

## Patient information from the BMJ Group

# Panic attacks

In this section

[What is it?](#)

[What are the symptoms?](#)

[How is it diagnosed?](#)

[How common is it?](#)

[What treatments work?](#)

[What will happen?](#)

[Questions to ask](#)

## Panic attacks

Panic attacks can't harm you, but they can disrupt your life. If panic attacks are making it hard to live a normal life, and if you're getting them even when there's nothing to be afraid of, then you may have panic disorder. But there are treatments that can help.

We've brought together the best research about panic disorder 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 panic disorder?

If you've ever had a panic attack, you'll know how frightening it is. But no matter how alarming your feelings are, it's important to know that they won't harm you. And they usually go away after a few minutes.

If you get a panic attack, you suddenly feel terrified for no reason. You may even feel as though the world is going to end or you're going to die. Your heart may pound. And you may feel sweaty or find it hard to catch your breath. You may also feel dizzy and start to tremble.

If you worry all the time about having an attack and stop doing things you would normally do, you may have what doctors call panic disorder.

You can get treatment for panic disorder. Treatment can help you feel better and live normally again.

## Key points for people with panic disorder

- Panic attacks are frightening but they won't harm you.
- If you get panic attacks often, and worry all the time about when you'll have the next one, you may have panic disorder.
- Panic disorder is fairly common. It affects about 1 in 70 people in the UK. <sup>[1]</sup>
- Women are more likely than men to get panic disorder.

## Panic attacks

- People usually start having panic disorder in their late teens or early 20s.
- Most people with panic disorder get better if they have treatment. But the condition may come and go. <sup>[2]</sup>

### What's normal?

It's normal to feel scared and panicky when you're in danger. These feelings are your body's in-built protection system. They can save your life when you're in dangerous situations. For example, if you're about to cross the road and a bus is coming towards you, it's fear that makes you react quickly and get out of the way. Fear can also give you extra drive. For example, when you're preparing for an exam, your nerves can give you the push you need to study harder.

Your response to fear involves many parts of your body, including your brain, the rest of your nervous system, your muscles, and your circulatory system. Lots of things happen to your body when you're nervous or scared. <sup>[3]</sup>

- Part of your body is put on high alert. You stop everything else you're doing and focus on the thing you're worried about. Two chemicals in your nervous system are important for this reaction. They are called **adrenaline** and **serotonin**.
- Your body gets ready to escape from danger. The chemical adrenaline is pumped into your blood. Adrenaline is sometimes called the 'fight or flight' hormone, because it tells your body to be ready to deal with danger. You might fight an attacker, for example. Or you might move quickly away from a fire.
- Your heart beats faster. This pumps more blood around your body to help your muscles work better and escape danger.
- You may tremble and go pale. The extra adrenaline draws blood away from your skin and redirects it to your muscles, making you more able to fight or run away.
- You may need to urinate or empty your bowels. This is because adrenaline relaxes your bladder and bowels.

All of these reactions are a normal response to stress or fear. And while they're happening, another part of your brain checks to see whether the thing you were afraid of is actually happening. If it doesn't happen, or if the danger passes, your fear responses will fade away.

### What happens if you have panic disorder?

If you get panic attacks, you suddenly feel absolutely terrified. The only difference between the feelings you have during a panic attack and a normal response to fear is that you get panic attacks when there's nothing to be afraid of.

## Panic attacks

You may have panic disorder if you start worrying all the time about when you're going to have another panic attack and if you change your usual routine in order to try to avoid having panic attacks.

Doctors aren't sure why the normal reaction to fear can be triggered for no reason in some people.

### What else can cause a panic attack?

Panic attacks aren't always caused by panic disorder. Sometimes there's another cause. Drinking too much coffee or taking certain drugs (both legal and illegal ones) can cause panic attacks. Some medical conditions, such as an **overactive thyroid**, may also make you panic. If your doctor (your GP or a specialist in the hospital) finds a specific medical cause for your panic attacks, then you don't have panic disorder. Treating the cause will usually make the panic attacks go away.

If you only get panic attacks in social situations, such as when you're in a big group of people or travelling on a crowded bus or train, you may have another condition, such as a **phobia**, **obsessive-compulsive disorder**, or **post-traumatic stress disorder**.

To find out more about the other causes of panic attacks, see [What else could it be?](#)

### Panic attacks: why me?

Certain things increase your chances of getting panic disorder. Doctors call these **risk factors**. Some of the main risk factors for panic disorder are going through a stressful event, such as taking important exams. <sup>[7]</sup>

#### Risk factors for panic disorder

Some of the most common risk factors are listed below.

- **Being female:** If you're a woman, you're more likely to get panic disorder. Twice as many women as men get panic disorder. <sup>[8]</sup>
- **Being in your late teens or early 20s:** People tend to get panic disorder at this age. <sup>[9]</sup>
- **Having a close relative with panic disorder:** If one of your parents has had panic disorder, you're four to seven times more likely to get it than someone whose parents haven't had it. <sup>[10]</sup> If one of your parents got panic disorder before the age of 20, your chance of getting it may be even higher. But not everyone with panic disorder can trace it back to a relative. Half to three-quarters of people with panic disorder have no close relatives with similar symptoms.
- **Having less money:** Some research has shown that being less well off financially may increase your chances of getting panic disorder. <sup>[11]</sup>

## Panic attacks

- Being less educated: Some evidence shows that if you left school before 16 you may be more likely to get panic disorder. <sup>[11]</sup>
- Going through stressful events: Many people get panic disorder after they've gone through a stressful time in their life, such as a divorce, the death of a loved one, or the end of an important relationship. <sup>[12]</sup> <sup>[13]</sup> But how you respond to this kind of event may be more important than the stress itself. <sup>[14]</sup>
- Having a difficult childhood: Some studies have found that panic disorder is more common among people who were sexually abused in childhood. <sup>[3]</sup> You may also be more likely to get panic disorder if your home environment changed a lot while you were growing up: for example, if you were in foster care or if your parents got divorced. On the other hand, if your parents were overprotective when you were young you may also be more likely to get panic disorder when you grow up.
- Worrying a lot: If you get very anxious about things you are more likely to get panic disorder than someone who is more relaxed about life. You're also at risk of getting other health problems.
- Abusing alcohol and drugs: If you've had a problem with drugs or alcohol, you're more likely to get panic disorder. This may be because stopping taking drugs or giving up drinking alcohol can cause panic attacks (as is the case with cocaine). But alcohol and drugs might not cause panic attacks exactly. It might be that people with panic disorder try to blot out their anxieties with alcohol or drugs.

### What are the symptoms of panic disorder?

A panic attack is a sudden feeling of intense fear. Some people say they feel as if they are going to die. Others become terrified that they are having a heart attack or a seizure .

One of the main symptoms of panic disorder is having panic attacks again and again. <sup>[15]</sup>

Here are the main symptoms you might get if you have a panic attack. <sup>[16]</sup>

- Racing, pounding, or skipping heartbeat.
- Difficulty catching your breath.
- Chest pain.
- Choking, having a dry mouth, or having a lump in your throat.
- Sweating.

## Panic attacks

- Feeling dizzy.
- Feeling sick (nausea).
- Tingling or numbness in parts of your body.
- Chills or hot flushes.
- Trembling or shaking.
- Feeling as if things around you aren't real or that you're watching yourself from a distance.
- Feeling like you're going to die.
- Feeling like you're losing control or going mad.

If you have several panic attacks, you may begin to avoid places or situations where the attacks happened. You may also avoid places where it would be embarrassing to have an attack. You might stop going to the supermarket or other places where you know there will be a lot of people. If this happens you may have a condition called **agoraphobia**. People have agoraphobia when they can't leave familiar, safe, and comfortable surroundings (usually their home).

To learn more, see [More about agoraphobia](#) .

### When do people get panic attacks?

Panic attacks can happen:

- Out of the blue, or
- When you feel generally anxious about a situation (although you may not get a panic attack every time you face a similar situation), or
- Every time you face a particular challenge (say, speaking in public).

You'll usually have several symptoms during a panic attack. You may not get all of these with every attack. And your symptoms may change from one attack to another. The symptoms of a panic attack are similar to those that you would feel in a scary situation. For some people, symptoms may be triggered by a kind of fast breathing called **hyperventilation** .<sup>[16]</sup>

Panic attacks usually start suddenly. And your symptoms are usually at their worst after about 10 minutes. Attacks tend to last a short time. But it may feel like they go on for much longer.

## Panic attacks

Many people who have panic attacks go to hospital because they think they're having a heart attack, an asthma attack, or some other serious illness. People who have panic disorder that isn't diagnosed may end up going back to hospital again and again.

To decide if you are having a panic attack, your doctor will try to find out if you have at least four symptoms of an attack.

Doctors can often diagnose panic disorder without doing any medical tests. But sometimes your doctor may do some blood tests or do a test on your heart known as an electrocardiogram (ECG). You may have these tests if the doctor thinks that something else may be causing your symptoms. Your doctor will also ask you if you worry about having panic attacks, because this is one of the main symptoms of panic disorder.

You may have panic disorder if:

- Your doctor can't find anything else that is causing your attacks
- You've started worrying all the time about when you might have another attack
- You've changed your daily routine to avoid having another attack. <sup>[15]</sup>

If you don't get treatment for panic disorder, your condition may get worse. You may find it harder to do everyday things like shopping. And you may get agoraphobia.

### Limited symptom attacks

In a full panic attack you will have at least four of the symptoms described above. If you have fewer than four, then you may have what's called a **limited symptom attack**. Generally, people with limited attacks have a milder illness than those who get full panic attacks. <sup>[17]</sup> However, people who have limited attacks can go on to get full panic attacks. <sup>[9]</sup>

### How do doctors diagnose panic disorder?

Your doctor will listen to you describe your symptoms to work out whether you have panic disorder.

