

Aerospace Medical Association



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Executive Director
Russell B. Rayman, M.D.
Association Home Office

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Capt. Randy Babbitt
Administrator, Federal Aviation Administration
800 Independence Ave, SW
Washington DC, 20591

Dear Capt. Babbitt,

Fatigue has been identified as the largest preventable cause of mishaps in transportation operations and specifically as a causal factor in 4-7 percent of aviation accidents (many experts believe this is an under-estimate). Scientific evidence indicates that aircrew fatigue is largely a function of scheduling factors (night duty, extended work periods, early report times, etc.) which prevent the accumulation of adequate sleep and often require crew members to work at less-than-optimal circadian periods. Although the pressures of 24/7 aviation operations make it impossible to completely eliminate fatigue from the aviation environment, a number of strategies can effectively mitigate fatigue risks.

Two highly efficacious counter-fatigue interventions are 1) short-acting hypnotics to optimize the restorative value of “out-of-phase” off-duty/layover sleep; and 2) short, in-seat cockpit naps to compensate for insufficient day-to-day sleep. Both strategies can augment the counter-fatigue value of well-planned aircrew scheduling and other currently-authorized fatigue-mitigation strategies.

Short-acting hypnotics: As described in the attached review paper, zolpidem and zaleplon can safely mitigate sleep loss by enhancing the duration and quality of sleep in less-than-optimal circumstances. Neither agent produces potentially problematic hangover effects provided there is 10 hours between the time at which the compound is ingested and the time of takeoff. The safety and efficacy of these compounds have been proven in a variety of placebo-controlled and epidemiological studies, and it has been demonstrated that both zolpidem (10mg) and zaleplon (10mg) do not disrupt normal sleep architecture or pose significant risks of dependence and/or addiction. Although the effective use of these medications currently is not authorized by the Federal Aviation Administration (FAA) and most civil aviation authorities globally, these medications have long been authorized and successfully used in US Army and US Air Force aviation.

Cockpit naps: As further described in the attached review, naps ranging from 20 minutes to 120 minutes have been scientifically proven to bolster alertness in a variety of circumstances, and a NASA study (on 3-member crews) determined that 40-minute in-seat, in-flight napping opportunities (affording an average of 26 minutes of sleep) during cruise segments enhanced performance and reduced pilot sleepiness during critical flight phases without subsequently compromising the quality or quantity of layover sleep. Furthermore, in-seat cockpit napping is already sanctioned by the U.S. Air Force (See Air Force Instruction-202V3, Chapter 9, Controlled Cockpit Rest.). Also, there is published evidence that despite the FAA’s apparent prohibition on cockpit naps, such naps are nonetheless being utilized by crews in two-pilot operations as an effective counter-fatigue strategy (see NASA/TM—1999–208799.).

AEROSPACE MEDICAL ASSOCIATION
THE INTERNATIONAL LEADER FOR EXCELLENCE IN AEROSPACE MEDICINE
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Recommendations: In light of the forgoing information and the fact that aviation fatigue management has become a major priority for the FAA, we respectfully recommend that appropriate steps be taken to authorize the proper use of short-acting hypnotics and in-seat napping procedures as counter-fatigue interventions for civil commercial aviation operations. We further recommend that appropriate aeromedical and fatigue experts be consulted to establish detailed, scientifically-based guidelines before approval of these recommended fatigue countermeasures to ensure the safe and effective implementation of these procedures/strategies in the operational civil aviation context.

For further details regarding our recommendations, find attached our position paper, Fatigue Countermeasures published in Aviation Space and Environmental Medicine, Jan., 2009.

Thank you in advance for your kind consideration of this effort to augment the safety of US aviation operations. Please feel free to contact the Aerospace Medical Association (703-739-2240, x-103) if we can be of assistance.

Sincerely,

Russell B. Rayman, M.D., MPH
Executive Director
Aerospace Medical Association