

# Migraine

## Introduction

### Stages of migraine

There are five distinct stages to a migraine, although not everyone goes through all the stages:

1. 'Prodromal' (pre-headache) stage. Some people experience changes in mood, energy levels, behaviour and appetite, and sometimes aches and pains several hours or days before an attack.
2. Aura. Some people experience a sensation, or aura, just before their migraine starts. Symptoms of aura include flashes of light or blind spots, difficulty focusing, and seeing things as if you are looking through a broken mirror. This stage normally lasts around 15 minutes to an hour.
3. Headache stage. This is usually a pulsating or throbbing pain on one side of the head. You usually have nausea or vomiting, and extreme sensitivity to bright light and loud sounds, with a strong desire to lie down in a darkened room. This stage lasts for four to 72 hours.
4. Resolution stage. Most attacks gradually fade away. Some people find the headache stops suddenly after they have been sick. Sleep often relieves the symptoms.
5. 'Postdromal' or recovery phase. There may be a stage of exhaustion and weakness afterwards.

A migraine is usually a severe headache felt as a throbbing pain at the front or on one side of the head.

Some people also have other symptoms, such as nausea and sensitivity to light.

Migraine is a common health condition, affecting about 15% of adults in the UK.

There are several types of migraine, including:

Migraine with aura is when there is a warning sign, known as aura, before the migraine begins. About a third of people with migraine have this. Warning signs may include visual problems (such as flashing lights) and stiffness in the neck, shoulders or limbs.

Migraine without aura

Migraine without headache, also known as silent migraine, is when an aura or other migraine symptoms are experienced, but a headache does not develop.

Learn more in symptoms of migraine.

There are five stages to a migraine, although not everyone will experience all of these.

Who is affected by migraines?

Migraines affect one in four women and one in 12 men.

Hormones may be the reason why migraines affect more women than men. For example, some women find that migraine attacks are more frequent around the time of their period. However, this association has not been proven.

Migraines usually begin in young adults. About 9 in 10 have their first migraine before they are 40 years old. However, it is possible for migraines to begin later in life.

How often do they occur?

Everyone will experience migraines differently. Some people have attacks frequently, up to several times a week. Other people only have a migraine occasionally. It is possible for years to pass between migraine attacks.

Some people find that migraine attacks are associated with certain triggers, which can include stress and certain foods. Learn more in causes of migraine.

Outlook

Migraines can severely affect your quality of life. During and after a migraine, some people need to stay in bed for days at a time.

However, there are effective treatments, and methods that can help to prevent migraines. Most people find ways of managing their migraines so that there is little disruption to their lives. Learn more in treatment for migraine.

Symptoms of migraine

A migraine is usually an intense headache that occurs at the front or on one side of the head. However, the area of pain can change position during an attack.

The pain is usually a severe throbbing sensation that gets worse when you move.

Symptoms accompanying a migraine

Other symptoms commonly associated with a migraine are:

nausea - you may feel queasy and sick; this may be followed by vomiting

increased sensitivity - you may have photophobia (sensitivity to light), phonophobia (sensitivity to sound) and/or osmophobia (sensitivity to smells), which is why many people with a migraine want to rest in a quiet, dark room

Other symptoms can also occur during a migraine. These include:

poor concentration

sweating

feeling very hot or very cold

abdominal pain (which can sometimes cause diarrhoea)

a frequent need to urinate

Not everyone experiences these symptoms when they have a migraine, and they do not usually all occur at once.

In some cases, you may experience these symptoms without having a headache.

The symptoms accompanying migraine can last anywhere between four hours and three days. They will usually disappear when the headache goes.

You may feel very tired for up to seven days after a migraine attack.

Symptoms of aura

About one third of people with migraines have warning symptoms, known as aura, before the migraine. These include:

visual problems - you may see flashing lights, zigzag patterns or blind spots

stiffness or a tingling sensation like pins and needles in your neck, shoulders or limbs

problems with co-ordination - you may feel disoriented or off balance

difficulty speaking

loss of consciousness - this only happens in very rare cases

Aura symptoms typically start between 15 minutes and one hour before the headache begins. Some people may experience aura with only a mild headache or no headache at all.

Causes of migraine

Migraines are thought to be caused by changes in the chemicals of the brain.

In particular, levels of a type of chemical called serotonin decrease during a migraine.

Low levels of serotonin can make the blood vessels in a part of your brain spasm (suddenly contract), which makes them narrower. This may cause the symptoms of aura. Soon after, the blood vessels dilate (widen), which is thought

to cause the headache. The reason for the drop in serotonin is not yet fully understood.