Your GP will try to find out if you have 4 out of the 13 symptoms of panic disorder. These symptoms are: <sup>[14]</sup>

- A racing, pounding, or skipping heartbeat
- Sweating
- Trembling or shaking
- Difficulty catching your breath or feeling like you are being smothered

## Panic attacks

- Feeling like you are choking
- Pain in your chest
- Feeling sick or having an upset stomach
- Dizziness, lightheadedness, or feeling like you are going to faint
- Feeling as if things around you aren't real or that you're watching yourself from far away
- Feeling like you are losing control or going mad
- Feeling like you are going to die
- Numbness or tingling in your body
- Chills or hot flushes.

To find out more, see [What are the symptoms of panic disorder?](#)

Your GP won't usually need to do any tests to diagnose panic disorder.

- To be diagnosed with panic disorder you need to have had at least two panic attacks. But most people with this condition have had many more.
- You also have to either worry all the time about having another attack or change your daily routine to try to avoid having another one.

If you have panic disorder, your panic attacks come out of the blue. They're not triggered by things such as spiders or heights. Also, the panic attacks are not caused by illness, alcohol, or taking legal or illegal drugs. And the symptoms are not related to any other kind of mental health problem.

Many people with panic disorder also have **agoraphobia**. This means they are afraid to be in a place it may be difficult to escape from, or where it would be hard to get help if they had a panic attack.<sup>[14]</sup> If you have **agoraphobia** you avoid going to certain places or doing things that you think might trigger another panic attack. For more details, see [More about agoraphobia](#) .

### Limited symptom attacks

If you get fewer than 4 of the 13 symptoms of a panic attack, it's called a **limited symptom attack**. These limited attacks are common. But many people who have them get full panic attacks at some point in their life.<sup>[9]</sup>

### How common is panic disorder?

Lots of people have panic attacks sometimes. About 1 in 10 people have one from time to time.

But panic disorder is less common. About 1 in 70 people have the condition. <sup>[18]</sup>

Here's what else we know.

- Women are twice as likely to get it as men. <sup>[19]</sup>
- It tends to start in the late teens and early 20s. It's unusual for someone over 45 to be diagnosed with panic disorder for the first time. <sup>[20]</sup>
- It tends to run in families. It might be that your genes play a part in causing panic disorder, or it might have something to do with family upbringing. <sup>[10]</sup>

To learn more, see [Risk factors for panic disorder](#) .

### What treatments work for panic disorder?

There are two main treatments for panic disorder: drugs and talking treatments.

You may be offered one of these treatments or a combination of them. The aims of treatment are:

- To prevent the panic attacks so that you can get on with your life
- To make the panic attacks less severe if they do still happen
- To help you worry less about having another panic attack.

### Key points about treating panic disorder

- Treatment helps most people with panic disorder. Your panic attacks may go away or your symptoms may become less severe and happen less often.
- Treatments for panic disorder usually work in a few weeks. But sometimes it may take a few months to feel better.
- A talking therapy called cognitive behaviour therapy (CBT) can help you feel better and cope with situations that make you panic. CBT seems to work better than drug treatments for panic disorder.
- Taking a drug called a selective serotonin reuptake inhibitor (SSRI) can help. Some common SSRIs are fluoxetine (Prozac), paroxetine (Seroxat), and fluvoxamine (Faverin).



## Panic attacks

- Taking a drug called imipramine may make your panic attacks less severe and reduce your chances of having another one. Imipramine is a type of drug called a tricyclic antidepressant.
- Taking a drug called lorazepam (Ativan) can reduce the number of panic attacks you have and make them less severe. But lorazepam is a type of drug called a benzodiazepine. These can cause a lot of side effects when you're taking them and when you stop.

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

For help in deciding which treatment is best for you, see How to make the best decisions about treatment.

### Treatment Group 1

#### Treatments for panic disorder

##### Treatments that work

- [Cognitive behaviour therapy](#) : This is a talking treatment that helps you think more positively. It can help you feel less anxious and better able to cope. [More...](#)
- [Selective serotonin reuptake inhibitors \(SSRIs\)](#): These drugs are usually used to treat depression. Some common ones (and their brand names) are fluoxetine (Prozac) and paroxetine (Seroxat). [More...](#)
- [Tricyclic antidepressants](#) : This older type of drug is usually used to treat depression. The tricyclic drug that we have the most evidence for is imipramine. [More...](#)

##### Treatments that are likely to work

- [Applied relaxation](#) : This is a non-drug treatment that helps you to relax and feel less anxious. [More...](#)
- [Client-centred therapy](#) : This is another talking treatment. It aims to help you understand yourself better so that you reduce your feelings of panic. [More...](#)
- [Cognitive restructuring](#) : This is another talking treatment. The therapist asks you questions to encourage you to talk about your fears. [More...](#)
- [Exposure therapy](#) : This is a treatment where a therapist asks you to face the situations that frighten you, either in your imagination or in real life. [More...](#)
- [Self-help](#) : This is where you use self-help techniques at home. You might read books or follow a programme on the internet. [More...](#)

## Panic attacks

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

- [Benzodiazepines](#) : These drugs help people feel less anxious. But you may have serious side effects while you are on them and when you stop taking them. Some common benzodiazepines are lorazepam (Ativan) and alprazolam (Xanax). [More...](#)

### Treatments that need further study

- [Monoamine oxidase inhibitors](#) : This older group of drugs is usually used to treat depression. Some common monoamine oxidase inhibitors (and their brand names) are phenelzine (Nardil) and tranylcypromine (Parnate). [More...](#)
- [Buspirone](#) : This helps to reduce anxiety. [More...](#)
- [Breathing retraining](#) : This is where you learn to breathe more slowly to try to control a panic attack. [More...](#)
- [Couple therapy](#) : This is a talking treatment where someone you know well (your partner or a close friend) gets involved and is encouraged to help you. [More...](#)
- [Insight-orientated therapy](#) : This talking treatment aims to help you understand why you get scared and panic. [More...](#)
- [Brief dynamic psychotherapy](#) : This talking treatment aims to help you understand how stressful situations can cause panic attacks. [More...](#)
- [Learning about panic disorder](#) : This involves learning why some people get panic attacks and what happens to the body during an attack. [More...](#)

### What will happen to me?

Some people need just one course of treatment to get rid of their panic attacks for good. But others need a few courses to get rid of all of their symptoms.

So it's important not to give up if your symptoms haven't gone away after one course of treatment. <sup>[16]</sup>

Many people find that their symptoms come and go. There may be times when you don't have any panic attacks at all, or you have just a few attacks with symptoms that aren't too bad. At other times, you may have two or three attacks a week and the symptoms may be severe.

Overall, studies show that with treatment, about half of people with panic disorder get better. The other half have some mild symptoms that come and go, but they are not very ill. <sup>[3]</sup>

## Panic attacks

If you have other mental health problems, it may be harder for you to make a good recovery. For example, we know that if you have [agoraphobia](#) , [anxiety](#) , or [depression](#) as well as panic disorder, you're likely to do less well than if you just have panic disorder. [\[21\]](#) [\[22\]](#)

Please remember that it's hard to say what will happen to you individually. Everybody is different. And a treatment that helps you may not help someone else. Statistics are a useful guide to what might happen when you get help, but they may not reflect exactly what will happen to you.

### Questions to ask your doctor

If you think you have panic disorder, you may want to talk to your doctor to find out more.

Here are some questions you might want to ask:

- Do I have panic disorder?
- Could something else be causing my symptoms?
- Do I need any tests?
- Do I need to see a specialist?
- Will I get better?
- Which treatment is best for me?
- Does this treatment have side effects?
- How long will I have to take this treatment?
- Will my panic attacks come back?
- Are there any treatments other than drugs that might help me?
- Is there anything I can do to help myself?

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## Treatments:

### Cognitive behaviour therapy

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

# Panic attacks

[How good is the research on cognitive behaviour therapy?](#)

This information is for people who have panic disorder. It tells you about cognitive behaviour therapy, a treatment used for panic disorder. It is based on the best and most up-to-date research.

## Does it work?

Yes. Your symptoms of panic should get better if you have cognitive behaviour therapy. But it may take a while to start working.

## What is it?

Cognitive behaviour therapy (or CBT) is a talking treatment. It's used to treat lots of conditions, including [depression](#) , [anxiety disorder](#) , and eating disorders such as [bulimia](#) and [anorexia](#) . When you have CBT, you go to see a trained therapist. To find out more about how your therapist will help you, see [Working with your therapist](#) .

If you have panic disorder, you may be offered cognitive behaviour therapy on its own or with drug treatment. CBT seems to be especially helpful for people who have a condition called [agoraphobia](#) as well as panic disorder. If you have agoraphobia, you get extremely anxious about situations that you may not be able to get out of, or places that you cannot run away from. To read more, see [More about agoraphobia](#) .

Cognitive behaviour therapy is a great treatment for people who want to help themselves get better.

## How can it help?

If you have cognitive behaviour therapy, your panic symptoms should get better. They may go away altogether.

You may find: <sup>[23]</sup>

- You feel less anxious
- You have fewer or no panic attacks
- Your mood improves.

In one study, more than 7 in 10 people who had CBT stopped having panic attacks after 12 weeks of treatment. <sup>[24]</sup>

CBT seems to work better than taking antidepressant drugs like [selective serotonin reuptake inhibitors](#) (SSRIs) and [tricyclic antidepressants](#) . <sup>[23]</sup> <sup>[25]</sup> And the benefits of CBT seem to last longer than those of drug treatments. <sup>[26]</sup>

CBT also works at least as well as another type of non-drug treatment, called [applied relaxation](#) , and it may work better. <sup>[27]</sup> <sup>[28]</sup> <sup>[29]</sup>

## Panic attacks

You may wonder whether using a combination of treatments works better than using CBT on its own for panic attacks. Studies show that using a combination of CBT and antidepressants might work better than CBT on its own at first. However, in the long run, combining antidepressants with CBT doesn't seem to be better than CBT alone. <sup>[23]</sup> <sup>[30]</sup> Six to 24 months after stopping treatment, you're likely to be doing just as well if you had CBT as you would if you'd had CBT with antidepressants.

### How does it work?

Researchers think that panic disorder is linked to the way we think about ourselves and the world. If we can change the way we think, then we can control our anxiety levels and reduce the chance of having panic attacks.

