

# Unstable angina and NSTEMI

Information for the public

Published: 1 March 2010

[nice.org.uk](http://nice.org.uk)

## About this information

NICE clinical guidelines advise the NHS on caring for people with specific conditions or diseases and the treatments they should receive. The information applies to people using the NHS in England and Wales.

This information explains the advice about the care and treatment of people with unstable angina (recurring chest pain) or a type of heart attack called non-ST-segment-elevation myocardial infarction (NSTEMI) that is set out in NICE clinical guideline 94.

In November 2013 a small change was made to the [Further drug treatment](#) section.

### *Does this information apply to me?*

Yes, if you are 18 or over and have been diagnosed with unstable angina or NSTEMI. The advice in the NICE guideline covers your care from the time of diagnosis until you leave hospital.

No, if you have another type of heart problem, such as ST-segment-elevation myocardial infarction (STEMI).

The guidance does not cover specific complications of unstable angina and NSTEMI, or the care of people with unstable angina or NSTEMI after they have left hospital.

## Your care

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

In the NHS, patients and healthcare professionals have rights and responsibilities as set out in the NHS Constitution ([www.gov.uk/government/publications/the-nhs-constitution-for-england](http://www.gov.uk/government/publications/the-nhs-constitution-for-england)). All NICE guidance is written to reflect these. You have the right to be involved in discussions and make informed decisions about your treatment and care with your healthcare team. Your choices are important and healthcare professionals should support these wherever possible. You should be treated with dignity and respect.

To help you make decisions, healthcare professionals should explain unstable angina and NSTEMI and the possible treatments for them. They should cover possible benefits and risks related to your personal circumstances. You should be given relevant information that is suitable for you and reflects any religious, ethnic, or cultural needs you have. It should also take into account whether you have any physical or learning disability, sight or hearing problem or language difficulties. You should have access to an interpreter or advocate (someone who helps you put your views across) if needed.

Your family and carers should be given their own information and support. If you agree, they should also have the chance to be involved in decisions about your care.

You should be able to discuss or review your care as your treatment progresses, or your circumstances change. This may include changing your mind about your treatment or care. If you have made an 'advance directive' (have already given instructions) about any treatments that you do not wish to have, your healthcare professionals have a legal obligation to take this into account.

All treatment and care should be given with your informed consent. If, during the course of your illness, you are not able to make decisions about your care, your healthcare professionals have a duty to talk to your family or carers unless you have specifically asked them not to. Healthcare professionals should follow the Department of Health's advice on consent ([www.gov.uk/government/publications/reference-guide-to-consent-for-examination-or-treatment-second-edition](http://www.gov.uk/government/publications/reference-guide-to-consent-for-examination-or-treatment-second-edition)) and the code of practice for the Mental Capacity Act. Information about the Act and consent issues is available from [www.nhs.uk/CarersDirect/moneyandlegal/legal](http://www.nhs.uk/CarersDirect/moneyandlegal/legal). In Wales healthcare professionals should follow advice on consent from the Welsh Government ([www.wales.nhs.uk/consent](http://www.wales.nhs.uk/consent)).

## Unstable angina and NSTEMI

Unstable angina and NSTEMI are both heart conditions that need treatment and are often a warning of more serious problems in the future. They may cause chest pain or discomfort. The pain is caused by a blockage or narrowing of one of the main blood vessels to the heart (coronary arteries). This usually happens when a person has coronary heart disease, which is caused by a build up of fatty materials in the walls of the artery.

In people with angina, tightness or pain in the chest is typically brought on by exercise, emotional distress, cold weather, or activity after eating a large meal. Angina is called 'unstable' when it has developed suddenly, has suddenly got worse or occurs at rest.

NSTEMI is a type of heart attack that happens when one of the coronary arteries suddenly becomes partly blocked by a blood clot. The name NSTEMI comes from the pattern seen on a test called an electrocardiogram, or ECG, which measures the rhythm and electrical activity of the heart. Other types of heart attack, such as ST-segment-elevation myocardial infarction (STEMI), are not covered by this guideline.

Unstable angina and NSTEMI are similar in many ways and the early stages of their treatment are also similar.