## Hormones

Some scientists believe that fluctuating levels of hormones are closely linked to the cause of migraines.

Some women who experience migraines say they are more likely to have an attack around the time of their period. This is known as a menstrual migraine. Just before women have their period, levels of the hormone oestrogen fall.

Women can have menstrual migraines from two days before to three days after the first day of their period. About 1 in 7 women who have migraines only have an attack around the time of their period. This is known as a pure menstrual migraine. Around 6 in 10 women with migraines have attacks at other times too.

## Other migraine triggers

Many factors have been identified as triggers for a migraine. These triggers include emotional, physical, dietary, environmental and medicinal factors. They are outlined below.

### Emotional triggers

These include:

stress

anxiety

tension

shock

depression

excitement

### Physical triggers

Physical triggers include:

tiredness

poor quality of sleep

shift work

poor posture

neck or shoulder tension

travelling for a long period of time

low blood sugar

The menopause can also trigger migraines.

### Dietary triggers

Dietary triggers include:

lack of food (dieting)

delayed or irregular meals (see below)

dehydration

alcohol

the food additive tyramine

caffeine products, such as tea and coffee

specific foods such as chocolate, citrus fruit and cheese

When you do not eat regular meals, your blood sugar levels fall. If you then eat a sugary snack, blood sugar levels shoot up. These 'peaks and troughs' could trigger migraine attacks.

Environmental triggers

Environmental triggers include:

bright lights

flickering screens, such as a television or computer screen

smoking (or smoky rooms)

loud noises

changes in climate, such as changes in humidity or very cold temperatures

strong smells

a stuffy atmosphere

Medicines

Some medicines can trigger migraines, including:

some types of sleeping tablets

the contraceptive pill

hormone replacement therapy (HRT), which is sometimes used to treat the menopause

Diagnosing migraine

Keeping a food diary might be helpful

There is no specific test to diagnose migraines. To give an accurate migraine diagnosis, your DOCTOR must identify a pattern of reoccurring headaches along with the associated symptoms.

Migraines can be unpredictable, sometimes occurring without the other symptoms. So obtaining an accurate diagnosis can sometimes take a long time.

On your first visit, your DOCTOR may give you a physical examination and check your vision, co-ordination, reflexes and sensations. These checks will be

carried out to make sure there are no other underlying conditions causing your symptoms.

Your DOCTOR may ask if your headaches are:

on one side of the head

a pulsating pain

moderate or severe, preventing you carrying out daily activities

made worse by physical activity or moving about

accompanied by nausea and/or vomiting

accompanied by sensitivity to light (photophobia) and/or noise (phonophobia)

To help with the diagnosis, it can be useful to keep a diary of your migraine attacks. Note down details, including the date, time and what you were doing when the migraine began. It is also helpful to make a note of the food you ate that day as this can help your DOCTOR identify any potential triggers.

When to see your DOCTOR

You should see your DOCTOR if you feel that you cannot manage your migraines with over-the-counter painkillers, such as paracetamol. Also see your DOCTOR if you experience:

aura symptoms that occur on the same side of your body with every attack

your first ever migraine when you are over 50 years of age

a change in your usual migraine symptoms

more frequent migraine attacks

Treating migraine

Menstrual migraines

Menstrual migraines usually occur within two days either side of the first day of a woman's period. If menstrual migraines are a problem, they can be prevented using either non-hormonal or hormonal treatments.

The non-hormonal treatments that are recommended are:

non-steroidal anti-inflammatory drugs (NSAIDs) - a widely used type of medication that helps reduce pain

triptans - medicines that reverse the widening (dilation) of blood vessels, which is thought to be a contributory factor in migraines

Hormonal treatments that may be recommended include:

oestrogen patches - which are worn three days before the start of your period and continued for seven days

hormonal contraception - such as the combined oral contraceptive pill (COC)

certain types of contraceptive implants and injections

During an attack

Most people find that sleeping or lying in a darkened room is the best thing to do when having a migraine attack.

Others find that eating something helps, or they start to feel better once they have been sick.

There is currently no cure for migraines. However, a number of treatments can be used to ease the symptoms.

It may take time to work out which is the best treatment for you. You may need to try different types or combinations of medicines before you find the most effective ones.

If you find that you cannot manage your migraines using over-the-counter medicines, then your DOCTOR can help.

Painkillers

Many people who have migraines find that over-the-counter painkillers, such as paracetamol and aspirin, can help to reduce their symptoms.