Changing the way we think can also help us change the way we behave. This helps you do the things you want to do. <sup>[16]</sup>

Cognitive therapy is supposed to be a short, practical treatment. One important goal is to teach you ways to handle anxiety and feelings of panic. Then, if your problems come back, you should be able to treat yourself and keep your symptoms under control.

### Can it be harmful?

We don't know. None of the studies we found looked at whether CBT could cause problems.

### How good is the research on cognitive behaviour therapy?

There's lots of good evidence that cognitive behaviour therapy (CBT) can help if you have panic disorder.

We found five summaries of the research (called **systematic reviews**) and five other good-quality studies (**randomised controlled trials**). The summaries looked at hundreds of studies of people with panic attacks, who may or may not have also had **agoraphobia**. (If you have agoraphobia, you get extremely anxious about situations that you may not be able to get out of, or places that you cannot run away from.)

The summaries all found that CBT helped the symptoms of panic disorder. <sup>[31]</sup> <sup>[32]</sup> <sup>[25]</sup> <sup>[23]</sup> <sup>[26]</sup>

One summary found that CBT worked better than drug treatments (mainly antidepressants) for panic disorder and better than combination treatments. <sup>[25]</sup> Another found that the effects of CBT lasted longer than those of drug treatments. <sup>[26]</sup>

Two summaries have also found that in the short term, combining CBT with antidepressants works better than CBT alone. But six to 24 months after stopping treatment, people who had CBT alone were doing just as well as those who had antidepressants as well. <sup>[23]</sup> <sup>[30]</sup>

## Panic attacks

We also looked at studies that compared CBT with other kinds of non-drug treatment. These studies looked at more than 550 people with panic disorder. The studies all showed that CBT was at least as good as [applied relaxation](#) . <sup>[33]</sup> <sup>[34]</sup> <sup>[35]</sup>

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## Selective serotonin reuptake inhibitors (SSRIs)

In this section

[Do they work?](#)

[What are they?](#)

[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

[How good is the research on selective serotonin reuptake inhibitors \(SSRIs\)?](#)

This information is for people who have panic disorder. It tells you about selective serotonin reuptake inhibitors (SSRIs), a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Do they work?

Yes. Taking a selective serotonin reuptake inhibitor will probably make you feel better. Your symptoms are likely to be less severe and you'll probably get them less often. Selective serotonin reuptake inhibitors are called SSRIs for short.

### What are they?

SSRIs are drugs used to treat depression and other illnesses linked to moods and emotions.

SSRIs are usually taken as tablets or capsules, but they also come as a liquid. You usually take them once a day. But if you are on a high dose, you may need to take them two or three times a day.

You will usually be given SSRIs for at least six months to 12 months after the panic attacks have stopped or your symptoms have become less severe. <sup>[14]</sup> Some of the most common SSRIs (and their brand names) are:

- citalopram (Cipramil)
- fluoxetine (Prozac)
- paroxetine (Seroxat)
- sertraline (Lustral).

### How can they help?

Selective serotonin reuptake inhibitors can help panic disorder by: <sup>[36]</sup> <sup>[37]</sup>

- Reducing the number of panic attacks you have or stopping them altogether

## Panic attacks

- Reducing the number of symptoms you get during an attack
- Making your symptoms less severe.

If you keep taking an SSRI, your symptoms are less likely to come back than if you stop your medication. <sup>[38]</sup>

Taking an SSRI works just as well as having treatment with a [tricyclic antidepressant](#) or a [benzodiazepine](#) . <sup>[23]</sup>

Taking an SSRI while having [cognitive behaviour therapy](#) (a talking treatment) seems to work better than taking an SSRI on its own. <sup>[39] [30]</sup>

SSRIs cause fewer side effects than another type of antidepressant used to treat panic disorder, called a tricyclic antidepressant, so more people are likely to keep taking them. <sup>[40]</sup>

### How do they work?

Although researchers don't know exactly what causes panic disorder, they think that it may be triggered when certain chemicals in the brain are out of balance. These chemicals are called [neurotransmitters](#) .

Taking an SSRI helps keep more of a neurotransmitter called [serotonin](#) in your brain. Increasing the amount of serotonin may help correct the imbalance of chemicals that researchers think causes panic disorder.

### Can they be harmful?

Your doctor will help you choose the antidepressant that suits you best. Even if you have side effects, don't stop taking these drugs suddenly unless your doctor tells you to. If you stop taking them suddenly, you may get [withdrawal symptoms](#) , including nausea, dizziness, and a return of your panic disorder.

### Self-harm and suicide

Research has found that children, teenagers, and young adults taking antidepressants of all kinds are more likely to think about suicide or try to harm themselves. <sup>[41]</sup>

The risk of suicidal thoughts is highest if you're under 18. <sup>[41]</sup> Among people under 18 taking an antidepressant, an extra 14 in 1,000 thought about suicide.

The researchers also found that there's a risk for young adults up to the age of 24. <sup>[41]</sup> But their risk wasn't as big as the risk for people under 18. An extra 5 in 1,000 people between the ages of 18 and 24 thought about suicide.

The research doesn't seem to show an increased risk of suicidal thoughts or self-harm for people over the age of 24. <sup>[41]</sup> But doctors and caregivers are advised to keep a careful

## Panic attacks

check on anyone taking antidepressants for signs of suicidal thoughts. You are more likely to get these thoughts in the early stages of your treatment, or if the dose of the antidepressant you're taking is changed. You may also be at risk if you have had thoughts about harming or killing yourself before. <sup>[42]</sup>

If you're taking an antidepressant and are worried about any thoughts or feelings you have, see your doctor or go to a hospital straight away. You might also find it helpful to ask a relative or close friend to tell you if they are worried about changes in your behaviour. <sup>[42]</sup>

### Other side effects

More than 1 in 10 people have side effects while taking an SSRI. The most common ones include:

- Headaches
- Dizziness
- Dry mouth or dry eyes
- Feeling sick
- Diarrhoea
- Feeling more anxious just after starting treatment
- Not being able to sleep
- Sleepiness
- Restlessness
- Sexual problems, such as not being able to ejaculate or losing your sex drive
- General weakness in your body.

Most side effects from SSRIs don't last long and go away when you stop taking them.

SSRIs can actually make you feel more anxious when you start taking them. To prevent this, your GP may also prescribe a short course of a drug called a benzodiazepine. Benzodiazepines are fast-acting drugs that make you feel less anxious. But you shouldn't take a benzodiazepine for long because you can become dependent on the drug. This means you get unpleasant withdrawal symptoms when you try to stop taking it.



### How good is the research on selective serotonin reuptake inhibitors (SSRIs)?

There's good research to show that SSRIs can help people with panic disorder. We found four summaries of the research ( [systematic reviews](#) ) that looked at antidepressant drugs for panic disorder. We also found two other studies. <sup>[23]</sup> <sup>[26]</sup> <sup>[37]</sup> <sup>[36]</sup> <sup>[38]</sup> <sup>[24]</sup> <sup>[43]</sup> <sup>[44]</sup>

Taking an SSRI helped to improve symptoms of panic disorder and prevent panic attacks.

One of the reviews found that SSRIs worked as well as [tricyclic antidepressants](#) and [benzodiazepines](#) , other types of drugs used to treat panic disorder. <sup>[23]</sup> These treatments stopped panic attacks in about 6 in 10 people.

One other review and study found that combining an SSRI with [cognitive behaviour therapy](#) was more likely to help panic disorder than taking an SSRI on its own. <sup>[30]</sup> <sup>[39]</sup>

Less than 1 in 5 people who took an SSRI stopped taking their medication because they got side effects. <sup>[40]</sup> About a third of people who took a tricyclic antidepressant stopped taking their medication for this reason.

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## Tricyclic antidepressants

In this section

[Do they work?](#)

[What are they?](#)

[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

[How good is the research on tricyclic antidepressants?](#)

This information is for people who have panic disorder. It tells you about tricyclic antidepressants, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Do they work?

Yes. Your symptoms should get better and you'll probably have fewer panic attacks if you take a tricyclic antidepressant. Most of the evidence that we found for this group of drugs is about imipramine.

### What are they?

Tricyclic antidepressants are a group of drugs that have been used to treat depression for a long time. The one that most studies have looked at for treating panic disorder is called imipramine.

The other tricyclic drugs that your GP may prescribe for panic disorder (and their brand names) are listed below.

- amitriptyline (Elavil, Triptafen)

## Panic attacks

- clomipramine (Anafranil)
- nortriptyline (Allegron)

These drugs come as tablets. You may have to take several tablets of imipramine each day.

It may take three to four weeks before you begin to feel that the drug is working. Normally, you'll have treatment for at least six months. But treatment often lasts as long as two years.<sup>[45]</sup>

When it's time to stop taking this medicine, you'll usually be asked to cut down the dose slowly, over about two months to six months. Your doctor will tell you how to do this. Cutting down slowly helps to prevent your symptoms coming back. Sometimes, symptoms come back (or rebound) if you stop taking the medicine suddenly.

### How can they help?

If you take a tricyclic antidepressant (most of the studies looked at imipramine):

- Your symptoms will probably become less severe<sup>[37]</sup>
- You're likely to get fewer panic attacks<sup>[46]</sup>
- Your symptoms are less likely to come back.<sup>[47]</sup>

Having a talking treatment called [cognitive behaviour therapy](#) at the same time as taking a tricyclic antidepressant seems to be work better than just taking an antidepressant.<sup>[30]</sup>  
<sup>[39]</sup>

But tricyclic antidepressants can cause a lot of side effects. More people are likely to stop taking a tricyclic antidepressant than another type of antidepressant called a [selective serotonin reuptake inhibitor](#).<sup>[40]</sup>

### How do they work?

Although researchers don't know exactly what causes panic disorder, they think that it may be triggered when certain chemicals in your brain are out of balance. These chemicals are called neurotransmitters.

Tricyclic drugs affect two of these chemicals: [noradrenaline](#) and [serotonin](#). Tricyclic antidepressants help keep more of these chemicals in your brain. This may help correct the imbalance of chemicals that researchers think causes panic disorder.

### Can they be harmful?

Antidepressants can have serious side effects.

