

## Patient information from the BMJ Group

# Jet lag

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## Jet lag

You get jet lag when your body struggles to adjust to a new time zone after a long flight. It can be exhausting, and some people find it spoils the first few days of their holiday or business trip. A drug called melatonin may help, although in the UK it isn't usually recommended for jet lag. But there are other things you can try.

We've brought together the best research about jet lag and weighed up the evidence about how to treat it. You can use our information to talk to your doctor and decide which treatments are best for you.

## What is jet lag?

Jet lag is a side effect of long-distance air travel. Flying from west to east or east to west across several time zones means the time at your destination is different from the time your body thinks it is. This can make you tired, irritable, and generally unwell.



Jet lag is usually worse when you fly east.

When you travel by plane between different time zones, your body clock gets left behind in the place where you started. It takes a few days to catch up with you in your new time zone. So, for a while, your body tries to act as if you're still in the time zone where you travelled from. You may feel wide awake at night and sleepy during the day.<sup>[1]</sup>

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Jet lag affects some people more than others, but in general the more time zones you cross, the worse it gets. For example, a flight from the UK to Thailand crosses seven time zones. The time in Thailand is seven hours ahead of the time the UK. If you arrive in at 12 noon, your body thinks it's 5 a.m.

Jet lag seems to be worse flying east (from the UK to India or Thailand, for example) than west (from the UK to the US).<sup>[2]</sup> When you fly west, you gain extra hours in your day. This kind of jet lag might not be as bad because most people find it easier to stay up later than go to sleep earlier.<sup>[2]</sup>

Long flights can be tiring and stressful, but it tends to be the number of time zones you cross that contributes to jet lag, rather than the length of the flight. So, flights going north or south shouldn't be as much of a problem.

Jet lag affects some people more than others. If you've had jet lag before, you're likely to get it again on future journeys.

Your body clock is driven by daylight and a chemical in your brain called melatonin. Melatonin tells you when to sleep. Your body starts to make melatonin when it gets dark outside, and stops when it gets light.<sup>[1]</sup> <sup>[3]</sup>

## What are the symptoms of jet lag?

The main symptom is tiredness, which can be severe.

After a long flight, your body may still feel as if you're in the time zone you started from. So, you may feel wide awake during the night, or be ready to go to bed during the day.

Jet lag also:

- Upsets your concentration
- Makes you irritable
- Stops you working or relaxing properly
- Stops you eating properly
- Upsets your digestive system
- Makes you feel generally unwell.

Some people feel the effects of jet lag more than others. You may be lucky and not feel them at all.

In general, flying east seems to be worse than flying west.<sup>[2]</sup> That's probably because, when you fly west, adjusting to the local time means staying up later in the evenings. Most people find it easier to stay up later than to go to sleep earlier.

### How common is jet lag?

Most people flying across five or more time zones get at least some symptoms of jet lag.

Crossing five or more time zones means the country you are going to is at least five hours ahead or five hours behind the country you are leaving. For example, New York and London have a five-hour time difference.

### What treatments work for jet lag?

Jet lag gets better on its own after a few days. Taking a treatment called melatonin can help you feel better faster, although in the UK it's not usually recommended for jet lag. But there are other things you can try too.

- If you have jet lag, taking melatonin at bedtime will probably make you feel better. But melatonin isn't normally prescribed for jet lag in the UK.
- Sleeping tablets can help you get a good night's sleep when you get to your destination. But they can cause unpleasant side effects.
- When you arrive, sleeping and eating at the right time for your destination should encourage your body clock to adjust to the new time zone. But there's no research testing whether or not this reduces jet lag.
- Try to avoid tea, coffee, and alcoholic drinks during the first few days of your trip. These all contain substances that might make it harder for your body clock to adjust to the new time zone.

We've looked at the best research and given a rating for each treatment according to how well it works.

### Treatment Group 1

#### Treatments for jet lag

##### Treatments that are likely to work

- [Melatonin](#)

##### Treatments that work, but whose harms may outweigh benefits

- [Sleeping tablets](#)

##### Treatments that need further study

- [Simple things to help your body adjust to the new time](#)

### What will happen to me?

Jet lag is inconvenient, and some people find it spoils the start of their holiday, or makes working difficult while on a business trip. But even without treatment, it only lasts a few days.

