

Flight Fatigue

Casual travelers often bemoan the effects of jet lag, but how do “road warriors” – whose careers require frequent air travel – stay in peak performance mode while on the move?

BY HOWARD SLUTSKEN | ILLUSTRATION CLARA PRIETO

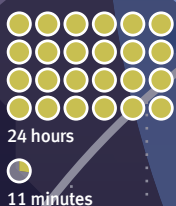


Lhx1 is the gene that controls our sleep-wake cycle that contributes to jet lag.

75% of jet-lagged travelers report problems sleeping the first night.

After three nights, the rate drops to 30%.

A Harvard study has pegged the cycle of a healthy adult at **24 hours and 11 minutes**, give or take 16 minutes.



Jet lag generally occurs when travelers cross three or more time zones. Fatigue from a long **north-south flight** is likely caused by the discomfort of immobility.

It takes the body about **one day per time zone** to fully recover from jet lag.

+1h = 1 day

While travelers with rigid schedules suffer the most, **young children often seem to be immune.**



Feeling a wee bit tired? Ready for a nap? Getting the “nods” at your desk? You’re not alone.

We’re a chronically sleep-deprived society, thanks to the demands of our jobs and personal lives. We’re extending our waking hours, exchanging our sleep for other activities. We try to convince ourselves that “It’s OK, I don’t need to sleep as much.” But when we do this day after day and night after night, we end up with a “sleep debt,” and we’re fatigued.

SLEEP LOSS

“Fatigue is a state that results from sleep loss, continuous hours of wakefulness, disruptions of your body clock, and workload that affects you both mentally and physically,” says Dr. Melissa Mallis, of M3 Alertness Management. Mallis is an international leader in alertness research and fatigue risk management, and provides expertise to international aviation agencies and airlines. “There are individual differences to how much sleep people need per night, and how people respond to sleep loss,” she adds.

It may seem simple, but we can recover from sleep debt by being regimented in our sleep schedule, and to sleep in on our days off. “What happens on a Saturday morning

is that you don’t make up the lost sleep hours one-for-one, but you have more deep sleep, and then you end up sleeping a little bit longer. Your brain restructures your sleep cycle. It usually takes about two days – a weekend – to eliminate any sleep debt with a person’s normal schedule; three days if they’re working nights or going across time zones,” says Mallis.

TIME ZONED

But what’s a traveler to do, now that we have aircrafts that can span the globe and half the world’s time zones, switching “day for night” at the end of a flight? We’re invariably sleep deprived by the time we step onto the airplane, with packing, last minute details, cleaning up at work and general excitement and anticipation for our upcoming trip. “In flight, try to take a nap, and minimize the amount of caffeine that you drink,” says Mallis. “Once you arrive at your destination time zone, if you’re there for less than three days, you should try to stay on your home clock. Longer than three days, get on the destination schedule right away – eat lighter meals at the right time, stay awake until local night, and when you wake up in the morning, expose yourself to sunlight.” >

It takes about two days to eliminate any sleep debt within a person’s normal schedule.

REFRESH AIRSIDE

Lie-flat seats that turn into full-length beds certainly make it easier for first- and business-class passengers to get their needed sleep during a long-distance flight. And after they get off the airplane, those passengers can take advantage of yet another service to help them adjust to a new time zone: arrival lounges.

These lounges have been springing up at airlines’ hubs and focus airports over the years, offering up showers, a spa, refreshments and valet services to freshen flight-wrinkled clothes. Even the most seasoned frequent flyer no doubt welcomes being able to reset before leaving the airport and prepare for the day ahead.

Nike and Seattle-based design firm Teague teamed up to create an airplane cabin concept deemed “The Athlete’s Plane,” specially designed for professional athletes.

Sleep-Savvy Tech-Aids

A sachet of lavender, a cup of lemon verbena tea: These gentle sleep inducers are a nice thought but in this tech age, our jet lag can't possibly be treated with solutions so unplugged.



JET LAG ROOSTER

Enter your flight details into the online jet lag calculator for a customized itinerary that advises on the best times to sleep, seek or avoid light to adapt to your new time zone. Prefer advice from a proper frequent flyer? Consult the British Airways web advisor. Treatment: Begin adjusted sleep cycle before trip or after arrival.



LUMIE ZEST

A portable light panel that emulates a sunrise glow for timed light therapy sessions that help regulate your body clock. Adjustable brightness and an optional beep keep you from falling back to sleep. Treatment: 30 minutes a day for three days upon arrival.



