

Preventing Jet-Lag

Jet-lag happens when people travel too quickly (by plane) across several time-zones. The sudden shift of sleep and sunlight can disrupt mood, energy and sleep by altering melatonin and other hormones in the brain. Typical jet-lag can last from 2-14 days and tends to be worse for Eastward travel and travel across more than five time-zones. The problem can be more severe in people with mood disorders, where jet-lag can trigger mania and depression.

To prevent jet-lag, you can slowly adjust the timing of your sleep by one hour each day so that by the time you arrive at your destination you are sleeping your normal hours. This means you'll need to go to bed earlier and earlier each night to prepare for an Eastbound flight, and later and later to prepare for Westward travel.

You can also take melatonin at night on the days you adjust your schedule. The dose ranges from 0.5-5mg at night. Lower doses help your body reset it's clock but don't cause much drowsiness while higher doses cause additional sleepiness after taking them. Either dose is fine. Melatonin comes as a sustained-release version that may last longer throughout the night.

Just as important as melatonin is making sure you sleep in a dark environment and have plenty of light when you wake up. That may take more effort when preparing for an Eastbound flight, because you may need to go to bed when it's still light out and wake up before the sun.

The number of days you'll need to prepare depends on how many time zones you'll cross. Here are some examples:

From NC to...	Number of time zones	Days to prepare
New Orleans	1 (East-behind)	(not necessary)
Phoenix	2 (East-behind)	1
Los Angeles	3 (East-behind)	2
Hawaii	6 (East-behind)	5
Rio de Janeiro	1 (West-ahead)	(not necessary)
London	5 (West-ahead)	3
Rome	6 (West-ahead)	4
China	12 (West-ahead)	11

Below are examples of how to put this strategy into action.

Eastbound Flights

Here's an example for a person who normally sleeps 8 hours (10pm to 6am) and is preparing for an Eastbound trip across 5 time-zones (a 5-hour shift).

	Time to sleep (and take melatonin or put on blue-light filters†)		Time to wake (and get some bright light)	
	NC Time	London Time	NC Time	London Time
4 days preflight (normal NC schedule)*	10:00pm	(3:00am)	6:00am	(11:00am)
3 days preflight	9:00pm	(2:00am)	5:00am	(10:00am)
2 days preflight	8:00pm	(1:00am)	5:00am	(9:00am)
1 day preflight	7:00pm	(12:00am)	4:00am	(8:00am)
Day of flight	6:00pm	(11:00pm)	3:00am	(7:00am)
1st day arrival in UK	(5:00pm)	10:00pm	(2:00am)	6:00am

*Note: Melatonin is optional on this day because you're following your regular schedule

†Note: Blue-light filtering glasses will cause your body to produce melatonin, read more at www.moodtreatmentcenter.com/bluelight.pdf

Westward Flights: Preventing Jet-Lag

Below is an example schedule for someone who normally sleeps 8 hours (10pm to 6am) and is traveling West from London to North Carolina, across 5 time-zones (a 5 hour shift).

	Time to sleep (and take melatonin or put on blue-light filters†)		Time to wake (and get some bright light)	
	London Time	NC Time	London Time	NC Time
4 days preflight* (normal London schedule)	10:00pm	(5:00pm)	6:00am	(1:00am)
3 days preflight	11:00pm	(6:00pm)	7:00am	(2:00am)
2 days preflight	12:00am	(7:00pm)	8:00am	(3:00am)
1 day preflight	1:00am	(8:00pm)	9:00am	(4:00am)
Day of flight	2:00am	(9:00pm)	10:00am	(5:00am)
1st day arrival in NC	(3:00am)	10:00pm	(11:00am)	6:00am

*Note: Melatonin is optional on this day because you're following your regular schedule

†Note: Blue-light filtering glasses will cause your body to produce melatonin, read more at www.moodtreatmentcenter.com/bluelight.pdf

On the day of the flight, the airport schedule may determine your actual sleep more than this chart— that's ok, just get it as close to this as possible and take the melatonin at the specified time even if you can't fall asleep then. It's also helpful to imitate the lightness or darkness you'd

expect to see at your destination while on the plane. This can be done with lights or eye-covers while on the plane.

Once you arrive at your destination, stick to the normal schedule for that city. Continue to maximize your exposure to sunlight and physical activity during the morning hours and darkness in the hour before sleep. If you are still having trouble adjusting to the new time-zone, try melatonin at night before sleep.

Short Trips

What if you are only staying in your destination for a brief time, and don't have time to adjust for the flight there and the return flight?

You have a few options for short trips. You can adjust for both directions, but simply speed up the adjustment schedule to start adjusting 2-3 days before the flight. If this still isn't feasible, you can do the schedule for only one direction. You may want to adjust only for the Eastbound flight since these tend to cause more jet-lag. However, you may want to choose based on what your responsibilities are and which direction is more important to be functioning optimally for.

If your stay is very short, and the time-zone change is not that great, you may prefer to simply stay at your home time-zone. To do this, take melatonin only while you are in the new time-zone. Take it at the time you would go to sleep as if you were home, and try to go to sleep then, adjusting the lighting to better match your home environment as well.

Adjusting the Light

Black-out curtains, eye-masks and bluelight filtering glasses can help you create an artificial night when you're going to bed before sunset.

Blue-light filters are at: www.moodtreatmentcenter.com/bluelight.pdf

For waking up, a bright light or dawn simulator will help you feel more alert and awake on days when you have to rise before the sun to adjust your schedule. There are apps for smart phones and other devices which will create a virtual sunrise in your room; read more at:

www.moodtreatmentcenter.com/dawnsimulator.pdf

Warnings

Over the counter melatonin may be unsafe in pregnancy and breastfeeding. Read more about how to purchase it at www.moodtreatmentcenter.com/melatonin.pdf. A more advanced – and more natural – method is to use the blue light filtering glasses which cause your body to produce its own natural melatonin:

www.moodtreatmentcenter.com/bluelight.pdf

–Chris Aiken, M.D., updated 8/1/2017