Jet lag is always at its worst soon after you arrive. However bad you feel, you'll get better over four to six days. Your body clock resets by about an hour each day, so the more time zones you cross, the longer it will take for your jet lag to wear off. <sup>[4]</sup>

Long journeys can be stressful. They can disrupt your routine and make you tired. This may make jet lag worse for some people. <sup>[2]</sup>

Taking a medicine called melatonin at bedtime should help. <sup>[2]</sup> However, doctors in the UK don't normally prescribe this drug for jet lag. To read more, see [What treatments work for jet lag?](#)

There are also some simple steps you can take to try to make any long-distance trip less tiring and stressful: <sup>[5]</sup>

- Plan your trip in detail before you go
- Find somewhere comfortable to stay if you have a stopover on the way
- Eat some fibre during the flight. Apples are good. But remember that you might not be allowed to take fruit or vegetables into the country you're travelling to
- Drink plenty of water during the flight, and avoid alcohol, tea, and coffee. You might want to take your own bottle of water on to the plane. Lots of airports don't let you take bottles of water through security. So, you may have to buy water from a shop in the airport after you've been through the security check
- Refresh yourself with a shower or a short nap when you arrive. However, you might want to avoid napping if you think it might make it harder for you to sleep later.

If you need to take medicines at the same time every day, ask your doctor or pharmacist about timing the doses in your new time zone.

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## Treatments:

### Melatonin

In this section

If you have jet lag, taking melatonin at bedtime helps reset your body clock so you feel better faster. <sup>[2]</sup>

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Melatonin is a **hormone**. Hormones are chemicals your body makes naturally to control some of the things it does. For example, hormones can tell your body how to use energy, or when to go to sleep.

Melatonin is the hormone that controls your body clock. Normally, your brain produces melatonin during the night to help you sleep. Your body starts to make melatonin when it gets dark, and stops when it gets light.<sup>[6]</sup> The melatonin that's sold as a treatment is a man-made version of this hormone.

Melatonin works best if you take it between about 10 p.m. and midnight (destination time). You can start treatment the day before you go, during the flight or after you arrive. We don't know which works best. But starting treatment the night you arrive is probably the most convenient. You may need to take melatonin for up to four days.

In the UK, melatonin isn't usually used to treat jet lag. Doctors can prescribe it, but it's recommended for treating sleep problems in people over 55, not for jet lag.<sup>[7]</sup> The brand name is Circadin.

You can't buy melatonin over the counter in the UK. But it's possible to buy melatonin tablets from overseas over the internet. For example, melatonin is available over the counter in the US. However, it isn't sold as a medicine. It's sold as a supplement, a bit like vitamins or cod liver oil. This means that, like all supplements, it may not be made to the same standards as medicines.<sup>[8]</sup>

If you're thinking of buying melatonin in the US, or over the internet, there are a few things to bear in mind. The exact ingredients can vary between different brands, so it can be hard to know what you're buying. Scientists have found impurities in the melatonin tablets sold by some companies.<sup>[8]</sup> This means that some tablets contain things that aren't listed on the label.

The research on melatonin is quite good. It seems to help with jet lag.

We found one summary of the research (a **systematic review**). It looked at 10 studies of airline passengers and cabin crew taking long-haul flights.<sup>[2]</sup> In eight of the studies, melatonin reduced jet lag more than a dummy treatment (a **placebo**).

When researchers asked people to score their jet lag on a scale from 0 (no jet lag) to 100 (severe jet lag), people who took melatonin had much lower scores. On flights going east, melatonin reduced average jet lag scores from 51 to 31. On flights going west, it reduced scores from 41 to 22.

There hasn't been much research on the side effects of melatonin. We don't know what the long-term side effects might be. In studies, at least one person got one of these problems:

- Disorientation
- A headache

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- Sickness
- A rash
- Confusion
- Dizziness
- Shortness of breath and chest pain.

One woman had trouble with her breathing and swallowing just after taking melatonin.

We don't know for certain whether melatonin caused these problems.

