

HOW TO... Better Manage Jet Lag



Image courtesy of Stock.XCHNG.

As travellers, many of us have experienced jet lag. Some of us have our own tried and true coping mechanisms, while the rest of us can't shake off jet lag for days or weeks. The key to preventing jet lag is to understand how light and travel direction – east or west – affects your internal clock.

There are many over-the-counter drugs and diets purporting to prevent jet lag, and unfortunately there are few controlled scientific studies done on jet lag and travellers. For this article, we found the advice of [Dr. Stephen Bezruchka](#), senior lecturer at the University of Washington, School of Public Health, helpful.

When several time zones are crossed rapidly your sleep-wake pattern gets out of sync with your circadian rhythm (a 24 hour internal cycle) which is primarily regulated by daylight. Air travel

does not give your body enough time to cope with the disruption and adjust to the new daylight / darkness cycle of your destination, temporarily affecting your health.

The most common symptoms of jet lag include:

- fatigue, insomnia
- poor concentration, disorientation
- irritability, depression, exacerbation of psychiatric disorders
- headaches, muscle aches, fluctuating body temperature
- indigestion, irregular bowels
- The more severe implications of jet lag include increased vulnerability to infections, judgement and performance errors as well as reduced physical and mental functionality. Chronic jet lag can affect the central nervous system and cognitive behaviour.

Travel stress too, can intensify jet lag symptoms. Dr. Bezruchka points out that persons who suffer from chronic stress or those who cannot afford first class travel may be more affected by jet lag than travellers who have access to airport lounges, concierge services, and wellness and relaxation perks (such as massages or nap suites) during transit and at their destination.

What we know so far....

- Almost all travellers are affected by jet lag and most are affected by eastward travel

- Symptoms intensify the more time zones are crossed. They usually start after a two-hour time difference and persist for one week or more. Typically, it takes one day to recover from one time zone change
- Frequent travellers experience less jet lag symptoms over time.
- Older persons and those with pre-existing sleep disorders are at higher risk of being affected by jet lag.
- Exercise, healthy meals, and hydration can help reduce jet lag symptoms.
- Travel stress can intensify jet lag.

What about prevention?

Although jet lag can't be avoided when travelling across different time zones, you can minimize its impact by taking a multi-pronged approach which can make it more bearable.

Adjust your sleeping schedule

You've probably heard that one way to prevent jet lag is adjusting your sleep schedule prior to departure. If you're travelling from west to east, you'll want to go to sleep one hour earlier each night at least three days prior to departure to mimic the time at your destination as close as possible. The same method is used if you're travelling from east to west, you'll want to stay up one hour past your bedtime pushing your awake time by at least three hours by the time you leave. This method, however, may not be realistic for many travellers.



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Exposure to light

Another anti jet lag measure is maximizing exposure to bright light (preferably natural light) during the right time of day. If you travel east, you'll want to get as much light as possible at sunrise continuing early in the morning to get in sync with the local time. The opposite is true when travelling west; you'll want to delay getting bright light exposure until late afternoon and early evening. Doing this for a minimum of five hours a day for a period of three to four days will help readjust your circadian rhythm. The idea is to limit exposure to light when not appropriate by shielding windows, staying indoors, and wearing sunglasses or visors and maximizing access when needed. The table below explains how to adjust your behaviour.

Travel Direction	External Clock	Circadian Clock	Light Exposure	Behaviour
West to East	Turn watch forward	Turn back circadian clock	Bright light during early morning	Early bedtime, early awakening
East to West	Turn watch backwards	Advance circadian clock	Bright light during the afternoon	Later bedtime, later awakening

Adapted from S. Bezruchka, in Jong E.C., Sanford C.A. (eds.), *The Travel and Tropical Medicine Manual - 4th Edition*, Philadelphia, Saunders/Elsevier, 2008, p.136.

Melatonin

Melatonin is a hormone produced by our pineal gland when we sleep and helps regulate our circadian rhythms with the help of exposure to light. Supplements are usually taken 1 day prior to your departure and continue 3 days after

arrival or taken at bedtime when you arrive at your destination and continue up to a week after. Talk to your healthcare provider before taking melatonin, and if it's safe for you (it's not recommended for persons with cardiovascular or blood clotting conditions) get a prescription. Over-the-counter melatonin may not provide the adequate dosage, reducing its effectiveness. Also, the use of melatonin is unregulated in many countries, including in the USA. Note that the effectiveness of melatonin varies among individuals and there are currently no studies analyzing the long-term safety of taking melatonin, including during pregnancy.

Sleep Inducing Medication

Common sleep inducing medications belonging to non-benzodiazepine class (ie. zolpidem, zaleplon, zopiclone, and eszopiclone) offer short-term relief from insomnia, but do not readjust circadian rhythms. Check with your doctor if these types of medications are right for you and if they should be taken in conjunction with melatonin. Side effects may include memory loss, excitability, and depression. Do not drink alcohol or take anti-histamines when taking these types of drugs. Due to the psychoactive properties of both non-benzodiazepine and benzodiazepine drugs, some countries have banned their importation. Check the [INCB \(International Narcotics Control Board\) website](#) to see if your destination country is on the list. Note that the list is still incomplete and you may want to contact your nearest consulate for more information.

Quick tips to better manage jet lag

In flight:

- Set your watch or mobile to the time at your destination. This will train your brain to adjust to local time quicker.
- Wear an eye shield and use noise cancelling earplugs when you need to sleep on the plane to mimic the time at your destination. For example, if you're going from Toronto to Rome and your flight leaves at 9pm, you'll want to sleep in the plane as much as possible since it is 3am at your destination. You may want to pass on the in-flight meal since it further disrupts your routine.
- Stay well hydrated. Refrain from drinking alcohol even though it may be sleep inducing. Alcohol consumption disrupts your sleep patterns.
- Do small exercises to keep your blood flowing (ie. ankle circles, knee lifts, neck rolls, walk up and down the aisles)

At your destination:

- Adopt daily cues to the local time. To adapt more quickly, try to stay awake as much as possible until local bedtime.
- Avoid renting a vehicle at the airport and take public transportation, a taxi, or the airport shuttle to your accommodation. Driving tired and being disoriented in a new city with different road rules increases your chances of getting into an accident, or worse injured.
- Take time to acclimatize to your new time zone and environment. Avoid important





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meetings or starting your adventure travel trip soon after arrival.

- Eat healthy foods. Try not to experiment with new foods or spicy foods for the first few days since they can disrupt your gastrointestinal system.
- If you're only staying in the new time zone for one or two days, stick to your home schedule as much as possible.

Adapted from IAMAT's Travel Health Blog post, 'How To Better Manage Jet Lag', September 30, 2012.

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