## Panic attacks

### Self-harm and suicide

Research has found that children, teenagers, and young adults taking antidepressants of all kinds are more likely to think about suicide or try to harm themselves. <sup>[41]</sup>

The risk of suicidal thoughts is highest if you're under 18. <sup>[41]</sup> Among people under 18 taking an antidepressant, an extra 14 in 1,000 thought about suicide.

The researchers also found that there's a risk for young adults up to the age of 24. <sup>[41]</sup> But their risk wasn't as big as the risk for people under 18. An extra 5 in 1,000 people between the ages of 18 and 24 thought about suicide.

The research doesn't seem to show an increased risk of suicidal thoughts or self-harm for people over the age of 24. <sup>[41]</sup> But doctors and caregivers are advised to keep a careful check on anyone taking antidepressants for signs of suicidal thoughts. You are more likely to get these thoughts in the early stages of your treatment, or if the dose of the antidepressant you're taking is changed. You may also be at risk if you have had thoughts about harming or killing yourself before. <sup>[42]</sup>

If you're taking an antidepressant and are worried about any thoughts or feelings you have, see your doctor or go to a hospital straight away. You might also find it helpful to ask a relative or close friend to tell you if they are worried about changes in your behaviour. <sup>[42]</sup>

### Other side effects

Other side effects of taking tricyclic antidepressants include constipation and a dry mouth. You might also find that your vision becomes blurry and that you feel very sleepy. Some people put on weight, sometimes five kilograms (11 pounds) or more. Others get low blood pressure, which can make them feel dizzy when they stand up. Older people may find it hard to urinate.

These side effects happen because the drugs affect lots of functions in your body that are controlled by the chemicals in your brain. <sup>[46] [47] [48] [49]</sup>

If you take too high a dose of tricyclic antidepressants, you may get confused and start talking very rapidly, and your mind may race quickly from one idea to another. Tricyclic drugs can also harm your heart if you take too many tablets. Your heart may lose its normal rhythm and beat too slowly or too quickly. You can die if your heart loses its normal rhythm for too long.

### How good is the research on tricyclic antidepressants?

There's good evidence that taking the tricyclic antidepressant imipramine can help with panic disorder.

## Panic attacks

We found three good summaries of the research (called [systematic reviews](#)).<sup>[37]</sup> <sup>[23]</sup>  
<sup>[26]</sup> These reviews looked at the results of lots of good-quality studies of drug treatments for panic disorder. We also found two other studies.<sup>[46]</sup> <sup>[47]</sup>

The studies looked mainly at the tricyclic antidepressant imipramine. The reviews and studies found that imipramine helps to reduce the symptoms of panic disorder. It also reduces the number of panic attacks people get.

One of the reviews found that tricyclic antidepressants worked about as well as two other groups of drugs used to treat panic disorder, called [selective serotonin reuptake inhibitors](#) (SSRIs) and [benzodiazepines](#).<sup>[23]</sup> These treatments stopped panic attacks in about 6 in 10 people.

But tricyclic antidepressants caused more side effects. About a third of people who took a tricyclic antidepressant stopped taking their medication because of side effects.<sup>[50]</sup> Less than 1 in 5 people who took an SSRI stopped taking their medication.

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## Applied relaxation

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on applied relaxation?](#)

This information is for people who have panic disorder. It tells you about applied relaxation, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Does it work?

Yes. If you learn applied relaxation, your symptoms of panic disorder are likely to improve. But there hasn't been a lot of research.

We don't know whether it works as well as a talking treatment called [cognitive behaviour therapy](#).

### What is it?

If you have panic disorder, you may be constantly worried about having a panic attack. In a panic attack, you feel terrified for no reason. You may get frightening symptoms, like feeling dizzy or finding it hard to catch your breath.

Applied relaxation is a way of teaching you how to release the tension in your body and relax your muscles. This helps you to calm your mind. It doesn't involve taking any drugs.  
<sup>[51]</sup> <sup>[16]</sup>

Applied relaxation usually involves weekly sessions with a therapist. Week by week, the therapist teaches you to relax your body and your mind. You also learn how to relax in

## Panic attacks

difficult situations instead of getting stressed or avoiding them. For example, if you dread letting your children get the bus to school, you could learn how to use relaxation techniques each morning as you get them ready.

Applied relaxation is also called relaxation training. Like all training, it can be hard work. You have to practise between sessions. Treatment usually starts with exercises to relax your muscles. In some exercises, you relax groups of muscles, such as in your shoulders and neck. In other exercises, you relax your whole body. When your body relaxes, your mind also seems to relax or calm down.<sup>[16]</sup>

You'll need a quiet spot and time to yourself to practise your exercises. By the end of the course you should have learned how to:

- Recognise tension and the things that can cause it
- Relax your whole body
- Relax parts of your body
- Relax in everyday situations
- Relax in stressful situations
- Relax quickly when you need to.

### How can it help?

If you learn applied relaxation, your panic symptoms are likely to get better and you'll probably have fewer panic attacks.

Studies show that people who learn applied relaxation have fewer symptoms and fewer panic attacks after 12 weeks.<sup>[52] [53] [54] [55]</sup> The benefits last at least a year for most people.

But we're not sure whether applied relaxation works as well as cognitive behaviour therapy. Studies show different things. Some found that applied relaxation was better, but some showed that cognitive behaviour therapy was better.<sup>[52] [53] [54] [55]</sup>

### How does it work?

We don't know exactly how applied relaxation helps reduce the symptoms of panic disorder. But we do know that, when you relax:<sup>[16]</sup>

- Your body stops releasing the chemicals that make your heart race and your body tense up
- You breathe more slowly

## Panic attacks

- You sweat less
- Your muscles relax.

### Can it be harmful?

We don't know. None of the studies we found looked at whether applied relaxation could be harmful.

### How good is the research on applied relaxation?

There's some good evidence that applied relaxation helps with panic disorder. But there's not as much evidence as there is for some other treatments, such as antidepressants or [cognitive behaviour therapy](#) (CBT).

We found four studies that looked at how applied relaxation can help people with panic disorder. The studies were good quality ( [randomised controlled trials](#) ) but were quite small. They looked at 168 people in total. <sup>[56]</sup> <sup>[57]</sup> <sup>[58]</sup> <sup>[59]</sup>

The studies all showed that most people found applied relaxation helpful.

However, they didn't agree about whether it was better than cognitive behaviour therapy.

Two of the studies found applied relaxation was as good as CBT. <sup>[56]</sup> <sup>[60]</sup> One study found it was better than CBT. <sup>[57]</sup> And two studies found it wasn't as good. <sup>[58]</sup> <sup>[59]</sup>

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## Client-centred therapy

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on client-centred therapy?](#)

This information is for people who have panic disorder. It tells you about client-centred therapy, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Does it work?

Probably. Most people who have client-centred therapy find their feelings of panic improve. But there haven't been many studies looking at this treatment.

### What is it?

Client-centred therapy is a talking treatment. You don't take any drugs. It's based on the idea that you're the best person to cure yourself. A therapist works with you by talking to you about why you react to situations the way you do. The idea is to help you understand yourself more, which should reduce your feelings of panic.

## Panic attacks

In the studies we looked at, the people had quite severe panic disorder. They were treated in hospital. Most people had an individual session with a therapist once a week, and a session with other people four times a week. <sup>[61]</sup>

### How can it help?

If you have client-centred therapy, you may find: <sup>[61]</sup>

- You get less severe symptoms of panic
- You feel less anxious
- You feel less depressed
- You find it easier to face frightening situations
- You are better able to get on with your everyday life.

We don't know whether client-centred therapy works as well as other types of therapy, such as [cognitive behaviour therapy](#) .

### How does it work?

Client-centred therapy is meant to build up your confidence and give you the strength to face situations that you find frightening. If you know that you can cope with situations and become more confident, you may find your panic attacks go away.

### Can it be harmful?

We don't know. None of the studies we found looked at whether client-centred therapy could be harmful.

### How good is the research on client-centred therapy?

There's some evidence that client-centred therapy helps panic disorder. But not as much as there is for some other treatments, such as antidepressants or [cognitive behaviour therapy](#) .

We found two studies looking at client-centred therapy. <sup>[61]</sup> They looked at client-centred therapy on its own and combined with another treatment called [exposure therapy](#) . The studies looked at 108 people in total.

Both studies found that client-centred therapy was helpful. <sup>[61]</sup> But it's not clear whether having client-centred therapy on its own is better than having it combined with exposure therapy.

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## Cognitive restructuring

# Panic attacks

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on cognitive restructuring?](#)

This information is for people who have panic disorder. It tells you about cognitive restructuring, a treatment used for panic disorder. It is based on the best and most up-to-date research.

## Does it work?

Probably. People who have a type of therapy called cognitive restructuring get fewer panic attacks. They also worry less about having panic attacks.

## What is it?

Cognitive restructuring is a talking treatment. You have sessions with a therapist to change the way you think. You'll be asked to think about the assumptions you make and question whether they're realistic. For example, if you're worried about going out of the house because you fear something terrible will happen, you'll be asked to think about how likely this is.

In the study we looked at, people had 15 therapy sessions spread over 30 weeks. <sup>[62]</sup> Each session lasted one-and-a-half hours. People had therapy in group sessions, with five or six people in each group. They also kept diaries of their panic attacks, and wrote down what happened and how they felt.

## How can it help?

If you have cognitive restructuring therapy, you may find: <sup>[62]</sup>

- You get fewer panic attacks
- You feel less anxious about an attack happening
- Your panic symptoms, like sweating, shaking, and feeling dizzy, get milder or go away
- You're better able to get on with your everyday life.

Between 6 and 7 out of 10 people who had this treatment stopped having panic attacks. But six months after stopping treatment, some of them started getting attacks again. <sup>[62]</sup>

But the study we found was quite small, so it's hard to rely on the results.

Some research has found that cognitive restructuring doesn't work as well as [exposure therapy](#). <sup>[25]</sup>



## Panic attacks

But we don't know how it compares with other kinds of therapy, like [cognitive behaviour therapy](#) .

### How does it work?

Cognitive restructuring is based on the idea that how you think affects the way you feel. So if you can change the way you think about life, you may feel less anxious. This may help prevent panic attacks and help you get on with your life.