Some drugs can interfere with other medicines or stop them working. Or they can make an existing medical condition worse. You should check with your doctor if you're taking other medicines at the same time. Experts say you shouldn't take melatonin if you: <sup>[2]</sup>

- Have [epilepsy](#)
- Take medicine to stop your blood clotting, such as warfarin.

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## Sleeping tablets

In this section

Taking sleeping tablets at bedtime for the first few nights after you arrive in a new time zone may help you sleep better. But you may also get side effects, such as a headache, a runny nose, or diarrhoea. <sup>[9]</sup> We don't know if sleeping tablets reduce other symptoms of jet lag, such as an upset stomach or poor concentration.

The research on this treatment isn't very good. We found only three small studies testing sleeping tablets for jet lag. <sup>[9]</sup> <sup>[10]</sup> <sup>[11]</sup> The studies looked at drugs called zopiclone and zolpidem.

The brand name for zolpidem is Stilnoct. The brand name for zopiclone is Zimovane.

All three studies found that sleeping tablets helped people sleep better. <sup>[9]</sup> <sup>[10]</sup> <sup>[11]</sup> But only one of the studies found that sleeping tablets improved the other symptoms of jet lag. <sup>[11]</sup>

Side effects were common. Almost 1 in 5 people in one study said zolpidem gave them a headache. <sup>[9]</sup>

Sleeping tablets can be addictive. <sup>[12]</sup> This means you can get unpleasant withdrawal symptoms when you stop taking them. They also stop working as well after you've been

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taking them a little while.<sup>[12]</sup> This is because your body gets used to them. You should only take sleeping tablets for a short time.

Taking sleeping tablets and melatonin together increases your chances of side effects. These can include sickness, confusion, a headache, sweating, a dry mouth, and dizziness.<sup>[11]</sup>

Sleeping tablets can sometimes make you feel drowsy the day after you take them.<sup>[12]</sup> You should be careful about driving if you're taking this treatment.

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## Simple things to help your body adjust to the new time

In this section

There's plenty you can do to help your body adjust to its new time zone. These things may reduce the impact of jet lag after a long trip. We don't know for certain what works, but you could try:<sup>[8]</sup>

- Staying awake until it gets dark after a long trip going west (when you travel west, your body clock will be ahead, and you may feel like sleeping early in the evening)
- Getting up when it gets light after a long trip going east (when you go east, your body clock will be behind, and you may feel like staying asleep for longer in the mornings). It may also help to be outdoors in sunlight during the afternoon
- Avoiding alcoholic drinks. They make your body lose water (you get dehydrated), which can make you feel worse
- Avoiding coffee, tea, and other drinks containing caffeine. Some research suggests caffeine may help you concentrate better when you are tired.<sup>[13]</sup> But the caffeine may stop your body adjusting as quickly to your new sleeping and waking times
- Eating small meals at the right mealtimes for your destination
- Taking some light exercise, such as walking or sightseeing, during daylight. But remember that exercising just before bedtime can sometimes make it harder to sleep.

We didn't find any studies testing whether any of these things help jet lag. But they all make good sense, and are unlikely to do any harm.

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## Further informations:

Glossary:

hormones

# Jet lag

Hormones are chemicals that are made in certain parts of the body. They travel through the bloodstream and have an effect on other parts of the body. For example, the female sex hormone oestrogen is made in a woman's ovaries. Oestrogen has many different effects on a woman's body. It makes the breasts grow at puberty and helps control periods. It is also needed to get pregnant.

## systematic reviews

A systematic review is a thorough look through published research on a particular topic. Only studies that have been carried out to a high standard are included. A systematic review may or may not include a meta-analysis, which is when the results from individual studies are put together.

## placebo

A placebo is a 'pretend' or dummy treatment that contains no active substances. A placebo is often given to half the people taking part in medical research trials, for comparison with the 'real' treatment. It is made to look and taste identical to the drug treatment being tested, so that people in the studies do not know if they are getting the placebo or the 'real' treatment. Researchers often talk about the 'placebo effect'. This is where patients feel better after having a placebo treatment because they expect to feel better. Tests may indicate that they actually are better. In the same way, people can also get side effects after having a placebo treatment. Drug treatments can also have a 'placebo effect'. This is why, to get a true picture of how well a drug works, it is important to compare it against a placebo treatment.

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