

Migraine and stroke

Stroke Helpline: 0303 3033 100
or email: helpline@stroke.org.uk

Migraines have not been shown to cause stroke, but if you have migraine with aura, you have a very slightly higher risk of stroke. This guide explains more about migraine and lists some useful organisations.

Understanding migraine and stroke

Stroke and migraine both happen in the brain. Sometimes, the symptoms of a migraine can mimic a stroke. However, the causes of the symptoms are different. A stroke is due to damage to the blood supply inside the brain, but we are much less certain about what causes migraine. Currently, migraine is thought to be due to problems with brain activity affecting nerves, chemicals and blood vessels in the brain.

In a stroke, the blood supply to part of the brain is cut off, killing brain cells. This causes permanent damage to the brain, and can have long-lasting physical, cognitive and emotional effects. A migraine causes pain and sensory disturbances, but these are temporary.

The relationship between migraine and stroke is complex. The symptoms can sometimes seem similar (see 'When migraine mimics stroke' on Page 4), and they may share some underlying risk factors.

Migrainous infarction

Occasionally migraine and stroke can happen together, but there is no evidence to suggest that one causes the other. Migrainous infarction is the term given to an ischaemic stroke (a stroke due to a clot) that happens during a migraine. This tends to happen alongside prolonged aura symptoms but is extremely rare.

Stroke risk and migraine

If you have migraine with aura, you are about twice as likely to have an ischaemic stroke in your lifetime compared to those without migraine. However, the overall risk linked to migraine is still very low, and you are far more likely to have a stroke because of other risk factors like smoking and high blood pressure.

If you have migraine, your GP or nurse can give advice on reducing your risk of a stroke from any other health conditions you may have, like high blood pressure, diabetes, atrial fibrillation or high cholesterol. They can also support you with making lifestyle changes such as stopping smoking, losing weight, healthy eating and exercise.

Women and migraine

Taking the combined oral contraceptive pill (combi pill) increases the risk of a stroke in women who have migraine with aura. Because of this, women who have migraine with aura are not usually given the combi pill. If you have migraine without aura, you should be able to take the combi pill, unless you have other risk factors like smoking or being overweight.

Other health conditions

Some health conditions are linked to migraine. For example, CADASIL (a rare genetic disorder), and the auto-immune conditions antiphospholipid syndrome and lupus, are linked to a higher risk of stroke, and people with these conditions are also more likely to have migraine.

What is migraine?

A migraine attack can have a wide range of symptoms. For many people, the key symptom is a moderate or severe headache. Typically, this is felt as a throbbing pain which gets worse with movement or physical activity. The pain is usually on one side of the head, but it can be all over the head, often with one side worse than the other. The headache is often accompanied by other symptoms such as nausea or vomiting and sensitivity to light, sound or smells.

Migraine affects around one in every 15 men and one in five women. People of all ages are affected by migraine, but the condition often begins in young adulthood. It often runs in families, and many people with migraine have a close relative with the condition. Some people have several migraines a week. Others may have months or years between migraine attacks.

Symptoms can last from a few hours to several days. You may also feel very tired before and after an attack.

Migraine attacks tend to start gradually, and many people feel unwell before the onset of the migraine attack, sometimes a few hours or days before the headache itself. Symptoms ahead of a migraine can include changes in mood and energy levels, excessive yawning, aches and pains, and sensitivity to light or sound. These are called prodromal or premonitory symptoms.

The main types of migraine

Symptoms like paralysis, sudden sight loss, difficulty with speech, and vertigo (a feeling of the room spinning around you) can be signs of a stroke. If you have any of these symptoms and you have not been diagnosed with migraine, you should call **999**.

Migraine without aura

Between 70% and 90% of people with migraine have this type, which is sometimes called common migraine. It consists of a moderate or severe, throbbing headache, with other symptoms such as nausea and sensitivity to light, sound or smell. The other symptoms usually begin at the same time as the headache and disappear once the headache goes. Many people feel irritable and need to rest in a dark room or sleep.

Migraine with aura

About 30% of people with migraine have migraine with aura (sometimes called classical migraine). Some people have both types. Attacks typically begin with an 'aura' consisting of one or more of the following symptoms, which develop gradually over five to 30 minutes and last up to an hour. The headache can occur with or after the aura.

Types of aura

- Visual changes. This is the most common aura symptom.

The changes can include flashing lights, zig-zags, sparks or blank spots. These can appear on one side or centrally, and commonly expand and move across your field of vision. Visual changes such as flashing lights can also be signs of acute eye disease, so if you get any of these symptoms and have not been diagnosed with migraine, contact your optician or GP urgently.

- Sensations such as pins and needles, tingling or numbness, weakness, or a spinning sensation (vertigo).
- Less commonly, you may have difficulty speaking or hearing, and feel fear or confusion and even have paralysis.

Migraine aura without headache

Also known as a silent migraine, this is an aura without the headache.

Rare types of migraine

There are some rare types of migraine, which are also classed as migraine with aura.

Migraine with brainstem aura

Previously known as basilar-type migraine. People with this condition experience two or more of the following symptoms:

- Visual disturbances, including double vision.
- Speaking difficulties.
- Hearing problems, including ringing in the ears.
- Tingling in the hands and feet.
- Dizziness or being unsteady while walking.
- Vertigo (spinning sensation).

People may experience these symptoms either before or alongside typical migraine headache symptoms.

Hemiplegic migraine

Hemiplegia means paralysis on one side of the body, and weakness or paralysis on one side is a key symptom of this type of migraine. Other symptoms might include numbness or

pins and needles, visual problems, and speech problems. These problems usually go away within 24 hours, but they may last a few days. A headache usually follows.

