

- Flight

Flight risks: sky-high heart rate, bloating and blood clots

As a study finds drinking alcohol and falling asleep on a plane could be a dangerous mix, David Cox investigates how to stay healthy on board

The Daily Telegraph · 24 Jun 2024 · 2

Humans never evolved to be transported through the skies in a long, pressurised metal tube at more than 500mph, so it's no surprise that plane travel has some pretty unusual effects on our body.

A study this month in the journal *Thorax* made headlines after finding that the combination of alcohol and cabin pressure at cruising altitude appears to lower blood pressure and increase heart rate, even among young, healthy passengers. The authors recommended either avoiding, or at least minimising, alcoholic drinks on a flight.

Some people are also more nervous fliers than others, triggering stress hormones. "It's an alien environment and you have no control, so people sometimes get anxious and over-breathe," Dr Hughes explains. "Your heart rate might go up and that can be a risk factor for cardiac trouble. So you've got this interplay of the physiological and psychological."

The more we understand the unusual environment of flying, the more we can take steps to make it a better and less stressful experience for our body. So from dehydration to circadian rhythms, this is how flying affects you and what to do about it.

Don't get dehydrated

At high altitudes, the air is almost completely devoid of moisture, with humidity levels on a plane often just 10 to 20 per cent, compared with 35 to 65 per cent in a normal environment.

"That means people will breathe out water vapour, so they're losing total body water and on a longer flight, you get very dehydrated," says Dr Hughes.

He says that nervous fliers are even more prone to dehydration as a higher heart rate means that you will be breathing out even more water vapour. Drinking alcohol to relax your nerves can also exacerbate dehydration as alcohol is a diuretic, meaning it stimulates the kidneys to flush more fluid out of the blood and produce more urine. Instead of alcohol, Dr Matthew Goldman, a family medicine physician at the Cleveland Clinic, recommends aiming to consume around 250ml of water per hour.

"Drink plenty of water," says Dr Rosie Godeseth, an associate medical director at Vitality. "Avoid caffeinated and high-sugar drinks, which can also have a similar effect to alcohol, dehydrating us further. Other easy steps include, wearing glasses instead of contact lenses if you wear them to reduce discomfort to your eyes, and applying a hydrating lotion or lip balm to avoid dry lips and skin."

Wash your hands regularly to avoid catching viruses

Dr Godeseth explains that being in a low-humidity environment for a number of hours actively dries out the nasal passages increasing your chances of catching an infection.

"This dryness may make us more susceptible to catching a virus or bug, such as the common cold," she says. "And, like any environment where we are in close proximity to others, germs spread much easier through airborne particles or touching contaminated surfaces."

To mitigate your risk, she advises regularly washing your hands on the flight, trying to avoid touching your face with your hands and using hand sanitiser.

Walk around to keep your blood pumping

One problem with becoming too dehydrated during a flight is that your blood becomes a little thicker and more likely to clot, simply because there's less fluid in it.

Dr Hughes says that being seated for hours can cause blood to pool and stagnate in the lower limbs. "You're impeding the drainage," he says. "Having your legs stretched out may improve flow for a bit but not for long. Getting up for a walk now and then is really important because it allows the calf muscles to pump blood back towards the heart."

Dr Goldman recommends standing up, walking around and stretching once an hour, particularly when you're on a long-haul flight. "Perform leg exercises such as ankle circles and foot pumps," he says. "And wear compression socks to help maintain circulation and reduce swelling."

Eat bananas

A third of your tastebuds stop working at high altitude, making the majority of foods seem rather bland. Your appetite is even affected by the dry air on a plane, as this changes your sense of smell.

Dr Godeseth says that you're also less likely to feel hungry if you're stressed. "For some people, the fight or flight response can kick in, disrupting hunger-regulating hormones like leptin," she says.

"Taste can also be affected as the cabin environment dulls our senses, with factors such as cabin lighting, stress, and even in-flight entertainment changing how things taste to us."

Get as much daylight as you can when you land to avoid sleep disruption

According to Dr Eva Winnebeck, a lecturer in chronobiology at the University of Surrey, there are three ways in which plane travel affects your sleep. The first is early-morning flights, which will obviously curtail your sleep.

The second is the flight itself, with noise, light and uncomfortable seating often affecting your sleep quality.

There isn't much you can do about them (although an airport hotel can ensure you get more shut-eye). But there are steps you can take to mitigate the third – the impact of flying on your circadian rhythms.

Dr Winnebeck explains that the human body operates to a precise 24-hour clock which regulates all kinds of biological processes. Disruptions to this clock through switching time zones can affect how many enzymes are around to digest our food, how well our metabolism is working, bowel movement patterns, heart rate, cognition and of course sleep.

When we fly west, for example from the UK to the US, you're extending the day and so you need to slow down your circadian clock. "That's usually easier, because the clock tends to be a little slow anyway, so people tend to find it easier to stay up for a little longer."

However, flying east, you're actively speeding up your clock. "That's much harder, which is why people suffer from sleep inertia for a few days after landing where it's hard to wake up or concentrate," she explains.

To mitigate this, Dr Winnebeck advises sticking to the new time schedule as much as possible, getting as much daylight during the day as you can because this helps reset the circadian clock to the new time zone.

Avoid bloating and gut issues by keeping hydrated

Jetlag can also affect digestion for a couple of days, which is why Dr Winnebeck advises eating meals in the new time zone because the circadian rhythms which determine processes in the stomach and the liver react swiftly to the timing of food intake.

Being on a flight can also affect both your digestion and your gut. "The atmospheric pressure changes are responsible here," says Dr Godeseth. "As the plane ascends and descends, the cabin pressure fluctuates, and your digestive system adjusts to this pressure. This can make you feel bloated and uncomfortable."

This can affect bowel movements, occasionally triggering constipation. "Consider taking probiotics to support your gut microbiota," he says. "Proper hydration also helps maintain gut motility."