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NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

UPS FOM Excerpt – Flight Crew Alertness Guide

(6 pages)

Attachment 5

to the Human Performance Group Chairman's Factual Report

DCA13MA133

UPS FOM Excerpt – Flight Crew Alertness Guide



05.03.01.05 INTERPERSONAL SKILLS

Although crewmembers may have similar characteristics, they often come from vary diverse backgrounds. Cultural, gender, race, religious and other diversities bring with them dynamics that can effect safe operations at UPS. Tolerance of individuals and their beliefs, adherence to standardized phraseology and procedures and an understanding of these personality dynamics is paramount to keeping our operations safe here at UPS.

05.03.02 FLIGHT CREW ALERTNESS GUIDE

05.03.02.01 PRACTICAL TIPS FOR SLEEP AND ALERTNESS

GENERAL RECOMMENDATIONS FOR SLEEP IN THE AVIATION ENVIRONMENT

- Take full advantage of sleep opportunities between duty assignments.
- When recovering from sleep debt, arrange to sleep longer than your usual amount by retiring a bit early and awakening a bit later. Plan to increase sleep length by at least 1 hour (for example, from 8 to 9 hours on recovery days) and repeat for at least two days.
- Take a pre-duty nap when starting duty in the evening (show time between 2000 and 0200).
- Take full advantage of nap opportunities while on duty; inflight naps (on augmented legs) and naps at ground facilities.
- Do not deliberately avoid sleep to improve future nap quality.
 - Violates FAA expectations of Fitness For Duty.
 - Introduces unnecessary fatigue risk if the nap is NOT available.
 - If the nap is shortened by prior sleep, that is evidence of lower sleep need.
- Consider the commuting time prior to a trip and ensure adequate sleep prior to reporting, especially if commuting will extend your wakefulness prior to reporting by more than several hours.
- On layovers that are more than three zones from home time, adjust sleep times to be closer to physiological night (home time). For westward travel, retire early. For eastward travel, retire later, provided a delay in bedtime does not shorten the available time for sleep (early start the next day).
- Supplement night time sleep with daytime naps when a full night of sleep is not possible.

GENERAL TIPS FOR IMPROVED SLEEP QUALITY

- Establish a regular, relaxing bedtime routine such as soaking in a hot bath or hot tub, and then reading a book or listening to soothing music.
- Use an eye mask and earplugs or “white noise” to reduce visual and audible disruptions.
- Sleep in a cool environment (65°-70°F).
- Turn off or silence electronic devices that signal E-mail and text messages.
- If unable to sleep after 15 to 20 minutes in bed, get up and engage in a relaxing activity (e.g., listening to music, reading) using low light. Return to bed when you feel sleepy; avoid watching the clock.
- Nourishment:
 - Do not eat a large meal or consume a lot of liquids before bedtime; eat a small snack if hungry. Avoid food that may cause heartburn.
 - Proteins increase energy levels and may inhibit sleep.



- Caffeine:
 - Caffeine is a stimulant and can be used tactically to increase alertness.
 - Avoid using products containing caffeine when already alert so you get the maximum effect when needed.
 - Caffeine takes effect within 15-30 minutes when consumed in liquid form. There are caffeinated gums and mints on the market that deliver caffeine to the system quicker in consistent amounts.
 - Caffeine effects may last 8 hours or longer and interfere with sleep. Plan caffeine use relative to your expected sleep. If possible, time the end of caffeine effect to coincide with the expected sleep time.
 - More than 500-600 mg. of caffeine per day can cause restlessness, anxiety, headaches and other problems.
 - Drinking caffeinated coffee when not drowsy can lead to tolerance to its effects and dependence; caffeine dependence will cause withdrawal effects when caffeine is not consumed, such as headaches.
 - Caffeine levels vary widely from one product to another. In particular, the caffeine content of coffee can be very unpredictable. Caffeine quantities in certain products:
 - Plain brewed coffee (8 oz.) 95 mg.
 - Starbucks Caffè Grande (16 oz.) 330 mg.
 - Nestea (12 oz.) 17 mg.
 - Brewed black tea (8 oz.) 47 mg.
 - Coke (12 oz.) 35 mg.
 - Mountain Dew (12 oz.) 54 mg.
 - Full Throttle energy drink (16 oz.) 144 mg.
 - Excedrin (2 tablets) 130 mg.
 - NoDoz maximum strength (1 tablet) 200 mg.

(Cite: www.Yoursleep.AASM.org- <http://yoursleep.aasmnet.org/topic.aspx?id=45>)

- Alcohol:
 - May hasten beginning of sleep but increases sleep disruption and hinders restorative sleep.
 - Avoid alcohol within 3 hours of bedtime.
- Nicotine:
 - Is a stimulant and may inhibit sleep.
 - Nicotine withdrawal may cause sleep interruptions.
- Exercise:
 - Exercising several hours before bedtime can help obtain deeper sleep.
 - Do not exercise strenuously within 3 hours of bedtime; increased adrenaline and body temperature makes sleep more difficult.