### Can it be harmful?

We don't know. The study didn't look at whether cognitive restructuring can be harmful.

### How good is the research on cognitive restructuring?

There hasn't been much research into cognitive restructuring. We found one good-quality study (a [randomised controlled trial](#) ), which looked at just 28 people. <sup>[63]</sup> The study showed that cognitive restructuring worked, but it may have been too small to produce reliable results.

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## Exposure therapy

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on exposure therapy?](#)

This information is for people who have panic disorder. It tells you about exposure therapy, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Does it work?

Probably. If you have exposure therapy, you may get fewer panic attacks.

### What is it?

Exposure therapy is a treatment where a therapist helps you face up to situations that frighten you. It's especially helpful if you have [agoraphobia](#) and panic disorder. (If you have agoraphobia, you get extremely anxious about situations that you may not be able to get out of, or places that you cannot run away from.)

If you have both panic disorder and agoraphobia, you probably avoid going to certain places or doing things that you think might trigger a panic attack. <sup>[64]</sup> <sup>[65]</sup> <sup>[66]</sup> To learn more, see [More about agoraphobia](#) .

In one type of exposure therapy (called **external exposure therapy**), your therapist gives you instructions on what to do when you are faced with a situation that you're worried about. Usually you'll have to follow the instructions on your own. Your therapist

## Panic attacks

won't be there. If it's hard to do this by yourself, a partner or friend may be asked to go with you.

In another type of exposure therapy (called **interoceptive exposure therapy**), you give yourself the physical symptoms of a panic attack in front of your therapist. You can do this by breathing in and out very deeply and quickly, or by running on the spot to make your heart beat fast.

When you get the symptoms you tell your therapist what they make you think and feel. You'll be able to practise ways of dealing with your symptoms. The idea is that you get used to these sensations and learn that they won't hurt you. So you're less likely to have a full-blown panic attack the next time you get these symptoms.

### How can it help?

If you have exposure therapy, you may find you get fewer panic attacks, or perhaps stop getting them altogether. In one study of external exposure therapy: <sup>[67]</sup>

- Before treatment, people had an average of seven panic attacks a week
- After eight weeks of treatment, they had an average of two or three attacks a week
- Six months after finishing treatment, they had less than one attack a week.

Having external exposure therapy or interoceptive exposure therapy, or both together, can: <sup>[68]</sup>

- Help you stop avoiding frightening situations
- Make you feel less anxious and fearful.

### How does it work?

If you always avoid the situations or places that make you anxious, you don't have a chance to get used to them. By working with a therapist to confront your fears, you get used to the situations or the feelings that frighten you. You may then start to see them as normal situations and find they don't make you panic any more.

### Can it be harmful?

We don't know. The studies didn't look at whether exposure therapy can be harmful.

### How good is the research on exposure therapy?

There's some evidence that exposure therapy helps panic disorder, but not as much as there is for some other treatments, such as antidepressants or [cognitive behaviour therapy](#) .

## Panic attacks

We found two good-quality studies ( [randomised controlled trials](#) ) that looked at exposure therapy. They included 234 people in total. <sup>[69]</sup> <sup>[70]</sup>

Both studies found that exposure therapy worked well. <sup>[69]</sup> <sup>[70]</sup> The second study looked at two different types of exposure therapy. <sup>[70]</sup> It found they were both equally good.

But we don't know if exposure therapy is better than other kinds of treatment, such as cognitive behaviour therapy. There haven't been any studies.

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## Self-help

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on self-help?](#)

This information is for people who have panic disorder. It tells you about self-help, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Does it work?

Probably. You should be able to reduce the panic symptoms you get by following a course of self-help treatment at home. This might involve reading some books, following a course on the internet, or doing exercises at home set by a therapist. But you need to be prepared to work on your own for self-help to work. If your symptoms are very distressing you might find this difficult.

### What is it?

Self-help for panic disorder can take many different forms. <sup>[71]</sup> <sup>[26]</sup> <sup>[23]</sup>

There are self-help programmes that you access through the internet. There might be different modules that you are asked to work through at home. For example, you may learn about the symptoms of panic attacks and why they happen. There might also be modules on [breathing exercises](#) , [cognitive restructuring](#) , and [relaxation](#) .

In cognitive restructuring, you're asked to think about assumptions you make and decide whether these are realistic. For example, if you're worried about going out of the house because you fear something terrible will happen, you'll be asked to think about how likely this is. You might get emails from a therapist to check how you are getting on and to answer any questions you might have.

Another programme might include being given books, tapes, and videos that you are asked to work through at home. These will cover the same sorts of things that a programme on the internet would.

## Panic attacks

Alternatively, you might see a therapist, either on your own or in a group. The therapist gives you exercises and information to work through at home. But you still have contact with a therapist from time to time. This might be over the telephone or in person.

In the UK, an online programme called FearFighter is recommended for treating panic disorder and phobias.<sup>[72]</sup> You need to get a password from your GP to access the website ( <http://www.fearfighter.com/> ).

With all of these methods you will continue to have some contact with a health professional. This might be a doctor, a **psychologist**, or a therapist. But how often you see them will vary according to your treatment.

### How can it help?

Self-help can work well for people with panic disorder.<sup>[71] [26] [23]</sup> Your symptoms of panic should get better and you should have fewer panic attacks. You should also feel less anxious and depressed. If you have **agoraphobia**, this can also get better by following self-help techniques. (People with agoraphobia are extremely anxious about situations that they may not be able to get out of, or places that they cannot run away from.)

One small study looked at an internet therapy programme.<sup>[73]</sup> People read information about panic disorder, and wrote about their thoughts and feelings. People could also chat and support each other in an online discussion group. Everyone got feedback from a trained therapist, which included a weekly phone call.

After nine months of treatment, 23 of the 30 people who used the programme had improved enough for doctors to say they no longer had panic disorder. For comparison, another 30 people had been kept on a waiting list for the programme, without taking part. None of the people on the waiting list had recovered from panic disorder.

### How does it work?

Self-help teaches you about why you get panic attacks and gives you the skills to manage your panic symptoms so that they don't happen at all, or they are less severe. For example, you might learn about how the way you think affects the way you feel. By changing the way you think about life, you may feel less anxious. This may help prevent panic attacks and help you get on with your life.

### Can it be harmful?

The studies did not say whether self-help could be harmful. But you do need to be motivated to do a lot of work at home if you want to benefit from self-help. Some people may not feel able to do this, especially if their symptoms are very severe.

### How good is the research on self-help?

There's fairly good evidence that self-help is a useful treatment for people with panic disorder. We found three summaries of the research (called **systematic reviews**).<sup>[23]</sup>

## Panic attacks

[26] [71] Altogether these summaries looked at 13 studies of self-help in people with panic disorder, some of whom also had **agoraphobia**. (If you have agoraphobia, you get extremely anxious about situations that you may not be able to get out of, or places that you cannot run away from.)

The summaries found that self-help techniques can reduce the symptoms of panic disorder, the number of panic attacks someone has and the symptoms of agoraphobia.

Some studies found that group **cognitive behaviour therapy** (CBT) with a therapist worked better than self-help. But other studies found that self-help worked just as well as CBT.

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## Benzodiazepines

In this section

[Do they work?](#)

[What are they?](#)

[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

[How good is the research on benzodiazepines?](#)

This information is for people who have panic disorder. It tells you about benzodiazepines, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Do they work?

Yes. If you take a type of drug called a benzodiazepine, you'll probably have fewer panic attacks than if you don't take it. But these drugs have serious side effects. There is a risk you could get **dependent** on them, even if you just take them for a short time. This means that when you stop taking them, you get unpleasant **withdrawal symptoms**.

If you're pregnant or breastfeeding, these drugs can harm your baby.

### What are they?

Benzodiazepines are a group of drugs that are used to treat illnesses related to moods and emotions, especially anxiety.

They are usually given as tablets, but they also come as liquids. Some of them can be injected. You may be prescribed a benzodiazepine if you've tried treatment with an antidepressant and this didn't work.

The main benzodiazepines used to treat panic disorder (and their brand names) are:

- clonazepam (Rivotril)
- lorazepam (Ativan)
- alprazolam (Xanax)

## Panic attacks

You may be given a benzodiazepine even though you're getting another treatment for panic disorder. This is because benzodiazepines are fast acting. So they quickly make your symptoms less severe.

They are sometimes given when you start treatment with a [selective serotonin reuptake inhibitor](#) (also called an SSRI). This is because when you first take an SSRI, your symptoms may get worse before they get better. So the benzodiazepine can help you until the SSRI or other treatment starts working.

Once the SSRI has enough time to start working, your dose of the benzodiazepine will be cut slowly so you can stop taking it without having any side effects.

### How can they help?

If you take a benzodiazepine, your symptoms are likely to improve and you'll get fewer panic attacks than if you didn't take one. <sup>[23]</sup> <sup>[46]</sup>

But these drugs can have serious side effects.

### How do they work?

Researchers think that benzodiazepines work by increasing the effects of a chemical in the brain called GABA. GABA stands for gamma-aminobutyric acid.

In your nervous system, GABA stops brain cells from becoming too active. So by boosting the effects of GABA, benzodiazepines calm down your nervous system.

Benzodiazepines reduce feelings such as anxiety and panic by reducing the activity in the brain's panic centre.

### Can they be harmful?

#### Withdrawal symptoms

The most serious problem with benzodiazepines is that you can become dependent on them in as little as four weeks to six weeks. <sup>[74]</sup> This means that your body gets used to having its daily dose of the drug. So when you stop taking it you get side effects. This is why doctors usually only prescribe benzodiazepines for about two weeks.

When you're dependent on a drug, you get unpleasant withdrawal symptoms when you stop taking it. If you stop taking benzodiazepines suddenly, you may feel anxious and not be able to sleep. You may also tremble and feel on edge. These effects will be less severe if the dose of the drug is reduced slowly before you stop taking it.

In general, however, if you take a benzodiazepine for just a few weeks, it will cause fewer side effects than most of the other drugs used to treat panic disorder.