When taking paracetamol or aspirin, always make sure you read the instructions on the packaging and follow the dosage recommendations. Children under 16 should not take aspirin unless it is under the guidance of a healthcare professional. Aspirin is also not recommended for adults who have, or have had in the past, stomach problems, such as a peptic ulcer, liver problems or kidney problems.

Some people find that the painkiller codeine makes migraine worse. This can be because it increases the nausea associated with the migraine.

Taking any form of painkiller frequently can make migraine worse. This is sometimes called 'medication overuse headache'.

Painkillers are usually the first treatment for migraine. They tend to be more effective if taken at the first signs of a migraine attack. This gives them time to absorb into your bloodstream and ease your symptoms.

Some people only take painkillers when their headache becomes very bad. However, this is not advisable because it is often too late for the painkiller to work. Soluble painkillers (tablets that dissolve in a glass of water) are a good option because they are absorbed quickly by your body.

If you cannot swallow painkillers because of nausea or vomiting, suppositories may be a better option. These are capsules that are inserted into the anus (back passage).

If over-the-counter painkillers are not effective, your DOCTOR or specialist may prescribe you a stronger painkiller.

#### Triptan medicines

If ordinary painkillers are not helping to relieve your migraine symptoms, triptan medicines might be the next option. Some triptan medicines, such as sumatriptan, are available without prescription over the counter. Others require a prescription from your DOCTOR.

Triptan medicines are not the same as painkillers. They cause the blood vessels around the brain to contract (narrow). This reverses the dilating (widening) of blood vessels that is believed to be part of the migraine process.

Triptans are available as tablets, injections and nasal sprays.

Triptan medicines only work for some people. If one type of triptan medicine does not seem to work, ask your DOCTOR about other types.

#### Anti-inflammatory medicines

Some people find that anti-inflammatory medicines such as ibuprofen are effective in treating the symptoms of migraine.

You can buy ibuprofen over the counter at a pharmacy, and it is available on prescription. However, do not take ibuprofen if you have, or have had in the past, stomach problems, such as a peptic ulcer, or if you have liver or kidney problems.

Diclofenac, naproxen and tolfenamic acid are anti-inflammatory medicines that are only available on prescription.

#### Anti-sickness medicines

Anti-sickness medicines can successfully treat migraine in some people, even if nausea is not a symptom. These are prescribed by your DOCTOR and can be taken alongside painkillers.

As with painkillers, anti-sickness medicines work better if taken as soon as your migraine symptoms begin. They usually come in the form of a tablet, but are also available as a suppository.

#### Combination medicines



You can buy a number of combination medicines for migraine over the counter at your local pharmacy. These medicines contain both painkillers and anti-sickness medicines. If you are not sure which one is best for you, ask your pharmacist.

Many people find combination medicines convenient. However, the dose of painkillers or anti-sickness medicine may not be high enough to relieve your symptoms. If this is the case, you may prefer to take painkillers and anti-sickness medicines separately. This will allow you to easily control the doses of each.

Ask your DOCTOR or pharmacist if you are not sure which medication is most suitable for you.

Transcranial magnetic stimulation

In January 2014, the National Institute for Health and Care Excellence (NICE) approved the use of a treatment called transcranial magnetic stimulation (TMS) for the treatment and prevention of migraines.

TMS involves holding a small electrical device to your head that then delivers magnetic pulses through your skin. It is not clear exactly how TMS works in treating migraines, but studies have shown that using it at the start of a migraine can reduce its severity. It can also be used in combination with the medications mentioned above without interfering with them.

However, TMS is not a cure for migraines and it doesn't work for everyone. There is also little evidence about the potential long-term effects of the treatment, although studies into the treatment have so far only reported minor and temporary side effects, including:

slight dizziness

drowsiness and tiredness

a muscle tremor that can make it difficult to stand

irritability

NICE recommends that TMS should only be provided by headache specialists, because of the uncertainty about the potential long-term side effects. The specialist will keep a record of your experiences using the treatment.

For more information, see 'NICE approves migraine magnet therapy'.

Migraine clinics

If you are not responding to treatment or your migraines are not being well managed, your DOCTOR may refer you to a specialist migraine clinic for further investigation. Reasons for being referred include:

doubt over the diagnosis of migraine

a rarer form of migraine is suspected

other headaches besides migraine are present

treatment is not working well for you

your migraines or headaches are getting worse and/or more frequent

Treatment for pregnant women

In general, migraine treatment with medicines should be limited as much as possible when you are pregnant or breastfeeding.

If medication is essential, then your DOCTOR may prescribe you a low-dose painkiller, such as paracetamol. In some cases, anti-inflammatory drugs or triptans may be prescribed. Speak to your DOCTOR or midwife before taking medication in pregnancy.