- Medications:
 - Consult a physician or your aeromedical examiner with any questions about medications.
 - Many prescribed and over-the-counter medications can adversely affect sleep onset, duration and quality, or cause drowsiness. Read all labels and consult your physician or pharmacist about possible side effects.
 - Some prescription sleeping pills may facilitate falling asleep and staying asleep; side effects include altering sleep structure, creating drug dependence, and decreasing alertness and performance.
 - Evidence of sleeping pills in the bloodstream can create certification issues in the event of an accident/incident.

AT HOME

- Keep a regular sleep/wake schedule as able, including weekends or days off.
- Develop a good sleeping environment. Get rid of anything in your bedroom that might distract you from sleep, such as noises, bright lights, an uncomfortable bed, or a TV or computer in the bedroom.
- Sleep on a comfortable mattress and pillows. The average lifespan for a good quality mattress is about 9-10 years.
- Take full advantage of opportunities for sleep.
- Maximize sleep and naps one to two days before a trip.
- Take a pre-duty nap if it has been more than 8 hours since last major sleep period.
- Shift circadian cycle as necessary, but not more than 1-1.5 hours each day.
- Consider your commute prior to reporting; ensure that you take a nap if commuting increases your time awake prior to duty by more than several hours.
- When recovering from a sleep debt, arrange to sleep more than your usual amount for several days (for example, 9 hours of sleep for two days, at least). Use naps if necessary.

ON DUTY

- There is no provision for controlled rest in U.S. Federal Aviation Regulations or flight operations manuals; crews should be aware of potential legal ramifications of unauthorized, controlled rest.
- Don't nap secretly; inform the crew when sleepy.
- Take full advantage of inflight nap opportunities when crew is augmented.
- Take full advantage of ground nap opportunities between flight segments.
- Try to maintain a balanced diet and regular nutrition throughout the day.
- Carry snacks; increasing blood sugar level minimizes mental fatigue.
- Reactive hypoglycemia can cause fatigue 1 to 3 hours after eating.
- Snacking, and limiting or avoiding high-sugar foods, can reduce potential for reactive hypoglycemia.
- Drink water; dehydration causes physical fatigue.
- Use caffeine as appropriate. Use caffeine during the first part of your shift to promote alertness and not affect your sleep off duty.
- Engage in physical activity; take a regular stretch break and move around, even when seated.
- Participate in conversations with others. Be sure to ask colleagues if they are having any alertness or fatigue problems.
- Keep the cockpit temperature low and turn up the lights at night, with due consideration given to maintaining night vision.



DURING TRIPS

- If possible, nap during circadian lows (0300-0500 and 1500-1800 home time).
- Shift bedtime toward normal sleep time at home.
- Make sleep a priority over sightseeing and recreational activities.

AT THE HOTEL

- Request a room away from noise sources (e.g., elevators, interstate).
- Use the “Do Not Disturb” sign.
- Keep the room cool (65°-70°F).
- Close curtains, darken the room and use an eye mask.
- Use white noise and/or earplugs to reduce audible disruptions. Noises at levels as low as 40 decibels or as high as 70 decibels can interrupt sleep.
- Turn off or silence electronic devices that could disturb sleep: cell phones, laptops, tablets and pagers.
- Set alarm clock and request a wake-up call.

SLEEP PROBLEMS/DISORDERS

If you are experiencing chronic sleep problems, consult your physician. Keep a sleep diary for about two weeks to record your sleep and health habits. Take your sleep diary, a list of medications or supplements that you are taking, your medical history and a list of any questions that you have to discuss with your doctor. You may also want to bring a family member, particularly your bed partner, who may have observed your sleep problems. Some common sleep disorders include:

- Snoring is a primary cause of sleep disruption; it often afflicts overweight individuals and worsens with age. Habitual snorers can be at risk for serious health problems, including obstructive sleep apnea.
 - Obstructive sleep apnea is a common sleep disorder characterized by brief interruptions of breathing during sleep, sometimes hundreds of times during the night and often for a minute or longer. Left untreated, sleep apnea increases one’s risk for high blood pressure, heart attack, stroke and other serious medical conditions.
- Occasional insomnia is experienced by more than a third of American adults and chronic insomnia is known to affect more than one in ten. Insomnia is characterized by one or more of the following sleep complaints:
 - Difficulty falling asleep.
 - Difficulty staying asleep.
 - Waking too early in the morning.
 - Experiencing non-restorative sleep.
- Restless Legs Syndrome (RLS) is a common, under-diagnosed, treatable sleep and movement disorder. RLS is characterized by an overwhelming urge to move the legs in order to relieve uncomfortable or unpleasant feelings.

Sources:

National Heart, Lung and Blood Institute. U.S. Department of Health and Human Services (2006, April). *In Brief: Your Guide to Healthy Sleep*. NIH Publication No. 11-5271

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