NICE National Institute for Health and Care Excellence

NICE Pathways

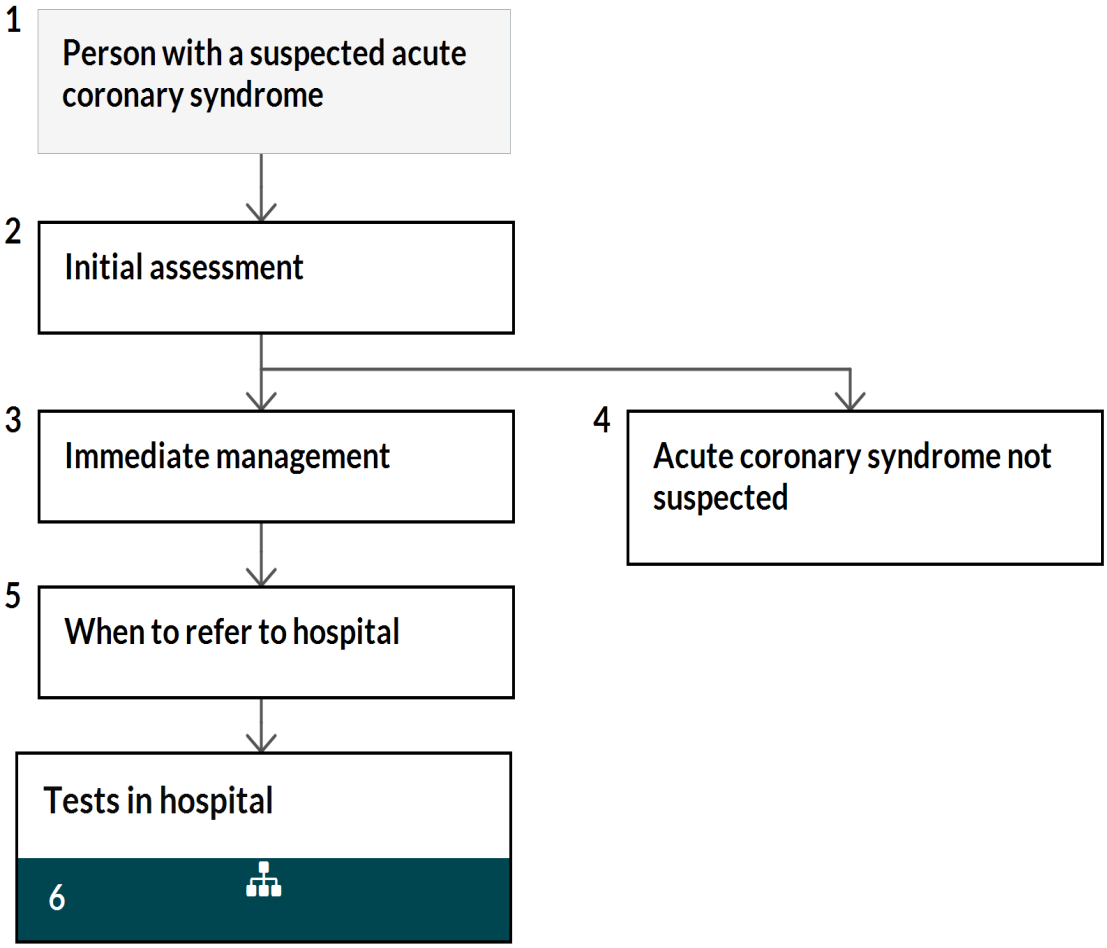
Assessment and immediate management of suspected acute coronary syndrome

NICE Pathways bring together everything NICE says on a topic in an interactive flowchart. NICE Pathways are interactive and designed to be used online.

They are updated regularly as new NICE guidance is published. To view the latest version of this NICE Pathway see:

http://pathways.nice.org.uk/pathways/chest-pain
NICE Pathway last updated: 04 October 2021

This document contains a single flowchart and uses numbering to link the boxes to the associated recommendations.



1 Person with a suspected acute coronary syndrome

No additional information

2 Initial assessment

Check immediately whether people currently have chest pain. If they are pain free, check when their last episode of pain was, particularly if they have had pain in the last 12 hours.

Determine whether the chest pain may be cardiac and therefore whether this guidance is relevant, by considering:

- the history of the chest pain
- the presence of cardiovascular risk factors
- history of ischaemic heart disease and any previous treatment
- previous investigations for chest pain.

Initially assess people for any of the following symptoms, which may indicate an acute coronary syndrome:

- pain in the chest and/or other areas (for example, the arms, back or jaw) lasting longer than 15 minutes
- chest pain associated with nausea and vomiting, marked sweating, breathlessness, or particularly a combination of these
- chest pain associated with haemodynamic instability
- new onset chest pain, or abrupt deterioration in previously stable angina, with recurrent chest pain occurring frequently and with little or no exertion, and with episodes often lasting longer than 15 minutes.

Do not use people's response to GTN to make a diagnosis.

