

INFLUENCE OF TRAVEL ON LEG POWER IN ELITE RUGBY LEAGUE PLAYERS

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Introduction

In the Australian professional rugby league competition all teams play at a home ground as well as travel to compete at their opposition's home ground throughout the season. Air travel may be time consuming and stressful, including check in, cramped and uncomfortable travelling conditions, different food selections, baggage claim, adjusting to the new climate, dehydration due to the dry air on the aircraft as well as an increased risk of headache and irritability. 'Travel fatigue' or 'travel weariness' is often a result of the stress of travel and the general disturbance to daily routines. Not surprisingly travel has been found to be a factor which impacts on home advantage. The present study investigated the effects of travel on specific performance variables in one professional rugby league team.

Methods

Participants (n=9) were all professional rugby league players (age 26.2 ± 2.8 yrs, height 181.8 ± 7.6 cm, weight 96.8 ± 11.7 kg). Leg power (peak & relative) and peak jump velocity were measured on the morning before the game at the home city before travel (Time 1); at the away city immediately on arrival at the hotel or at the home city in the afternoon (Time 2) and then on the morning of the game (Time 3). The testing sessions took place in four consecutive weeks including two home and two away games. Data was analysed using repeated measures ANOVA with data being presented as Z scores.

Results & Discussion

Significant differences occurred for relative peak power in regards to time (Table 1; $p < 0.05$) with no other differences between test sessions evident for all other measured performance variables.

The results indicate that there is no difference in location which suggests that travel did not produce a negative impact on leg power performance with improvements occurring in relative peak power performance at Time 2. This supports previous empirical evidence that performance is not impaired following air travel.

Table 1 – Leg power in elite rugby league players

Variable	Time 1	Time 2	Time 3
Peak power	-0.099 ± .090	0.327 ± .073	0.096 ± .149
Relative peak power	-0.126 ± .083 *	0.328 ± .072*	0.191 ± .134
Peak velocity	-0.034 ± .123	0.385 ± .118	0.168 ± .136

* Significant difference between times

Conclusion

For the elite RL players utilised in the present study it appears that travel did not have a detrimental effect on the performance variables assessed.

References

1. Schwartz, B. et al. (1977). *Soc Forces*, 55 (3): 641-661.
2. Waterhouse, J. et al. (2004). *J Sports Sci*, 22 (10): 946-966.
3. Youngstedt, S. et al. (1999). *Sports Med*, 28 (3): 197-207.