

# Chest pain

Information for the public

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## About this information

NICE guidelines provide advice on the care and support that should be offered to people who use health and care services.

This information explains the advice about chest pain that is set out in NICE guideline CG95.

This is an update of advice on assessing and diagnosing chest pain that NICE produced in 2010.

## Does this information apply to me?

Yes, if you are an adult with chest pain that is thought to be related to the heart. It covers the tests and treatment that should be offered to you while your condition is being diagnosed.

It does not cover chest pain that has already been diagnosed, or chest pain that is not

related to the heart.

## Chest pain

There are many possible causes for pain or discomfort in the chest, including indigestion or muscle pain. But sometimes chest pain can be a sign of a more serious condition, such as coronary heart disease. Coronary heart disease is a condition in which blood vessels in the heart narrow or get blocked by a build-up of fat. The blood supply to the heart is reduced and this can cause stable angina, unstable angina or a heart attack.

Quick diagnosis and treatment for people who have chest pain because of coronary heart disease will help to prevent death and reduce disability from this disease.

Questions you might want to ask about chest pain

- What do you think is causing my chest pain?
- Where can I get written information about my condition?

## Your care team

A range of professionals who specialise in different areas of treatment or support may be involved in your care. These could include doctors, nurses and members of the ambulance service.

## Working with you

Your care team should talk with you about chest pain. They should explain any tests, treatments and support you should be offered so that you can decide together what is best for you. Your family or carer can be involved in helping to make decisions, but only if you agree. There are questions throughout you can use to help you talk with your care team.

You may also like to read NICE's information for the public on [patient experience in adult NHS services](#). This sets out what adults should be able to expect when they use the NHS. We also have more information on the NICE website about [using health and social care](#)

[services](#).

Some treatments or care described here may not be suitable for you. If you think that your treatment does not match this advice, talk to your care team.

## Finding out what is wrong (making a diagnosis)

If you think that your care does not match what is described in this information, please talk to a member of your healthcare team in the first instance.

When you see a healthcare professional about your chest pain (this may be your GP, a member of the ambulance service or a healthcare professional in hospital), they should ask whether you currently have chest pain, or when you last had chest pain. They should ask if you have any other symptoms besides the chest pain and whether you have had these symptoms before, or had any investigation or treatment for them, in the past. You should also be assessed for any cardiovascular risk factors, such as whether you have high blood pressure or are a smoker.

If the healthcare professional thinks that you may have unstable angina or have had a heart attack, you should be offered the care and investigations described in [investigations for unstable angina or a heart attack](#). If they think you may have stable angina, see [tests used to diagnose stable angina](#) for the care and investigations you should be offered.

If the chest pain is not thought to be because of your heart, other possible causes should be discussed with you and may be investigated.

While your healthcare professional is finding out what is wrong, you should have the opportunity to discuss any anxieties you may have about the cause of your chest pain.

## Investigations for unstable angina or a heart attack

As soon as possible, you should have:

- drugs to relieve your pain if needed (such as glyceryl trinitrate [GTN] or an opioid) and regular checks to make sure you are not in pain
- an electrocardiogram (ECG) to show how your heart is working (this may be done by a GP or a member of the ambulance service)
- a single dose of aspirin to make your blood less 'sticky' and less likely to form blood clots (you should not have aspirin if you are allergic to it)
- a test to see whether you need extra oxygen (you should be offered extra oxygen if you need it).

These should not delay you being taken to hospital if you need to go.

If you currently have chest pain or if you have signs of complications that need further investigation, you may need to go to hospital as an emergency for further tests and treatment. This will depend on whether you currently have chest pain and the results of your ECG.

You should not need to go to hospital as an emergency if you do not currently have chest pain and your ECG is normal, but you should have an assessment in hospital on the same day. If your chest pain was more than 3 days ago you should have an assessment, which may be done in hospital. If you don't currently have chest pain you should also be given advice about what to do if it returns.

During the assessment you should be asked to describe your pain and any other symptoms. You should also be asked if you have any history of coronary heart disease. Details of previous investigations or treatments you have had for similar symptoms of chest pain should be noted. You should also be assessed for cardiovascular risk factors. With your permission, your healthcare professional should carry out a physical examination to check your heart, and for any complications.

You may have repeated ECGs. Your blood should be checked for levels of a protein called troponin. Your troponin levels should be measured again in a second blood sample taken 3 hours after the first unless the levels in the first sample are normal and your healthcare professional thinks your risk of a heart attack is low. Raised levels of troponin may be a sign that you have had a heart attack, but they may also be raised if you have other conditions.

If you have unstable angina or have had a heart attack, you will be offered appropriate

treatment.

If the results are not clear, your healthcare professional may ask to repeat some of the tests. This may involve a stay in hospital for observation.

Sometimes a chest X-ray or a type of scan known as a chest CT (computed tomography) scan may be carried out to check whether you have any complications of unstable angina or a heart attack or whether your pain is caused by other conditions.

If your healthcare professional thinks that you may have stable angina, see [tests used to diagnose stable angina](#) for the care and investigations you should be offered.

If your chest pain is not related to your heart, but you have any cardiovascular risk factors, you should be offered advice and you may be offered treatment to help lower your cardiovascular risk.

## Investigations for stable angina

Some tests may not be appropriate for you, depending on your exact circumstances. If you have questions about specific tests and options covered in this information, please talk to a member of your healthcare team.

