

Fighting Fatigue



“My mind clicks on and off...I try letting one eyelid close at a time while I prop the other open with my will. But the effort’s too much. Sleep is winning. My whole body argues dully that nothing, nothing life can attain, is quite so desirable as sleep.”

Charles Lindbergh, describing the fatigue that struck him nine hours into his 33-hour solo Atlantic crossing.

“Fatigue” is a catch-all term for an often insidious condition that can degrade pilot performance in a number of different areas, from vision and coordination to memory, concentration, mood, and judgment.

A study published in Nature magazine showed that people who stay awake for 17 hours straight function at a level similar to those with a blood-alcohol content of 0.05 percent—beyond the legal limit for flying.

Air Traffic Controllers have been in the news quite often lately.....
'Controller Fatigue'



‘The most obvious cause of fatigue is a lack of sleep’.

Different people need different amounts of sleep, but for most adults the critical amount is between seven and eight hours a night.

Sleeping Smart

Here are a few tips that can help you get the best sleep possible:

- Avoid exercise within 2-3 hours of bedtime.**
- Avoid caffeine and alcohol within 4-5 hours of bedtime.**
- Eat a light snack before you turn in. Don't go to bed hungry or full.**

Still, quantity and quality of sleep aren't always the same thing. That's true for several reasons, one of which is the fact that the human body has its own internal clock, a “**circadian rhythm**” set by external cues (primarily daylight and darkness). It's the reason why we're generally sleepy at night and active during the day.

It's not difficult to throw your clock out of sync. Pilots of fast, long-range aircraft can easily cross several time zones in a single bound, disrupting their circadian rhythms and miring themselves in a groggy, low-energy state commonly known as jet lag.

For general aviation pilots, end-of-the-day flights are more often the problem.



Power Naps

If you're feeling drowsy, a short nap of 15 or 20 minutes can be a very effective way to regain alertness and decision making ability. It's generally best to keep naps short in order to avoid entering the deep part of the sleep cycle. Longer naps, and naps taken during normal sleeping hours (i.e., at night), often lead to more severe "sleep inertia"—that groggy, drowsy feeling after you wake up.

Simple as it sounds, the best advice is to stick to as normal a schedule as possible. Don't put yourself in "need to get home" situations. If you know it's going to be a long day, plan to spend the night and depart the following morning. Avoid flights that arrive after 10 p.m., and if you can't, make an effort to get plenty of preemptive rest and consider bringing another pilot along to help out.

Whatever the situation, remember that the flight can always be delayed. If you feel any serious concern about your level of fatigue, *stay on the ground.*

Other Factors

Although a lack of sleep is normally the underlying cause of fatigue, a number of other factors can affect how tired we feel, and how well we're able to perform in the cockpit.



Contributing Factors

Dehydration

- Drink plenty of fluids throughout the day
- Bring a bottle of water with you

Hunger/Digestion

- Eat several small meals during the day
- Keep a few snacks in your flight bag
- Avoid large meals before flights

Cockpit Environment

- Use a noise-cancelling headset
- Bring a passenger: It's easier to stay awake when you have someone to talk to
- Even better, bring another pilot to lend a hand

Illness

- Be honest with yourself about how well you'll be able to perform
- Be prepared to cancel the flight

Medication

- Check that the medication is FAA-approved, and follow any warning labels
- Be extra cautious if it's your first time taking the medication

Hypoxia

- Avoid flying above 5,000 msl at night without oxygen, 10,000 msl during the day
- Learn to recognize the signs of hypoxia
- Be particularly cautious if you're a smoker

The war against fatigue has two fronts: prevention and recognition. On the latter, we all know the obvious “red flags” (yawning, heavy eyelids), but it’s important to stay alert to more subtle signs as well. Some people notice a ringing in their ears, while others have difficulty with tasks that require dexterity or coordination.

Fatigue can also lead to noticeable cognitive and behavioral changes. Many people find themselves feeling irritable, losing focus in the middle of extended tasks (checklists, for example), or having trouble making relatively simple decisions.



graphics
factory

The key is self-assessment—knowing your personal signs of fatigue, and actively looking out for them. If you start noticing physical or mental issues, don't just continue with business as usual. If you're on the ground, it's probably wise to stay there. If you're airborne, do what you can to remain alert and consider diverting to a nearby airport. And if you're already starting to nod off, it's simple: **Get the airplane on the ground as soon as practical.**

Ways to Wake Up

If you find yourself getting tired in the cockpit, here are a few ways you can stay alert:

- *Drink a caffeinated beverage.* Don't over-do it, though: You can end up with a "caffeine hangover."
- *Keep your mind active.* Look for emergency landing spots, listen to an ATC frequency, start a conversation with a passenger—whatever works.
- *Open a vent and turn down the heat.* The rush of the wind and the cool air at altitude can help you stay awake. "Cozy" isn't good when you're tired.
- *Start using oxygen, or consider descending.* If you're sure you have sufficient altitude, descending can help alleviate any hypoxia-related fatigue you may be feeling.

Fly Often & Fly Safe

Steve Barbour

January 2012

excerpt s from:

AOPA SAFETY BRIEF Number 7