

What causes insomnia?

Insomnia is a sleep disorder. Insomnia can involve difficulty falling asleep or staying asleep, or having non-refreshing sleep. This causes problems during the daytime, such as feeling very tired or difficulty in concentrating.

Insomnia can be caused by:

- Distressing events, such as a bereavement, a breakup, or exams.
- Things that disrupt the circadian rhythms – our internal body clocks – such as shift work or jet lag.
- Changes in the sleeping environment, such as having a young baby, or a sleeping environment that is noisy, bright, or too warm or cold.
- Screen time.
- Eating close to bedtime.
- Alcohol use.
- Smoking.
- Caffeine – for example in coffee, tea, and energy drinks.
- Recreational drugs, such as cocaine and ecstasy.
- Medications.
- Mental health conditions, such as depression and anxiety.
- Physical health conditions, such as [COPD](#) and [heart failure](#).

Almost everyone has trouble sleeping occasionally. For most people, this only lasts a short time. Some people develop long-lasting sleep problems like chronic insomnia. The reasons for this are complicated and differ from person to person. Some things which can lead to insomnia persisting include:

- Psychological links between the bedroom environment and being awake.
- Unhelpful feelings, thoughts or preoccupations with sleep, which make it harder to sleep.
- Behaviours that make sleep quality worse, such as sleeping during the day, using sedatives, or spending more time in bed.

[If you think you have insomnia, find out what to do here.](#)

In this series of articles centred around insomnia, you can read about [insomnia symptoms](#), insomnia causes, and [insomnia treatments](#) - all written by one of our expert GPs.

The rest of this feature will take an in-depth look at the causes of insomnia, as at Patient, we know our readers sometimes want to have a deep dive into certain topics.

Insomnia causes

Lots of different things can cause insomnia, at least in the short term. It's thought that long-term exposure to these triggers can also cause chronic insomnia. However, other things happen in people with chronic insomnia that can cause their sleep problems to continue for a long time.

We think that insomnia is probably caused by a state called hyperarousal. Hyperarousal is when the parts of the brain that keep us awake are over-active - including when we need them to switch off so we can sleep. The following causes often lead to this state of hyperarousal.

Causes of insomnia include:

Distressing events

Any stressful or distressing event can cause insomnia. This includes things such as work deadlines and exams, as well as major emotional traumas, such as a [bereavement](#).

The body and mind's natural response to stress and trauma can lead to hyperarousal, preventing people from getting to sleep.

Insomnia due to stress usually gets better if the stress is removed. After traumatic events, it usually settles over days to months as we process the emotions.

Circadian rhythm disruption

The circadian rhythm is our internal body clock. Sometimes, our internal clock gets out of sync with the world around us.

Two common reasons are [jet lag](#) (quickly moving between time zones, before our body has had time to re-adjust) and shift work (working at times our body expects to be asleep). These can make it hard to develop healthy sleep habits.

Problems in the sleep environment

Changes in the sleep environment can lead to insomnia. Examples include:

- Having a young baby – as new parents know, babies usually wake up several times a night.
- A bedroom that is too bright.
- A bedroom that is too noisy.
- A bedroom that is too warm or too cold.

Screen time

Screens on phones, tablets, computers, and laptops emit blue-tinted light. Blue light mimics daylight, and can confuse our brains into thinking it's daytime.

Using devices often makes us more stressed and alert in other ways, too – for example, answering work emails, or doom-scrolling.

Eating close to bedtime

Eating food, especially heavy meals, close to bedtime can disrupt sleep.

It's generally best to try and leave around 3 to 4 hours between eating and going to bed.

Alcohol use

Alcohol has various different effects on sleep – and the overall effect is bad.

Alcohol has a short-term sedative effect. So, drinking just before going to bed helps people to get to sleep quicker, and they also fall into a deeper sleep sooner.

In the second half of sleep, though, alcohol significantly disrupts sleep patterns, leading to disrupted and unrefreshing sleep. It can also cause earlier waking.

This can lead to a vicious circle, when people drink alcohol because it helps them get to sleep, but they then go on to have poor, unrefreshing sleep because of the alcohol. That leads to them feeling tired the next day – so they drink alcohol again in the evening to get to sleep quicker, and the cycle repeats.

Insomnia is also very common in people who are heavy alcohol users, including people with [alcoholism](#).

Smoking

Nicotine, the main active ingredient in tobacco, is a stimulant. Smoking, vaping, or chewing tobacco before bed leads to hyperarousal, making it difficult to sleep.

Nicotine withdrawal also leads to insomnia. Nicotine is removed from the body rapidly – within a few hours – which is why people tend to smoke several times a day. This can then lead to waking up in the night to smoke, or waking up earlier than usual to smoke.

[Stopping smoking](#) can make insomnia worse in the short term, but improves sleep in the long term, as well as having many other health benefits.

Caffeine

Caffeine is a stimulant – which is why many of us use it – we get it from coffee, tea, energy drinks, soft drinks, or caffeine pills.

Having caffeine too close to bedtime makes it harder to sleep. It also reduces the amount of deep sleep, reducing sleep quality.

How late is too late to have caffeine is debated. One study found that taking caffeine 6 hours before going to bed reduced sleep length by more than an hour, although they used a large amount of caffeine – 400mg, or around four or five cups of coffee.

It's generally recommended to avoid caffeine in the late afternoon or evening. People who struggle with sleep might want to avoid having it after noon.

Other recreational drugs

Other [recreational drugs](#) affect sleep.