Your healthcare professional, usually your GP, should ask you about your chest pain and other related symptoms you have now, and any you have had in the past. They will also want to know whether you have a history of coronary heart disease. You will be checked for cardiovascular risk factors. With your permission, your healthcare professional should also examine you physically. This is to check for any signs of other cardiovascular disease, other causes of stable angina or other reasons for your chest pain.

If your healthcare professional thinks that that you have stable angina, further tests will be needed to make a diagnosis. An electrocardiogram (ECG) should be taken as soon as possible to check your heart. You should also be offered a test called CT (computed tomography) coronary angiography (see [tests used to diagnose stable angina](#)) and a blood test to check for any conditions that could make angina worse, for example, anaemia. You may be offered treatment with aspirin (unless you are already taking it regularly or you are allergic to it) while you have further tests done.

If your healthcare professional thinks it is unlikely that you have stable angina, they should consider what else could be causing your chest pain. You may not need further tests, but sometimes a chest X-ray, for example, may be carried out to help find out what is wrong.

If your chest pain is not related to your heart, but you have any cardiovascular risk factors, you should be offered advice and you may be offered treatment to help lower your cardiovascular risk.

## Tests used to diagnose stable angina

A number of tests are used to help diagnose stable angina. You should be offered information about the risks and benefits of these tests.

### What tests should I be offered to find out if I have stable angina?

The following tests are recommended in the NICE guideline, some of which may be appropriate for you. You should be offered CT coronary angiography if your healthcare professional thinks you have stable angina and you may also be offered more of the following tests. You can find more detailed information from the organisations listed in [sources of advice and support](#).

**CT coronary angiography** uses a type of X-ray called computed tomography (CT) scanning. Dye is injected into the person's veins to show whether the coronary arteries are narrowed or blocked.

**Invasive coronary angiography** uses X-rays to see how dye (called contrast medium) moves through the arteries up to the heart. This shows whether there are any narrowed or blocked arteries. It is invasive because it involves a fine, hollow tube called a catheter being inserted through the artery of the person's leg or arm and up to the heart.

**Functional imaging tests** show how the heart works under stress. Different tests can be used depending on the circumstances and the person's preferences.

**Exercise ECG** is a test that shows how the heart works while a person is exercising (walking on a treadmill or using an exercise bike).

You should not be offered MR coronary angiography to diagnose stable angina, which is a type of coronary angiography that uses magnetic resonance (MR) imaging to produce pictures of the coronary arteries.

If you are not diagnosed with stable angina, other reasons for your chest pain should be investigated.

#### Questions you might want to ask about the tests for stable angina

- Please can I have more details about the test I'm having?
- Why am I being offered this test?
- What does the test involve? Are there any risks?
- Where and when will the test be carried out?
- How long will it take to get the results of the test?
- Is there anything special I need to do before the test, for example, should I keep taking my medication?

## Terms explained

### Anaemia

A condition in which a person doesn't have enough red cells or haemoglobin in their blood to carry oxygen around the body. Haemoglobin is the substance that helps to store and carry oxygen in red blood cells. People with anaemia may often feel dizzy, breathless or depressed.

### Cardiovascular risk factors

Cardiovascular risk factors increase the risk of a person having cardiovascular disease. Examples include high blood pressure, smoking, and having high levels of fats (such as cholesterol) in the blood.

## Electrocardiogram (ECG)

A test that measures the electrical activity of a person's heart. It involves pads (electrodes) being stuck to the arms, legs, chest and trunk.

## Glyceryl trinitrate (GTN)

A drug used to relieve or prevent angina. It is usually given as a spray or in the form of a tablet.

## Heart attacks

Heart attacks happen when an artery in the heart becomes blocked. Blood cannot reach part of the heart, which becomes damaged because of lack of oxygen.

## Opioid

An opioid is a type of medication given to relieve pain, for example, morphine. It is given as an injection into the vein.

## Stable angina

Pain or a feeling of tightness in the chest, which can often spread to the jaw, back, shoulders and arms. An attack of angina is usually brought on by physical activity.

## Troponin

A protein released into the blood when heart muscle is damaged.

## Unstable angina

Pain or a feeling of tightness in the chest which occurs even if the person is resting or is doing something that doesn't take much effort. The angina may have been stable before, but has recently worsened or changed.

## Sources of advice and support

- [Action Heart](#), 0138 429 2233
- [Atrial Fibrillation Association](#), 0178 986 7502
- [British Heart Foundation](#), 0300 330 3311
- [HEART UK – The Cholesterol Charity](#), 0345 450 5988
- [Northern Ireland Chest, Heart and Stroke](#), 0289 032 0184

You can also go to [NHS Choices](#) for more information.

NICE is not responsible for the quality or accuracy of any information or advice provided by these organisations.

## Other NICE guidance

- [Myocardial infarction \(acute\): early rule out using high-sensitivity troponin tests \(2014\)](#) NICE diagnostics guidance DG15
- [Cardiovascular disease: risk assessment and reduction, including lipid modification \(2014\)](#) NICE guideline CG181
- [Hypertension in adults: diagnosis and management \(2011\)](#) NICE guideline CG127
- [Stable angina: management \(2011\)](#) NICE guideline CG126
- [Unstable angina and NSTEMI: early management \(2010\)](#) NICE guideline CG94

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## Accreditation