Complications of migraine

Migraines are associated with a small increased risk of ischaemic strokes, and a very small increased risk of mental health problems.

Stroke

An ischaemic stroke occurs when the blood supply to the brain is blocked by a blood clot or fatty material in the arteries. Learn more in Stroke.

The reason why ischaemic strokes are linked to migraine is not entirely clear.

An ischaemic stroke as a result of a migraine is very rare.

Another risk factor for ischaemic stroke is the use of the combined oral contraceptive pill.

Medical professionals generally advise women who experience migraine with aura not to use the combined contraceptive pill.

Women who have migraine without aura can take the combined contraceptive pill.

If you take the combined contraceptive pill and you have aura symptoms or your migraines become more frequent, see your DOCTOR as soon as possible to discuss alternative forms of contraception.

Mental health problems

Migraine is associated with a very small increased risk of mental health problems, including:

depression

manic depression

anxiety disorder

panic disorder

Preventing migraine

Avoiding triggers

One of the best ways of preventing migraines is recognising the things that trigger an attack.

Keeping a migraine diary is helpful. You may find you tend to have a migraine after eating certain foods or when you are stressed. By avoiding this trigger, you can prevent a migraine.

Learn more about migraine triggers in causes of migraine.

Recognising the signs

Some people who experience migraines begin to feel unwell up to a day or so before a migraine attack.

The strange sensations that are sometimes felt before a migraine are known as the prodrome. They can include:

a change in mood

tiredness

hyperactivity

food cravings

As these feelings are not specific to migraine, it can be difficult to identify them as warning signs. Try to be aware of how you feel before a migraine. It can help to ask your relatives or friends if they notice any changes in you before you have a migraine.

Medication

Medication is available to prevent a migraine attack. These medicines are usually used if you have tried other preventative measures and you are still experiencing migraines.

You may also be prescribed these medicines if you experience very severe migraine attacks, or if your attacks happen frequently.

Medications used to prevent migraines are outlined below.

#### Beta-blockers

Beta-blockers include propranolol, metoprolol and timolol. They are traditionally used to treat angina and high blood pressure. It is not known how beta-blockers prevent migraine attacks.

Beta-blockers are unsuitable for people with:

asthma

chronic obstructive pulmonary disease (COPD)

vascular disease

heart failure

Possible side effects of beta-blockers are cold hands and feet, tiredness and hallucinations (seeing or hearing things that are not real).

#### Amitriptyline

Amitriptyline is a type of antidepressant, but it has also been shown to prevent migraines.

The medicine is usually started on a low dose, which can be increased if necessary. Amitriptyline can be used in combination with beta-blockers. It is unsuitable for people who:

have had a heart attack

have heart disease

have an irregular heart beat

have epilepsy

#### Anticonvulsants

Topiramate is a type of anticonvulsant. Anticonvulsants are usually used to prevent seizures in people with epilepsy, but can also help prevent migraines. Topiramate is currently the only anticonvulsant licensed for migraine prevention.

#### Botulinum toxin type A

In June 2012, the National Institute for Health and Care Excellence (NICE) recommended the use of a medication called botulinum toxin type A to prevent headaches in some adults with chronic (long-term) migraine.

Botulinum toxin type A is a type neurotoxin (nerve toxin) that paralyses muscles, although it is not exactly clear why this treatment can be effective for migraine.

NICE recommends that this treatment can be considered as an option for people who have chronic migraine (headaches on at least 15 days of every month, at

least eight days of which are migraine) that has not responded to at least three previous preventative medical treatments.

Under the new guidelines, botulinum toxin type A should be given by injection to between 31 and 39 sites around the head and back of the neck. A new course of treatment can be administered every 12 weeks.

#### Other drugs

A large number of other drugs have been suggested for the prevention of migraine, but there is limited evidence as to how effective most of them are. They include:

the antimigraine medicines pizotifen and methysergide

the anticonvulsants gabapentin, lamotrigine and levetiracetam

selective serotonin reuptake inhibitors (a type of antidepressant)

verapamil (used to treat high blood pressure)

These medicines will only be prescribed when other treatments have failed.

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However, TMS is not a cure for migraines and it doesn't work for everyone. There is also little evidence about the potential long-term effects of the treatment, although studies into the treatment have so far only reported minor and temporary side effects, including:

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#### Acupuncture

If medication is unsuitable, or it doesn't help to prevent migraines, then you may want to consider acupuncture.

The National Institute of Health and Clinical Excellence (NICE) states that a course of up to 10 sessions over a 5-8 week period may be beneficial.