RE-TIMER

These lens-less glasses will have you seeing green. A UV-free green light emits from the bottom of the wearable device to take the edge off of sudden time change. Treatment: 30 minutes a day, four days before you fly.

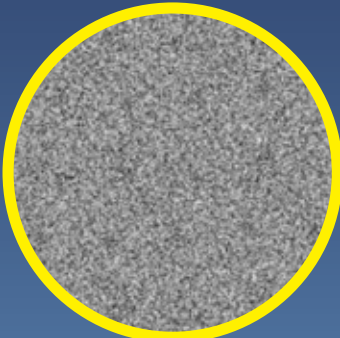
LUMOSTECH SMART SLEEP MASK

Millisecond light pulses over your eyes are controlled from your smartphone so that your internal clock and destination time zone can jive to the same circadian rhythm. Clinically supported by Stanford University; still under development. Treatment: Wear sleep mask during your flight.



VALKEE BRIGHT LIGHT HEADSET

Through ear buds, the iPod-like device delivers bright light to the photosensitive areas of the brain. As a certified medical accessory in Europe it has even improved the reaction time of Finnish hockey players. In 2012, Finnair tested the headsets for business-class passengers traveling between Helsinki and Shanghai. Treatment: Three sessions of 12 minutes per day, three to four days before you fly.



WHITE NOISE

Delta Air Lines introduced the static fuzz in-flight radio channel in 2013 so passengers who are light sleepers can drown out conversations and other nuanced interruptions with devoted to noise. Treatment: Whenever you want some peace.

DELTA AIR LINES PHOTON SHOWER

Built by Weiden + Kennedy New York in collaboration with Delta Air Lines for TED2013, this concept welcomes fatigued passengers into a mirrored booth dotted with LEDs where they will experience a light show of a specific color spectrum that remedies their jet lag. Treatment: Presumably shorter than the duration of a real shower.



Studies show that athletes traveling to games three time zones away end up with a 60% chance of losing their game.

Motor function significantly deteriorates in athletes immediately after air travel, and lingers for the same number of days as the number of time zones crossed.

Athletes in international competitions directly after time zone transition demonstrate a decline in performances that require complex mental activity.

Philipp Steiner describes the Athlete's Plane as a complete training room in the sky.

DUTY CALLS

Road warriors, those business people who spend as much time airborne as they do on the ground, often face meetings or working dinners as soon as they get off the airplane. It could be the middle of the night at home, but the road warrior might be sitting down at a multicourse meal, trying to close a deal. "It's bad enough that you're tired and not even wanting to eat, and all you want is dessert. When you're sleep deprived, you crave high sugar and high-fat foods. But if you eat them, you'll get the 'crash' and feel a low point. Focus on proteins, and fruit and vegetables instead," says Mallis.

The prototypical frequent flyer, like George Clooney's character Ryan Bingham in the movie *Up in the Air*, has a job to do when they arrive in a new city. But there's a group of warriors that are at a very different level – professional sports teams. While facing rigorous game schedules, and travel that takes teams thousands of miles and across multiple time zones even during a single road trip, players are expected to be at their physical and mental best, and ready to play and win games soon after a flight. Teams travel on commercial flights or charters, with interior configurations and amenities not all that different from what a premium economy or business-class passenger would have on a scheduled flight. But that might change, thanks to a concept by innovative design company Teague, in collaboration with Nike.

THE ATHLETE'S PLANE

Philipp Steiner, Teague's creative director, describes the Athlete's Plane as a complete training room in the sky. Based on a wide-body aircraft cabin, the interior includes lie-flat seating designed for athletic builds;

a recovery room, with benches, massage tables and the provision for a variety of treatments; and a high-tech galley, designed to meet an athlete's specific nutritional and hydration needs. "Our approach was focused on helping the athlete travel between games in better condition," says Steiner. Dealing with fatigue is only one part of the process, given the physical demands placed on an athlete. "If you think of their cumulative performance over a season, they're essentially in a nonstop recovery mode. Rather than being in preparatory mode for the next game, the athlete is still recovering from the last game. So, treating them more as precious cargo, helping them with treatment and some of the ailments that come with their sport, was key to what we are trying to do."

It all keeps coming back to catching some z's. Mallis says that sports teams should try to maximize their sleep, and Steiner agrees. He says, "To actually lie flat and sleep is probably the most important activity for recovery."

So, it turns out your parents were right: You've got to get your sleep! ■