Do not assess symptoms of an acute coronary syndrome differently in men and women. Not all people with an acute coronary syndrome present with central chest pain as the predominant feature.

Do not assess symptoms of an acute coronary syndrome differently in ethnic groups. There are no major differences in symptoms of an acute coronary syndrome among different ethnic groups.

3 Immediate management of suspected acute coronary syndrome

When an acute coronary syndrome is suspected, start management immediately in the order appropriate to the circumstances and take a resting 12-lead ECG. Take the ECG as soon as possible, but do not delay transfer to hospital.

Take a resting 12-lead ECG as soon as possible. When people are referred, send the results to hospital before they arrive if possible. Recording and sending the ECG should not delay transfer to hospital.

Offer pain relief as soon as possible. This may be achieved with GTN (sublingual or buccal), but offer intravenous opioids such as morphine, particularly if an acute myocardial infarction is suspected.

Offer people a single loading dose of 300 mg aspirin as soon as possible unless there is clear evidence that they are allergic to it.

If aspirin is given before arrival at hospital, send a written record that it has been given with the person.

Do not offer dual antiplatelet therapy to people with chest pain before a diagnosis of unstable angina or NSTEMI is made.

Only offer other antiplatelet agents in hospital. Follow the NICE Pathway on acute coronary syndromes: early management.

Do not routinely administer oxygen, but monitor oxygen saturation using pulse oximetry as soon as possible, ideally before hospital admission. Only offer supplemental oxygen to:

- people with oxygen saturation (SpO_2) of less than 94% who are not at risk of hypercapnic respiratory failure, aiming for SpO_2 of 94–98%
- people with chronic obstructive pulmonary disease who are at risk of hypercapnic respiratory failure, to achieve a target SpO_2 of 88–92% until blood gas analysis is available.

Monitor people with acute chest pain, using clinical judgement to decide how often this should be done, until a firm diagnosis is made. This should include:

- exacerbations of pain and/or other symptoms
- pulse and blood pressure
- heart rhythm

- oxygen saturation by pulse oximetry
- repeated resting 12-lead ECGs **and**
- checking pain relief is effective.

Manage other therapeutic interventions using the NICE Pathway on acute coronary syndromes: early management.

NICE has published medtech innovation briefings on:

- remote ECG interpretation consultancy services for cardiovascular disease
- Nasal Alar SpO2 sensor for monitoring oxygen saturation by pulse oximetry.

4 Acute coronary syndrome not suspected

If an acute coronary syndrome is not suspected, consider other causes of the chest pain, some of which may be life-threatening.

If an acute coronary syndrome has been excluded at any point in the care pathway, but people have risk factors for cardiovascular disease, follow the appropriate guidance, for example, the NICE Pathways on cardiovascular disease prevention or hypertension.

5 When to refer to hospital

Refer people to hospital as an emergency if an acute coronary syndrome is suspected (see initial assessment [See page 3]) and:

- they currently have chest pain **or**
- they are currently pain free, but had chest pain in the last 12 hours, and a resting 12-lead ECG is abnormal or not available.

Refer people to hospital as an emergency if they have a recent (confirmed or suspected) acute coronary syndrome and develop further chest pain.

If an acute coronary syndrome is suspected and there are no reasons for emergency referral, refer people for urgent same-day assessment if:

- they had chest pain in the last 12 hours, but are now pain free with a normal resting 12-lead ECG **or**
- the last episode of pain was 12 to 72 hours ago.

Refer people for assessment in hospital if an acute coronary syndrome is suspected and:

- the pain has resolved **and**
- there are signs of complications such as pulmonary oedema.

Use clinical judgement to decide whether referral should be as an emergency or urgent same-day assessment.

If a recent acute coronary syndrome is suspected in people whose last episode of chest pain was more than 72 hours ago and who have no complications such as pulmonary oedema:

- carry out a detailed clinical assessment (see the recommendations on physical examination and detailed clinical history for initial assessment in hospital)
- confirm the diagnosis by resting 12-lead ECG and blood troponin level
- take into account the length of time since the suspected acute coronary syndrome when interpreting the troponin level.

Use clinical judgement to decide whether referral is necessary and how urgent this should be.

6 Tests in hospital

See Chest pain / Tests in hospital for people with a suspected acute coronary syndrome

Glossary

ECG

electrocardiogram

GTN

glyceryl trinitrate

NSTEMI

non-ST-segment elevation myocardial infarction

Sources

Acute coronary syndromes (2020) NICE guideline NG185

Recent-onset chest pain of suspected cardiac origin: assessment and diagnosis (2010 updated 2016) NICE guideline CG95

Your responsibility

Guidelines

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to

advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Technology appraisals

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take these recommendations fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this interactive flowchart is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Commissioners and/or providers have a responsibility to provide the funding required to enable the recommendations to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Medical technologies guidance, diagnostics guidance and interventional procedures guidance

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take these recommendations fully into account. However, the interactive flowchart does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with

the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the recommendations, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this interactive flowchart should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.