Kick Off Time and Travel Affect Sleep Recovery Kinetics

MacLeod S[1], Drake D[1], Davis J[1], Hagan C[1], & Murphy B[2]

[1]Ulster Rugby; [2] BrainWaveBank

simon.macleod@ulsterrugby.com

AIM

Sleep recovery kinetics can be disrupted during competition phases due to travel and timing of fixtures [1, 2]. This investigation aimed to evaluate sleep recovery kinetics during an intensive competition phase with varying match kick-off times including travel.

METHODS

Consented data was obtained from 59 male rugby union players competing in the Pro12 Professional Rugby League during the 16-17 season. Players sleep-wake cycles were monitored over a 90-day period using Actigraphy (Nokia Go, California, USA) and tablet-based self-reports of sleep quantity (BrainWaveBank Ltd, Belfast). Match types were defined as; early KO: pre 5pm; Late KO: post 5pm; Home fixture or Away fixture. Baseline sleep was defined as the average hours of sleep per night with the exclusion of pre and post match sleep hours. Data presented as mean ± SD. Match type data was compared using ANOVA with Tukey post-hoc tests.

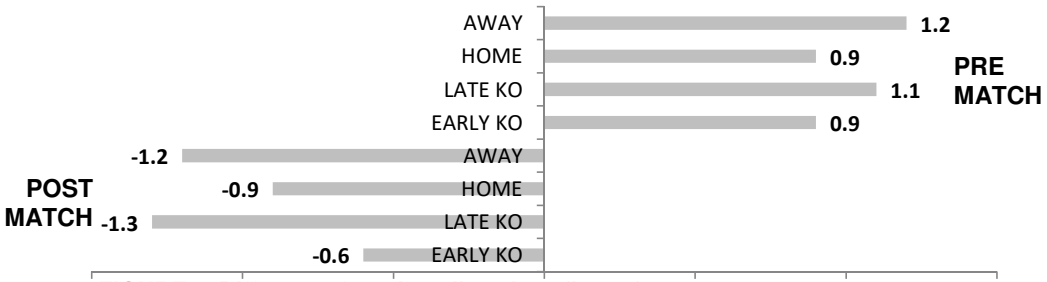

FIGURE 1. Difference from baseline sleep (hours)

RESULTS

Pre-match sleep was higher for all match types compared to baseline sleep ($p < 0.01$) and post-match sleep ($p < 0.001$).

Sleep quantity post-match was lower for early KO, late KO, Home and Away fixtures compared to baseline and pre-match sleep duration ($p < 0.001$). Early KO results in higher post match sleep hours compared to late KO ($p < 0.05$).

TABLE 1. Sleep Quantity by match type (hours)

Match Type	Sleep Hours
Baseline	7.8 ± 0.3
Pre-Match Early KO	8.7 ± 0.9
Pre-Match Late KO	8.9 ± 1.3
Pre-Match Home	8.7 ± 1.3
Pre-Match Away	9.0 ± 1.5
Post-Match Early KO	7.2 ± 1.4 * ✣ ∞
Post-Match Late KO	6.5 ± 1.3 * ✣
Post-Match Home	6.9 ± 1.3 * ✣
Post-Match Away	6.6 ± 1.5 * ✣

*** Significantly different from all pre-match sleep, ✣ Significantly different from baseline sleep, ∞ Significantly different from Late KO.**

CONCLUSION

Players post-match sleep recovery is affected by match type in Professional Rugby Union players. Strategies to enhance post match sleep are required to minimize sleep disturbance following competition. Optimizing travel schedules may enhance sleep recovery kinetics in Professional Rugby Union players.

REFERENCES [1] Skein. et al. (2013) *Int J Sports Physiol Perform* [2] Fullagar et al. (2015) *Int J Sports Physiol Perform*

BRAINWAVEBANK™

ULSTER Rugby