## Treatments

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

Over the course of your treatment you will be offered a number of different drugs to 'thin' your blood and make it less likely to form blood clots. Some of these will be tablets that you will carry on taking after leaving hospital. Others will be given by drip while you are in hospital. Before offering you any drug, your cardiac team will carefully consider the likely benefits and balance these against any possible side effects.

### *Early drug treatment*

As soon as a diagnosis of unstable angina or NSTEMI has been made, you will be offered aspirin (an antiplatelet drug) unless there are reasons why you cannot take it. You will be advised to take aspirin indefinitely. If you are allergic to aspirin, you may be offered another antiplatelet drug.

You will also be offered an injection of another type of 'blood-thinning' drug (an [antithrombin](#)). This will probably be [fondaparinux](#), but may be [heparin](#) if you are likely to have certain tests within the next 24 hours. If you have kidney problems, low body weight, or you are an older person, you may be offered another antithrombin.

## *Deciding on further treatments*

When considering further treatments your cardiac team will balance the likely benefits against the risks of the treatment. They will consider several factors that indicate how likely you are to have more serious heart problems in the future and how well you are likely to cope with the treatments. These factors include your age, whether you've had a heart attack or heart surgery in the past, your blood pressure and heart rate, your ECG pattern, and the results of blood tests.

The team will offer you clear information about the risks and benefits of any treatments. They will discuss this with you to help you make a choice.

## Questions you might like to ask about possible treatments

- Why have you decided to offer me this type of treatment?
- What are the risks and benefits of this treatment?
- What will the treatment involve?
- How will the treatment help me? What effect will it have on my symptoms and everyday life? What sort of improvements might I expect? Will it make me live longer?
- Why have you given me a higher first dose of a drug and then a lower one to carry on with?
- What are my options for treatments other than the recommended treatment?
- Can you give me a leaflet about the treatment?

## Further drug treatment

If you are given clopidogrel, you may be given a card. This will remind you to consult a doctor about how long you should carry on taking clopidogrel.

Your cardiac team will probably offer you another antiplatelet drug called [clopidogrel](#) to take as well as aspirin. You will be advised to take clopidogrel for 12 months.

If the team think you will benefit, you may also be offered another type of antiplatelet drug called a [glycoprotein IIb/IIIa inhibitor](#) by drip, or another antithrombin called [bivalirudin](#) instead of heparin.

## Coronary angiography

The cardiac team might decide that more information about where the coronary artery is blocked and the size of the blockage will help them to manage your condition. If so, they should offer you a test called [coronary angiography](#) within 96 hours of hospital admission.

You should also be offered coronary angiography if you have had more symptoms since admission to hospital or other tests (called [ischaemia testing](#)) show more problems with your heart. The cardiac team will look at the results of the coronary angiography and consider whether procedures for improving the blood flow to the heart would be suitable for you.

## Procedures to improve blood flow to the heart

When the coronary arteries are narrowed or blocked, blood flow to the heart can be restored in two ways – by a procedure that stretches and holds open the narrowed part of the artery (called [percutaneous coronary intervention](#) or PCI, or [angioplasty](#) with stent placement) or using surgery to bypass the blocked or narrowed artery ([coronary artery bypass grafting](#)). Your cardiac team will discuss which of the procedures is most suitable for you and will advise you about the risks and benefits. When there is a choice of procedure, the team should discuss this with you.

### Questions you might like to ask about procedures to improve blood flow to the heart

- Will these procedures help me?

- Which is the best procedure for me?
- What does each procedure involve?
- What are the possible risks and benefits?
- What could happen if I choose not to have the recommended procedure?

### *Percutaneous coronary intervention (angioplasty)*

If you are offered percutaneous coronary intervention to widen a narrowed artery, you may be offered other 'blood-thinning' drugs by drip at the time of the procedure. You will be on a drip for several hours afterwards.

### *Coronary artery bypass grafting*

If you are offered coronary artery bypass grafting, your cardiac team may talk to you about stopping the 'blood-thinning' drug clopidogrel 5 days before the procedure.

## **Further tests**

### *Testing for ischaemia*

If you haven't had coronary angiography while you're in hospital you may be offered another test before you are discharged to look at the blood flow to your heart ([ischaemia testing](#)).

### *Assessing left ventricular function*

If you have had a heart attack, you should be offered a test before you leave hospital to measure how well your heart is pumping blood around your body (left ventricular function). If you have unstable angina, you may be offered this type of test before you leave hospital.