If you have a parent with hemiplegic migraines then you have about a 50% chance of having this type of migraine yourself, known as familial hemiplegic migraine (FHM). In some families with FHM, problems have been found with particular genes which affect how the brain cells communicate with each other. But hemiplegic migraines can also occur in someone with no family history of them.

What causes a migraine

Migraine often runs in families, and if one or more close relatives experience migraine, it is more likely that you will too.

Migraine triggers

Some people report various triggers that might lead to a migraine attack, including:

- Emotional: such as stress, anxiety or depression.
- Physical: tiredness, too much or too little sleep, or tension, particularly in the neck and shoulders.
- Hormonal: some women experience migraine around the time of their period, or during the menopause.
- Dietary: missing a meal, drinking alcohol or caffeinated drinks, or eating certain foods.
- Environmental: such as bright or flashing lights or a stuffy atmosphere.
- Medicines: including some sleeping tablets, the combined contraceptive pill and some types of hormone replacement therapy.

Sometimes, it takes more than one trigger to lead to an attack, for example being under emotional stress and missing a meal.

When migraine mimics stroke

This information is a guide to some of the stroke-like symptoms of migraine, but it is not intended as a way of diagnosing migraine or stroke. You should get individual advice from a medical professional if you have migraine symptoms.

If you have any stroke symptoms you must call **999**.

The symptoms of some types of migraine can mimic stroke, such as hemiplegic migraine where there is weakness down one side.

Migraine auras can be confused with transient ischaemic attack (TIA), where someone has stroke symptoms that pass in a short time. For instance, a migraine with only a visual aura but no headache may be mistaken for TIA. Like a stroke, a migraine can be sudden and can lead to mild confusion. However, migraine aura symptoms tend to develop relatively slowly and then spread and intensify, while the symptoms of a TIA or stroke are sudden.

Migraine can sometimes be mistaken for a stroke caused by bleeding on the brain, called a subarachnoid haemorrhage (SAH), which is often characterised by a sudden, very severe headache. Unlike SAH, migraine headache is typically one-sided and throbbing, slow to come on and lasts for a shorter period of time. Vomiting usually starts after a migraine headache begins, but is likely to happen at the same time as headache during a SAH. Patients with a SAH also commonly develop neck stiffness and may have other stroke symptoms. For more information on signs of stroke, see 'Spotting the signs of stroke' on Page 5.

Migraine diagnosis and treatment

Diagnosing migraine

Migraine is diagnosed by piecing together information about your symptoms and identifying patterns over time.

Your GP may do some tests checking your vision, reflexes, coordination and sensations. They may ask you to keep a diary of your migraine symptoms and factors leading up to them, such as what you ate and how you slept. This may help you identify and avoid your triggers. You should also record any medicines you are already taking.

Managing migraine

Some people are able to avoid their triggers and reduce how often they have migraines. Many people find that ordinary painkillers such as paracetamol or ibuprofen reduce the pain of their migraine headache. Do not take painkillers every day for a migraine, as painkiller over-use can cause headaches. Your GP or a specialist can prescribe other treatments for nausea.

There are medications you can take at the start of an attack to stop it developing, and others that you take regularly to make attacks less frequent or less intense (prophylactic medication). Triptan medications, such as sumatriptan, are not given to people who have had a stroke or TIA. Botulinum toxin type A treatment (often known as Botox) is available for some cases of chronic migraine. Chronic migraine is when you have 15 days or more of headache a month, with at least eight of them migraines, for at least three months.

For more information about managing migraine, visit migrainetrust.org or see 'Other sources of help and information'.

Spotting the signs of a stroke

FAST test



Face

Can the person smile?
Has their face fallen on one side?



Arms

Can the person raise both arms and keep them there?



Speech

Can the person speak clearly and understand what you say?
Is their speech slurred?



Time

If you see any of these three signs, it's time to call **999**.

The FAST test helps to spot the three most common symptoms of stroke. But there are other signs that you should always take seriously. These include:

- Sudden weakness or numbness on one side of the body, including legs, hands or feet.
- Difficulty finding words or speaking in clear sentences.
- Sudden blurred vision or loss of sight in one or both eyes.
- Sudden memory loss or confusion, and dizziness or a sudden fall.
- A sudden, severe headache.

Stroke can happen to anyone, at any age. Every second counts. If you spot any of these signs of a stroke, don't wait. Call **999** straight away.

Where to get help and information

From the Stroke Association

Helpline

Our Helpline offers information and support for anyone affected by stroke, including family, friends and carers.

Call us on **0303 3033 100**, from a textphone **18001 0303 3033 100**
Email **helpline@stroke.org.uk**

Read our information

Log onto **stroke.org.uk**, where you can find easy-to-understand information, videos and an online community to support you. You can also call the Helpline to ask for printed copies of our guides.

Other sources of help and information

The Migraine Trust

Website: **migrainetrust.org**

Helpline: **0808 802 0066**

Leading patient support and research charity for migraine. Call the helpline for information and support.

National Migraine Centre

Website: **nationalmigrainecentre.org.uk**

Tel: **020 7251 3322**

Provides information and phone and video consultations with migraine specialists.

NHS UK

Website: **nhs.uk/conditions/migraine**

Online information about migraine diagnosis and treatment.

Your notes

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About our information

We want to provide the best information for people affected by stroke. That's why we ask stroke survivors and their families, as well as medical experts, to help us put our publications together.

How did we do?

To tell us what you think of this guide, or to request a list of the sources we used to create it, email us at **feedback@stroke.org.uk**

Accessible formats

Visit our website if you need this information in audio, large print or braille.

Always get individual advice

This guide contains general information about stroke. But if you have a problem, you should get individual advice from a professional such as a GP or pharmacist. Our Helpline can also help you find support. We work very hard to give you the latest facts, but some things change. We don't control the information provided by other organisations or websites.

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