## Panic attacks

### Sleepiness

The main side effect is sleepiness (which is why these drugs are often used to treat sleeping problems). Because benzodiazepines make you sleepy, you shouldn't drive or operate machinery while you're taking them. One study found that people taking benzodiazepines were one-and-a-half to two-and-a-half times more likely to have a serious or fatal traffic accident than people who weren't taking the drug.<sup>[75]</sup>

You also shouldn't drink alcohol while taking benzodiazepines. This is because alcohol also makes you sleepy. When you combine alcohol and a benzodiazepine you can have problems breathing.

### Other side effects

If you take a benzodiazepine you may also get the following:<sup>[46]</sup>

- Problems with your memory
- Irritability
- A dry mouth
- Constipation
- Trouble urinating
- Tremors
- Weight loss
- Loss of sex drive.

If you take a benzodiazepine while you're pregnant, the drug will get into your baby's body. So your baby may get addicted. And if you breastfeed your baby while you are taking a benzodiazepine, your baby can get the drug through your breast milk.

We don't know what the exact risks to babies are, but we do know what symptoms you might see.

If you took benzodiazepines while you were pregnant or breastfeeding your baby may:

- Go limp
- Get very cold
- Have trouble breathing
- Sleep too much so that he or she doesn't eat properly.

## Panic attacks

If your baby has any of these symptoms, get medical help straight away. In general, it's important to tell your doctor that you're pregnant or breastfeeding before you take any drug.

### How good is the research on benzodiazepines?

There's some evidence that benzodiazepines can help people with panic disorder. But these drugs have side effects, which means doctors often only suggest them after other treatments haven't worked.

We found one [systematic review](#), which looked at 78 studies of drug treatments for panic disorder.<sup>[23]</sup> Overall, drug treatment worked better than a dummy treatment (a placebo) at reducing anxiety and depression among people with panic attacks. Benzodiazepines worked as well as other drugs used for panic, including antidepressants called [SSRIs](#) and [tricyclics](#).

The results of another good study found that people who took alprazolam had fewer panic attacks each week than people who took a dummy treatment (a placebo).<sup>[46]</sup>

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## Monoamine oxidase inhibitors (MAOIs)

In this section

[Do they work?](#)

[What are they?](#)

[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

[How good is the research on monoamine oxidase inhibitors \(MAOIs\)?](#)

This information is for people who have panic disorder. It tells you about monoamine oxidase inhibitors (MAOIs), a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Do they work?

We're not sure. The research on whether monoamine oxidase inhibitors (MAOIs) work for treating panic disorder isn't very good. They may work as well as other antidepressants called [selective serotonin reuptake inhibitors](#) (SSRIs). But more research needs to be done on this group of drugs before we can say one way or the other.

These drugs have side effects, and you need to watch what you eat while you're taking them. These problems can put many people off this treatment.

These drugs are sometimes called MAOIs for short.

### What are they?

MAOIs are usually used to treat depression. They have also been used to treat some types of anxiety.

Some of the most common MAOIs (with their brand names) are:



## Panic attacks

- moclobemide (Manerix)
- phenelzine (Nardil)
- tranylcypromine (Parnate).

### How can they help?

Taking moclobemide for eight weeks seems to work as well as taking another type of antidepressant called a [selective serotonin reuptake inhibitor](#) (SSRI) at reducing panic attacks. Six in 10 people no longer had panic attacks whatever drug they took.<sup>[76]</sup> But this is just one study and we need more research to say whether moclobemide and drugs like it can help people with panic attacks.

### How do they work?

Researchers don't know exactly what causes panic disorder. They think that it may be triggered when certain chemicals in your brain are out of balance. These chemicals are called neurotransmitters.

Taking an MAOI helps to keep higher levels of certain chemicals in your brain. These chemicals are called [noradrenaline](#), [serotonin](#), and [dopamine](#).

Because monoamine oxidase inhibitors help people with conditions such as anxiety and [social phobia](#), doctors think they might also help people with panic disorder. Some other drugs that work in a similar way to MAOIs work for people with panic disorder. So that's another reason why they might be worth trying.

### Can they be harmful?

Yes. If you take one of these drugs, you have to be careful about what you eat and drink, and about what other medicines you take.

You can't eat foods that have tyramine in them. This is a chemical found in foods that have been fermented to give them a stronger flavour.

Foods that contain tyramine include:

- Cheese
- Yeast extracts, such as Marmite
- Very ripe fruit
- Sausages, such as salami.

You also have to stop drinking alcohol, and avoid having lots of caffeine. Foods and drinks that contain caffeine include coffee, tea, cola, and chocolate.

## Panic attacks

If you eat tyramine while you're taking one of these drugs, your **blood pressure** can get dangerously high.

Moclobemide can also make you feel dizzy and have problems sleeping. <sup>[76]</sup>

### Self-harm and suicide

Research has found that children, teenagers and young adults taking antidepressants of all kinds are more likely to think about suicide or try to harm themselves. <sup>[41]</sup>

The risk of suicidal thoughts is highest if you're under 18. <sup>[41]</sup> Among people under 18 taking an antidepressant, an extra 14 in 1,000 thought about suicide.

The researchers also found that there's a risk for young adults up to the age of 24. <sup>[41]</sup> But their risk wasn't as big as the risk for people under 18. An extra 5 in 1,000 people between the ages of 18 and 24 thought about suicide.

The research doesn't seem to show an increased risk of suicidal thoughts or self-harm for people over the age of 24. <sup>[41]</sup> But doctors and caregivers are advised to keep a careful check on anyone taking antidepressants for signs of suicidal thoughts. You are more likely to get these thoughts in the early stages of your treatment, or if the dose of the antidepressant you're taking is changed. You may also be at risk if you have had thoughts about harming or killing yourself before. <sup>[42]</sup>

If you're taking an antidepressant and are worried about any thoughts or feelings you have, see your doctor or go to a hospital straight away. You might also ask a relative or close friend to tell you if they become worried about changes in your behaviour. <sup>[42]</sup>

### How good is the research on monoamine oxidase inhibitors (MAOIs)?

The research on whether monoamine oxidase inhibitors (MAOIs) help people with panic disorder isn't very good. We found just two studies. <sup>[77]</sup> <sup>[76]</sup> The first study, which included 366 people, looked at moclobemide (the only MAOI which has been studied for panic disorder). It found that moclobemide worked as well at reducing panic attacks as fluoxetine, another type of antidepressant called a [selective serotonin reuptake inhibitor](#) (SSRI). After eight weeks of taking one of these drugs 6 in 10 people no longer had panic attacks. <sup>[76]</sup>

The second was much smaller and included only 55 people. It looked at the effects of moclobemide plus [cognitive behavioural therapy](#) (CBT), CBT alone, and moclobemide alone. <sup>[77]</sup> The treatment that worked best was moclobemide plus CBT. But it's hard to draw any firm conclusions from this study as it was so small.

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## Buspirone

In this section  
[Does it work?](#)  
[What is it?](#)

# Panic attacks

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on buspirone?](#)

This information is for people who have panic disorder. It tells you about buspirone, a treatment used for panic disorder. It is based on the best and most up-to-date research.

## Does it work?

We don't know. More research needs to be done on this drug before we can say whether it helps people with panic disorder.

## What is it?

Buspirone is a drug that's used to treat [anxiety disorder](#) and other conditions that make people feel anxious. It comes as a tablet.

## How can it help?

We're not sure whether buspirone can help. The two studies we looked at had different results. <sup>[78]</sup> <sup>[79]</sup>

In one small study, people who had panic disorder were treated with buspirone and a talking treatment called [cognitive behaviour therapy](#). <sup>[78]</sup> This study found that the drug helped.

The other small study looked at people who had panic disorder and [agoraphobia](#) (a condition in which you become afraid of many situations and have a hard time leaving your house). <sup>[79]</sup> These people were also treated with both buspirone and cognitive behaviour therapy. This study found that buspirone didn't help.

## How does it work?

Doctors aren't exactly sure how buspirone might work. But it seems to affect a part of the brain that's involved in making you feel afraid. Buspirone seems to change the way some nerve cells work. And this makes you feel less anxious.

One theory about why people get panic disorder is that their alarm system for fear is triggered too easily. Because buspirone helps people feel less anxious, doctors hope it might also help the symptoms of panic.

## Can it be harmful?

Buspirone has several side effects: <sup>[80]</sup>

- About two-thirds of people who take it feel dizzy
- About a third feel nauseous
- And about a fifth feel sleepy.

### How good is the research on buspirone?

There hasn't been enough research on buspirone to say whether it works for panic disorder.

We found two studies that looked at whether buspirone helped people with panic disorder. <sup>[81]</sup> <sup>[79]</sup> One of these studies found that it helped. <sup>[81]</sup> But the other found that it didn't. <sup>[79]</sup> Both studies were small. So we need more research to say whether buspirone helps.

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## Breathing retraining

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on breathing retraining?](#)

This information is for people who have panic disorder. It tells you about breathing retraining, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Does it work?

We don't know. There hasn't been enough research to say whether breathing retraining helps people with panic disorder.

### What is it?

If you have breathing retraining, you work with a therapist to learn how to control your breathing using your chest muscles. You're likely to have two sessions with a therapist, and you'll be given exercises to practise at home. Then, if you do feel a panic attack coming on, you can use your chest muscles to slow down your breathing.

### How can it help?

We don't know if it can help. We need more research on this treatment.

### How does it work?

Some doctors think that panic attacks get worse if you breathe too fast. <sup>[82]</sup> So slowing your breathing down may help stop a panic attack. Also, if you feel in control of your breathing, you may feel more confident and be less likely to get an attack. But we don't know for certain that this works.

### Can it be harmful?

We don't know. The studies we found didn't look at whether breathing retraining can be harmful.

### How good is the research on breathing retraining?

We didn't find much evidence that breathing retraining can help people who get panic attacks. We looked at one summary of the research (a [systematic review](#)).<sup>[83]</sup> But only one of the studies in the summary was of good quality.

The good-quality study ( [randomised controlled trial](#) ) was quite small. It looked at 45 people who either had breathing retraining together with [cognitive behaviour therapy](#) (CBT), or just CBT on its own. It found that the people who had breathing retraining as part of their treatment didn't get any extra help compared to those who just had CBT on its own.<sup>[84]</sup>

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## Couple therapy

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on couple therapy?](#)

This information is for people who have panic disorder. It tells you about couple therapy, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Does it work?

