

Sleep, Sleepiness, and Performance Across Three In-Flight Bunk Rest Opportunities



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Aim

To characterize sleep, sleepiness, and performance outcomes across three in-flight bunk rest (BR; first, middle, last) breaks during long-haul flights.



N=37 pilots wore actiwatches and completed sleep diaries for ~2 weeks while flying long-haul routes (n=126 flights).

Karolinska Sleepiness Scale (KSS) and 5-min psychomotor vigilance task (PVT) collected before landing via NASA PVT+ App.

Results

- The majority (97%, n=122) of BR periods contained sleep (as estimated by actigraphy).
- Pilots using the last BR obtained significantly less sleep than the first BR ($F(2,54) = 3.747, p = .03$) (see pictogram, total sleep time indicated on beds).
- KSS ratings prior to landing were higher for the last BR (see pictogram, KSS values in thought bubbles) compared to both the first and middle BR ($F(2,44) = 7.869, p = .001$).
- There were no significant differences between BR opportunities for PVT speed or lapses (all $p > .05$).

Conclusion

- Results suggest that the last rest break is associated with shorter sleep, lower alertness, and no differences in performance relative to the other rest breaks.
- Further analysis is required to determine whether the higher KSS ratings following the last rest break are associated with sleep inertia, or whether other factors may be involved.