significant difference were observed for average power ($P = 0.119$), and peak power ($P = 0.340$) between the seasons.

CONCLUSIONS

Interestingly, vertical jump height increased across the seasons, while no change was observed in peak or average power output.

PRACTICAL APPLICATIONS

Analysis of power production across different training periods can be a valuable tool to assess proper training for sport-specific athletes. While vertical jump height can change between seasons, a greater understanding of power production throughout training blocks could help to further the performance of athletes in all training seasons to ensure power production is peaked at the appropriate time.

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	Off-Season		Pre-Season		<i>p</i>
	Mean	SD	Mean	SD	
SJ height (cm)	13.48	2.23	15.06	1.64	0.018*
AP (w)	816.71	184.23	760.07	207.32	0.119
PP (w)	3147.29	1322.62	3652.57	1353.97	0.340

*Significant difference between seasons

Table 1. Data analysis comparison of Off-season and Pre-season testing results. (SJ = squat jump, AP = Average Power, PP = peak power).



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