We don't know if couple therapy can help you with panic disorder. There's not enough evidence to say.

### What is it?

Couple therapy is when your therapist encourages your partner, your spouse, or a close friend to help with your treatment. The idea is that someone close to you can offer support and encourage you to stick with your treatment.

There are several types of couple therapy. Most involve some form of [cognitive behaviour therapy](#) or [exposure therapy](#) .

### How can it help?

We don't know for certain that it can help. The studies we found showed that people's symptoms of panic got better with couple therapy. The types of therapy that helped included:<sup>[85]</sup> <sup>[86]</sup> <sup>[87]</sup>

- Cognitive therapy with a spouse or friend
- Communication training for couples
- Exposure therapy with friends or spouses

## Panic attacks

- Problem-solving therapy with friends or spouses.

But none of the studies compared having couple therapy with having therapy on your own. So we don't really know whether couple therapy is better.

### How does it work?

Some therapists think it can be helpful to have a close friend or partner supporting you when you try to overcome your panic disorder. You may find it easier to do homework like [exposure therapy](#) if you have someone there to help you. But we don't really know if this works. (Exposure therapy involves facing situations that frighten you.)

### Can it be harmful?

None of the studies we looked at found that couple therapy can be harmful. <sup>[85]</sup> <sup>[86]</sup> <sup>[87]</sup>

### How good is the research on couple therapy?

The evidence we found on couple therapy for people with panic disorder wasn't very good.

We looked at three studies, but they were all quite small. <sup>[88]</sup> <sup>[86]</sup> <sup>[87]</sup> They included 82 people in total.

All the studies showed that people improved if they had couple therapy. <sup>[88]</sup> <sup>[86]</sup> <sup>[87]</sup> But the studies only compared different types of couple therapy. They didn't compare having couple therapy with having therapy on your own. So we don't know whether having therapy with a friend or partner is better than having it on your own.

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## Insight-orientated therapy

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on insight-orientated therapy?](#)

This information is for people who have panic disorder. It tells you about insight-orientated therapy, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Does it work?

We don't know. There's not much research to tell us whether insight-orientated therapy is helpful for people with panic disorder.

### What is it?

Insight-orientated therapy is a talking treatment, similar to [client-centred therapy](#). It puts a lot of emphasis on using your own mind to cure yourself. It involves working with a therapist to work out why you have fears and to help you to overcome them.

### How can it help?

We don't know whether insight-orientated therapy can help people with panic disorder. There's not enough research to say.

One small study looked at the effect of having insight-orientated therapy as well as client-centred therapy.<sup>[61]</sup>

It showed that people found it easier to put themselves into situations they found frightening after three months of treatment.<sup>[61]</sup> But one year later, there was no difference between the people who had insight-orientated therapy and the people who just had client-centred therapy.

### How does it work?

Some therapists think that if you understand more about why you fear particular things, you're more likely to be able to overcome your fears.

### Can it be harmful?

We don't know. The study we found didn't look at whether insight-orientated therapy can be harmful.

### How good is the research on insight-orientated therapy?

There's not much evidence to show that insight-orientated therapy can help people with panic disorder.

We found one study of 40 people with panic disorder who were treated with insight-orientated therapy.<sup>[61]</sup> The study showed they found it helpful. But the study didn't look at many people, so it's hard to rely on the results.

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## Brief dynamic psychotherapy

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on brief dynamic psychotherapy?](#)

This information is for people who have panic disorder. It tells you about brief dynamic psychotherapy, a treatment used for panic disorder. It is based on the best and most up-to-date research.

### Does it work?

We don't know. There's some research that shows brief dynamic psychotherapy can help reduce panic attacks. But we need more studies to say for sure whether it can help people with panic disorder.

### What is it?

During brief dynamic psychotherapy, you work with a therapist to understand how the way you behave towards other people causes you to become stressed and have panic attacks. In the study we looked at, people saw a therapist once a week for 15 weeks.<sup>[89]</sup> During the sessions, you learn how you can change your behaviour to reduce panic symptoms.

### How can it help?

Having brief dynamic psychotherapy might help to reduce panic attacks and stop them coming back after treatment ends.<sup>[89]</sup> But we need more research to know for sure.

### How does it work?

The theory is that learning how to cope with stresses in your life will reduce your chances of having a panic attack when you're faced with a stressful situation.

### Can it be harmful?

There were no side effects of brief dynamic psychotherapy in the study we found.<sup>[89]</sup>

### How good is the research on brief dynamic psychotherapy?

There isn't very much evidence for brief dynamic psychotherapy. We found just one good study (a randomised controlled trial) of 40 people with panic disorder.<sup>[89]</sup> All the people in the study were treated with the antidepressant clomipramine for nine months. Half the people also received 15 sessions of brief dynamic psychotherapy.

At the end of treatment, all the people who had clomipramine plus brief dynamic psychotherapy were free of panic attacks. Out of those who just had clomipramine, between 7 in 10 and 8 in 10 people no longer had panic attacks. Nine months after treatment stopped, 2 in 10 people who had both treatments had started to have panic attacks again. Among those who were treated with clomipramine alone, between 7 in 10 and 8 in 10 people had started to have panic attacks again.

But this study was small and we need more research on brief dynamic psychotherapy to know for certain how well it works.

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## Learning about panic disorder

In this section  
[Does it work?](#)



# Panic attacks

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on learning about panic disorder?](#)

This information is for people who have panic disorder. It tells you about learning about panic disorder, a treatment used for panic disorder. It is based on the best and most up-to-date research.

## Does it work?

We don't know. There hasn't been enough research to say whether learning about panic disorder helps to reduce symptoms and attacks.

## What is it?

Learning about panic disorder means spending some time with a therapist who discusses various aspects of the condition with you. For example, you might go over what it means to have panic disorder and be reassured that it is not a sign that you have a weak character, that you have a mental illness, or that you are physically unwell.<sup>[90]</sup> In the study we found, people with panic disorder also talked about things that can trigger panic attacks, such as stress. They were also taught what happens to the body when you get symptoms of panic and how some symptoms, such as breathing very quickly, often make the attack last longer.

## How can it help?

We're not sure. There isn't very much research on how learning about panic disorder helps people affected by the condition, so we can't say whether it helps.

## How does it work?

The idea is that learning about what happens when you have a panic attack and that the symptoms can't harm you, will help stop your symptoms getting worse during an attack. The aim is that you will eventually stop having panic attacks altogether.

## Can it be harmful?

The research we found did not report any side effects from taking part in an education programme about panic disorder.<sup>[90]</sup>

## How good is the research on learning about panic disorder?

There hasn't been very much research on how learning about panic disorder helps people with the condition. We found just one study.<sup>[90]</sup>

This study looked at 65 people who had panic disorder, most of whom also had [agoraphobia](#). (People with agoraphobia get extremely anxious about situations that they may not be able to get out of, or places that they cannot run away from.)

## Panic attacks

All the people in the study had three sessions of learning about panic disorder. Half of them also had **cognitive behaviour therapy (CBT)** while the other half had what is called **non-prescriptive therapy (NPT)**. NPT focuses on reducing people's anxiety. This means spending time with a therapist talking about the things in your life that make you feel stressed.

All people in the study had 12 sessions with a therapist. After six months, both groups were doing equally well. Nearly three-quarters of them no longer had symptoms of panic and reported less anxiety and depression.

Learning about panic disorder is often part of CBT, so it is hard to look at this treatment on its own.

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### Further informations:

#### What else could it be?

Most of the time your GP will be able to tell whether you have panic disorder without doing any tests. But some medical conditions can cause symptoms that are similar to panic. <sup>[4]</sup> And taking certain drugs, or stopping taking them, may also cause symptoms that are similar to panic disorder.

#### Conditions that can cause symptoms similar to panic disorder

- **Chest pain:** You can get a type of chest pain called **angina** when your heart muscle isn't getting enough oxygen. It may happen when you exercise or feel stressed.
- **Abnormal heart beat:** Your doctor may call this an **arrhythmia** .
- **Damage to one of the valves in your heart,** especially a valve called the **mitral valve**. The valves in your heart keep the blood flowing in the right direction.
- **Problems with your thyroid gland** .
- **Depression.** To read more, see [What are the symptoms of depression?](#)
- **Agoraphobia** : If you have this condition, you may be afraid to leave a safe or familiar environment. To learn more, see [More about agoraphobia](#) .
- **Other simple phobias:** If you have a **phobia** , you're much more afraid of something than someone normally would be. For example, you may have a phobia about driving.
- **Anxiety disorder** : If you have this condition, you feel afraid most of the time.
- **Obsessive-compulsive disorder** : If you have this condition, you may find it hard to stop thinking certain thoughts.

## Panic attacks

- Post-traumatic stress disorder : This is a condition in which you have a strong response after something terrible has happened to you.

### Other reasons you may get symptoms similar to panic disorder

You may get symptoms of a panic attack if you:

- Suddenly stop taking certain types of prescription drugs, such as antidepressants
- Use marijuana, cocaine, PCP ('angel dust'), crack, or ecstasy ('E')
- Use the antibiotic drug called metronidazole
- Are exposed to some solvents, such as turpentine
- Are taking levodopa (a drug used to treat [Parkinson's disease](#) )
- Drink a lot of coffee, tea, or soft drinks that contain caffeine
- Smoke. This is because nicotine, a chemical in tobacco, can give you symptoms similar to a panic attack, such as a pounding heart
- Take some of the drugs used to treat asthma and other lung diseases. One of the most common of these types of drugs (called bronchodilators) is salbutamol.

### More about agoraphobia

If you have agoraphobia , you get extremely anxious about situations that you may not be able to get out of, or places that you can't run away from. If you have panic disorder, having agoraphobia tends to mean that you avoid places or avoid doing things that you think might trigger another panic attack.

