



Tropical Medical Bureau

International Vaccination and Advice Centres

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Coping with Jet Lag

General

Any travel, especially if it involves travel at night, may be associated with sleep disruption and subsequent fatigue. The effects of Jet Lag are usually only significant in those undertaking long-haul flights across many time zones. However, even those flying for many hours within the similar time zones (eg Dublin to Capetown) may find that on arrival their body is exhausted and the resultant effect is akin to Jet Lag. Nevertheless, typically it is flight across many time zones which result in different body rhythms that are not initially synchronised with the day-night cycles present in the time zone of the destination. This causes the combination of daytime sleepiness and nighttime alertness, which are recognised as the major features of the syndrome known as "jetlag". Symptoms of jetlag are typically common with time zone changes of 5 hours or more. Problems of jetlag may increase with age.

Symptoms

The symptoms of jetlag are quite familiar to most:

- ★ Generalised Fatigue
- ★ Diminished mental ability
- ★ Mood disturbance
- ★ Anorexia
- ★ Gastrointestinal symptoms

East or West

In general, westward flights are more easily tolerated than eastward as the body can more easily be trained to adapt using phase delay. When flying westwards the traveller is moving with the direction of the sun. This involves increasing the length of available daylight which is regarded as a significant benefit in adjusting the bodies internal clock. Thus "west is best" is worth remembering.

Time required to adjust

Typical readjustment rates are 1.5 hours for each 24-hour period after eastward flights and 1 hour for each 24-hour period after westward flights. Unexpected long periods of jet lag may result from resetting the circadian clock the "wrong way round", especially after eastbound flights. The subjective effects are usually only prominent for a few days but objective measures of sleep patterns such as body temperature and hormone levels show that a complete physiological shift may take up to 14 days.

Jet Lag Countermeasures

Even though there are no absolute ways to counteract Jet Lag there are a number of sensible actions that will help lessen the overall effects.

- ★ Minimize sleep deficit before the journey
- ★ Reduce potential stress through adequate planning

Pre-flight

Book flights to arrive in sufficient time before any important meeting or conference Allow unrestricted night sleep for 2 to 3 nights before departure and choose the best flight for sleep which are direct flights usually during "home" daytime. If not able to sleep on planes, nap in the afternoon before a night departure or consider a short-acting sleeping tablet (eg. Benzodiazepines) recognising the potential danger of venous clots associated with prolonged inactivity.

On the Aircraft

Sleep according to your departure location and take meals at appropriate times. Don't over eat or drink and reduce your caffeine intake. When awake, move around as allowed by flight staff to exercise and to lessen the risk of venous clotting.

At Destination

If arriving during daylight hours try to stay out of doors to absorb sunlight. Where possible, try to sleep at local nighttime but use a hypnotic for the first 2 - 3 nights if required. Restrict alcohol intake and allow nap opportunities for 40 minutes during the day for the first few days - in the case that you cannot stay awake or if you have an important task to perform. Consider caffeine drinks during the day but not for 4-6 hours before sleep opportunities.

On Return

Book flights to return home at a time when rest and relaxation is possible (eg Friday). Avoid important meetings or work commitments for at least 24 hours after return. If necessary to return to work the day following a longhaul flight, try to take the morning off and work only the afternoon.

Venous Clotting

The risk of venous clots forming after prolonged flights needs to be remembered. Exercise, avoid dehydration and consider taking an aspirin unless they are contraindicated for some personal medical reason.

Light Therapy and Melatonin

Both light and melatonin can be used as countermeasures to promote synchronisation of circadian rhythms, however, inappropriate timing of these has the potential to worsen jetlag.

□ Melatonin

This is more practicable but less effective than light. It is now a popular treatment for jetlag. Natural melatonin is secreted by the pineal gland with a normal serum peak occurring overnight in keeping with the circadian rhythm. There is good evidence that melatonin speeds sleep and increases the depth and quality of sleep. Evidence is also accumulating that it may have a role in minimising jetlag. Melatonin is not available in Ireland but many regular long haul travellers obtain supplies from overseas. The commercial doses of 3mgs achieve serum levels 10 -100 times normal but no serious adverse effects have been reported. The current dosage is 3mgs taken 2 hours before the desired sleep time.

□ Bright light

Light is most effective in changing circadian rhythms however one needs to be outside in daylight, not normal indoor illumination. Exposure to bright light may speed readjustment of the circadian rhythm and could reduce symptoms of jet lag. However, there is insufficient data for both safety and efficacy of artificial means of light administration as a method of jet lag prevention.

Summary

For many travellers the need to move rapidly across many time zones is essential and so the effects of jetlag are a necessary evil. However, with some commonsense care and careful planning these effects can be minimised.

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