## **When you leave hospital**

You may be given a future appointment at hospital or you may be given an appointment for follow-up with a cardiac nurse at your GP's surgery.

Before you leave hospital you should be offered advice and information about:

- your condition and what arrangements have been made for future appointments
- programmes of education and activity, including psychological support, to help you recover ([cardiac rehabilitation](#))
- changes you can make to your lifestyle
- drug treatments.

You can find more information about this in 'Preventing another heart attack' (information about NICE clinical guideline 172), which is available from [www.nice.org.uk/guidance/CG172](http://www.nice.org.uk/guidance/CG172)

## Questions you might like to ask when you leave hospital

- What arrangements have been made for future appointments?
- What arrangements have been made for my cardiac rehabilitation?
- Which drugs should I carry on taking and for how long?
- Should I make any changes to my lifestyle? Should I give up smoking? How much alcohol can I drink? Can you give me any information about improving my diet?
- When will it be safe for me to return to my usual activities (including sex)?
- Is it safe for me to exercise and how much exercise should I do?
- Can I get any advice and support if I'm worried about coping at home?

## Explanation of medical words and terms

### *Antiplatelets*

A group of 'blood-thinning' drugs that make your blood less sticky and less likely to form blood clots.

## *Aspirin, clopidogrel and the glycoprotein IIb/IIIa inhibitors eptifibatide, tirofiban and abciximab*

Types of antiplatelet drugs. Aspirin and clopidogrel are tablets. The glycoprotein IIb/IIIa inhibitors are given by drip.

## *Antithrombins*

Another group of 'blood-thinning' drugs that make your blood less likely to form blood clots.

## *Cardiac rehabilitation*

A programme of education and activity (including psychological support) to help you recover.

## *Coronary angiography*

Also known as cardiac catheterisation, it allows the cardiac team to look inside your coronary arteries for narrowing or blockage. Special dye is passed into the coronary arteries through a thin flexible tube (catheter) and shows up narrowed areas on an X-ray.

## *Coronary artery bypass grafting*

A type of heart surgery that helps to improve the blood supply to the heart. The surgeon bypasses the narrow part of the coronary artery using a blood vessel from the chest, legs or arms.

## *Coronary heart disease*

Is caused by a build up of fatty materials in the walls of the coronary arteries. This causes the coronary arteries to narrow and makes it harder for them to supply enough blood and oxygen to the heart.

## *Electrocardiogram (ECG)*

A quick, painless test that measures the rhythm and electrical activity of the heart. Small patches called electrodes are attached to your arms, legs and chest. These pick up electrical signals from the heart and can show whether you have a complete or partial blockage of a coronary artery.



## *Fondaparinux, heparin and bivalirudin*

Types of antithrombin drugs that are given by injection.

## *Ischaemia testing*

Ischaemia testing, for example exercise ECG, allows the cardiac team to look at how well your heart is coping when you are active (exercising on a treadmill or exercise bike).

## *NSTEMI (non-ST-segment-elevation myocardial infarction)*

A type of heart attack caused by a blood clot partly blocking one of the coronary arteries. The name comes from the pattern seen on an electrocardiogram.

## *Percutaneous coronary intervention (PCI or angioplasty)*

A procedure to stretch and hold open the narrowed part of the coronary artery. It's usual to have coronary angiography first but sometimes PCI is done at the same time. A balloon attached to a thin flexible tube (catheter) is inflated to squeeze open the narrowed artery. The catheter contains a small tube (called a stent) which holds the artery open and allows the blood to flow more easily.

## *Unstable angina*

A pain or a feeling of tightness in the chest that 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.

## **More information**

The organisations below can provide more information and support for people with unstable angina and people with NSTEMI. NICE is not responsible for the quality or accuracy of any information or advice provided by these organisations.

- British Heart Foundation, 0300 330 3311 [www.bhf.org.uk](http://www.bhf.org.uk)
- HEART UK – The Cholesterol Charity, 0845 450 5988 [www.heartuk.org.uk](http://www.heartuk.org.uk)
- Northern Ireland Chest, Heart and Stroke, 028 9032 0184 [www.nichsa.com](http://www.nichsa.com)

You can also go to NHS Choices ([www.nhs.uk](http://www.nhs.uk)) for more information.

### *Accreditation*