If you have agoraphobia you may begin to avoid ordinary situations such as: <sup>[5]</sup> <sup>[6]</sup>

- Being away from home
- Being away from someone you feel safe with
- Driving a car
- Being physically active in a way that you fear may bring on a panic attack
- Going to restaurants, theatres, or shops

## Panic attacks

- Using buses, trains, and planes
- Going to parties or other social gatherings
- Eating or drinking something you think might trigger an attack, such as caffeine, medicine, or alcohol.

If you think you have agoraphobia, see your GP.

If you avoid situations because you're afraid of having a panic attack, your symptoms may get worse.

Treatment helps most people with agoraphobia get better. But if you ignore the problem, life can become difficult. A good therapist should be able to help you feel less anxious.

The same treatments that are used to treat panic disorder are used for people with agoraphobia. To find out more, see [What treatments work for panic disorder?](#)

### Working with your therapist

When you have CBT, you go to see a trained therapist. Each visit lasts for about 50 minutes.

You and your therapist will work together to try to stop your panic attacks. There are many ways you might do this. Here are some examples.<sup>[4]</sup>

#### Tackling your anxiety

You will work with your therapist to try to find out what things make you feel anxious. And you'll learn how to control your anxious feelings. For example, you might learn breathing and relaxation exercises that can help you cope. The idea is that, by learning what makes you anxious and finding ways to cope with these feelings, you'll have fewer panic attacks.

#### Understanding your symptoms

If you get panic attacks, you may sometimes get a feeling in your body that something horrible is going to happen. By working with a therapist, you can learn that these feelings are actually normal. For example, if whenever your heart beats fast you think that you're about to have a heart attack, you may feel anxious. And this may trigger other symptoms that lead to a panic attack. By learning to see these symptoms as a normal response to fear, you can learn to feel less anxious about them.

In most kinds of therapy, you will start each session by deciding with your therapist what goal you want to reach. At the end of the session, your therapist will give you homework. Your homework could be to practise relaxation techniques, keep a diary of your thoughts,

## Panic attacks

or do a simple task. Homework is very important. It means that your treatment carries on between sessions.

Your treatment doesn't end when you stop going to a therapist. Cognitive behaviour therapy is designed so that you can use it for yourself. You can act as your own therapist whenever your old ways of thinking and doing things come back.

Also, the treatment is tailor-made for you. Most courses last between 12 and 25 weeks. But treatment can go on for longer if you need it.

It's important that you feel comfortable with your therapist. If you are unhappy with him or her for any reason, go back to your doctor. Your doctor will be able to help you find a different therapist.

### Glossary:

#### **adrenaline**

Adrenaline is a chemical that makes your heart race and makes you feel alert. It is sometimes called the 'fight-or-flight' hormone.

#### **serotonin**

Serotonin is a neurotransmitter, which is a chemical that helps to send information from a nerve cell to other cells. It is thought to play a role in learning, sleep and control of mood.

#### **overactive thyroid**

If your thyroid gland works too hard (is overactive), you may lose weight and feel anxious or jumpy. Your eyes may also stand out more than usual. Doctors call this hyperthyroidism.

#### **phobia**

If you have a phobia of something, you are much more afraid of it than would be expected. You could have a phobia about things (such as dogs) or activities (such as going out in public). Phobias can make you feel panicky. They can also make your heart race or give you an upset stomach.

#### **obsessive-compulsive disorder**

Obsessive-compulsive disorder is a psychological illness. People who have it can't keep certain thoughts out of their minds. Or they feel they have to do certain things all the time, such as washing their hands. This makes it hard for them to live a normal life.

#### **post-traumatic stress disorder**

Post-traumatic stress disorder (PTSD) is a psychological illness. You may get post-traumatic stress disorder after something very distressing happens to you. Symptoms can include reliving the experience in your thoughts, avoiding things that remind you of what happened and becoming withdrawn.

#### **arrhythmias**

Arrhythmias are when your heart starts to beat in an uncoordinated way. It may not beat at an even pace, or it may sometimes beat too weakly or too hard.

#### **agoraphobia**

Agoraphobia is often described as a fear of open spaces, but agoraphobia is more complicated than that. Technically, agoraphobia is a fear some people have of being in a place where they may feel trapped, with nowhere to escape or hide if they were to start feeling very anxious or start having a panic attack. Agoraphobia can stop people being able to do everyday things, like using public transport or going shopping.

#### **generalised anxiety disorder**

If you have this psychological illness, you feel anxious and worried most of the time. You may have other symptoms, such as feeling tired or being indecisive. Worrying this much can make you ill and make it hard to live a normal life. There are good treatments for anxiety disorder.

#### **antidepressant**

Antidepressants are medicines used to treat depression and sometimes other conditions. They work by changing the levels of chemicals in your brain called neurotransmitters. There are three main types of antidepressants, which work in different ways: selective serotonin reuptake inhibitors (SSRIs), monoamine oxidase inhibitors (MAOIs) and tricyclic antidepressants (TCAs).

#### **antibiotics**

# Panic attacks

These medicines are used to help your immune system fight infection. There are a number of different types of antibiotics that work in different ways to get rid of bacteria, parasites, and other infectious agents. Antibiotics do not work against viruses.

## **seizure**

A seizure (or fit) is when there is too much electrical activity in your brain, which results in muscle twitching and other symptoms.

## **hyperventilation**

Hyperventilation is when you breathe out too much carbon dioxide, which makes you feel dizzy or light-headed. You can hyperventilate if you breathe in and out too quickly. For example, you might hyperventilate if you got very anxious.

## **electrocardiogram**

An electrocardiogram is a test that measures the electrical activity in your heart. The test doesn't hurt. It tells doctors how well your heart is working. It is called ECG for short.

## **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.

## **randomised controlled trials**

Randomised controlled trials are medical studies designed to test whether a treatment works. Patients are split into groups. One group is given the treatment being tested (for example, an antidepressant drug) while another group (called the comparison or control group) is given an alternative treatment. This could be a different type of drug or a dummy treatment (a placebo). Researchers then compare the effects of the different treatments.

## **neurotransmitters**

Neurotransmitters are chemicals that help to carry messages between nerve cells. Serotonin, dopamine, and norepinephrine (noradrenaline) are all neurotransmitters.

## **withdrawal symptoms**

Withdrawal symptoms are when you get unpleasant physical or mental symptoms because you stopped taking a drug you were physically dependent on. You can become physically dependent on a drug if it alters the level of certain chemicals in your body. This makes your body produce less of those chemicals or change how it responds to them. Also, some drugs work in a similar way to chemicals that naturally occur in your body. This may mean your body stops making its natural versions. If either of those things happens, your body will need the drug to function normally and you will feel or become ill if you suddenly stop taking the drug. You can get withdrawal symptoms from some prescription medicines, as well as some illegal drugs.

## **diarrhoea**

Diarrhoea is when you have loose, watery stools and you need to go to the toilet far more often than usual. Doctors say you have diarrhoea if you need to go to the toilet more than three times a day.

## **dependent**

Dependent is another way of saying addicted. If you're dependent on a drug, it means you get unpleasant withdrawal symptoms if you don't take it.

## **noradrenaline**

Noradrenaline is a neurotransmitter, which is a chemical that helps to send information between nerve cells. It is similar to adrenaline. Your body produces adrenaline when you're in stressful situations, which increases your blood pressure and heart rate.

## **low blood pressure**

If your blood pressure is about 100/60 or less, your doctor may say that you have low blood pressure. Low blood pressure is usually not a problem unless it becomes too low to push blood to your brain and the rest of the body. If you have low blood pressure, you may sometimes feel dizzy when you stand up.

## **psychologist**

A psychologist is trained to study the human mind and human behaviour. A clinical psychologist provides mental health care in hospitals, clinics, schools or to private patients.

## **Cognitive behavioural therapy**

Brief (20 sessions over 12–16 weeks) structured treatment incorporating elements of cognitive therapy and behavioural therapy. Covers a variety of techniques. Behavioural therapy is based on learning theory and concentrates on changing behaviour. Cognitive therapy is aimed at identifying anxiety associated thoughts and beliefs, changing over-monitoring of physical symptoms and minimising the catastrophising that characterises generalised anxiety disorder. This is combined with relaxation, exercise, and testing the validity of beliefs in real life situations. Cognitive restructuring involves systematic challenging of thought processes and underlying assumptions related to the symptoms. Exposure entails being confronted (through visualisation, image, or the stimulus) with an anxiogenic stimulus in a repetitive and prolonged manner. Relaxation involves practising techniques that lead to muscular or bodily relaxation. Systematic desensitisation is a type of exposure. Anxiety management training is a structured therapy involving education about anxiety, relaxation training, and exposure to anxiogenic stimuli; however, it does not include cognitive restructuring.

## **placebo**

# Panic attacks

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.

## dopamine

Dopamine is a neurotransmitter, which is a chemical that helps messages pass between brain cells and other cells. Dopamine plays a role in your mood, and your physical movements.

## social phobia

If you have social phobia, you are afraid of being with other people. You may find it very hard to talk or eat in public or to take crowded buses or trains.

## high blood pressure

Your blood pressure is considered to be high when it is above the accepted normal range. The usual limit for normal blood pressure is 140/90. If either the first (systolic) number is above 140 or the lower (diastolic) number is above 90, a person is considered to have high blood pressure. Doctors sometimes call high blood pressure 'hypertension'.

## Cognitive behavioural therapy

The following cognitive behavioural therapies were considered in this review: stimulus control, sleep hygiene education, muscle relaxation, sleep restriction, and cognitive therapy. Stimulus control consists of measures to control the stimuli that affect sleep, such as establishing a standard wake up time, getting out of bed during long periods of wakefulness, and eliminating non-nocturnal sleep. Sleep hygiene education informs people about lifestyle modifications that may impair or enhance sleep, such as avoiding alcohol, heavy meals, and exercise before going to bed, and aims to alter expectations about normal sleep durations. Muscle relaxation involves sequential muscle tensing and relaxing. Sleep restriction reduces the time spent in bed to increase the proportion of time spent asleep while in bed. Cognitive therapy aims to identify and alter beliefs and expectations about sleep and sleep onset (e.g., beliefs about "necessary" sleep duration). Cognitive behavioural therapy may be undertaken on a one-to-one basis (individual therapy) or with a group of people (group therapy).

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## Panic attacks

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