Stimulant drugs, like cocaine and ecstasy (MDMA), make it very hard to sleep after taking them. People who use cocaine regularly have very disrupted sleep patterns, although these can improve if they stop using it completely.

Some people find that using cannabis helps them sleep. There is limited evidence that short-term or occasional cannabis use may temporarily improve sleep. However, with regular cannabis use, these benefits seem to disappear, and sleep may get worse.

Medications

Various different medications can cause insomnia or disturbed sleep as side-effects, particularly if taken late in the day. They include:

- Stimulants for ADHD, such as [methylphenidate](#) and dexamphetamine.
- SSRIs and SNRIs – types of [antidepressants](#).
- [Steroid tablets](#).
- Decongestants – for example [ephedrine](#).
- Cold and flu remedies that contain caffeine.
- [Beta-blockers](#).

Taking these first-thing after waking up instead can help.

Mental health conditions

The link between mental health conditions and insomnia is complex.

Mental health conditions can lead to insomnia. For example:

- [Anxiety](#) can lead to racing thoughts and hyperarousal that prevent you from falling asleep or staying asleep.
- [Depression](#) can cause various sleep disorders, including difficulty getting to sleep and waking up much earlier than intended. Some people with depression find that they stay asleep too long during the day.
- Trauma, including [post-traumatic stress disorder](#), can lead to distressing flashbacks or nightmares that prevent or disturb sleep.
- People in a hypomanic or manic phase of [bipolar disorder](#) often find that they are sleeping less and less.

But this also works in the other direction - insomnia can lead to mental health problems. Insomnia can cause major distress, leading to depression and anxiety. Insomnia can trigger hypomania or mania in people with [bipolar disorder](#). Severe insomnia can trigger thoughts of suicide.

If you, or someone you know, is feeling suicidal, [click here to find out how to get help.](#)

Physical health conditions

Lots of physical health conditions can cause insomnia, such as:

- [Heart failure.](#)
- [COPD.](#)
- [Dementia.](#)
- [Parkinson's disease.](#)
- [Cancer.](#)
- [Gastro-oesophageal reflux disease \(GORD\).](#)
- [Restless legs syndrome.](#)

Some conditions cause symptoms that affect sleep, whereas others – like dementia – can directly affect the way the brain controls sleep, including changing the circadian rhythms.

Long-term insomnia also increases the risk of physical health problems. Insomnia is linked with a higher risk of developing [high blood pressure](#), [coronary heart disease](#), and [heart failure](#). We don't know why this is the case. It's possible that being in a long-term state of hyperarousal puts the heart and blood vessels under extra stress.

[Obstructive sleep apnoea \(OSA\)](#) is a physical health condition which is different from insomnia, but can have some similar symptoms. It's also common for people to have both conditions. OSA is when the airway becomes partially, or, rarely, completely, blocked during sleep, making it hard to breathe during sleep. This can lead to very poor-quality sleep and daytime sleepiness. See the [OSA leaflet](#) for more.

Some people with OSA wake up frequently because of it, leading to insomnia. It's also thought that people with insomnia are more likely to wake up if their airway becomes partially narrowed, making them more likely to develop OSA.

Other factors in chronic insomnia

In some people, the initial trigger for insomnia goes away, but they continue to have long-term difficulties with sleep.

These people might develop thought patterns and behaviours that are causing the insomnia to persist. Understanding and tackling these is important for treating chronic insomnia.

Examples include:

- The mind subconsciously learning to associate the bedroom with being awake.
- Trying really hard to get to sleep (sleep effort) – which, paradoxically, tends to make people feel more awake.
- Developing unhelpful thoughts and beliefs – for example, 'If I don't get to sleep in the next five minutes, I won't get any sleep'. This leads to emotional distress and hyperarousal.

- Spending more time in bed to try to compensate for less sleep – which has the opposite effect, as the mind gets used to being awake in bed.
- Becoming dependent on sedatives, such as alcohol or sleeping pills, to sleep.
- The brain becoming more active during sleep – due to hyperarousal – leading to more vivid dreams and making it feel like you are awake for longer. People with insomnia often feel like they've slept for a shorter time than they actually have.

How common is insomnia?

Short term insomnia is very common. Almost all of us will have short-term sleep problems at some point in our lives.

Chronic insomnia is also common. Estimates vary a lot, but it's been suggested that around one in every ten adults have insomnia.

Insomnia risk factors

Risk factors for insomnia include:

- Age – it's more common with older age.
- Gender – insomnia is more common in women.
- Having a family history of insomnia.
- Frequent travel across time zones.
- Shift work.
- Depression or anxiety.
- Certain physical health conditions – see previous.

How much sleep do you need?

The amount of sleep we need differs from person to person, and changes as we get older.

A good amount of sleep is as much as you need to wake up feeling refreshed, without feeling over-tired or sleepy during the day.

Sleep requirements change with age. The following are guides, although some people might need a little more or less:

- The sleep needs of babies under 3 months vary a lot. Between 14 and 17 hours is recommended by some, although there is only limited evidence to support this.
- Toddlers and infants - 4 months to 2 years - need between 11 and 16 hours.
- Children - 3 years to 13 years - need between 9 and 13 hours.
- Teenagers - 14 to 17 years - need 8 to 10 hours.
- Adults need between 7 and 9 hours.
- Older adults - over 65 - tend to sleep less, but a minimum of 7 hours is probably best.

We also know that adults who regularly get less than 6 hours' sleep have a higher risk of [heart disease](#) and [type 2 diabetes](#).

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