NHS
National Institute for Health and Clinical Excellence

Quick reference guide

Issue date: July 2011

Management of stable angina

This guideline partially updates
NICE technology appraisal guidance 73

NICE clinical guideline 126
Developed by the National Clinical Guideline Centre

About this booklet

This is a quick reference guide that summarises the recommendations NICE has made to the NHS in 'Management of stable angina' (NICE clinical guideline 126).

This guidance partially updates NICE technology appraisal guidance 73 (published November 2003).

Who should read this booklet?

This quick reference guide is for healthcare professionals and other staff who care for people with stable angina.

Who wrote the guideline?

The guideline was developed by the National Clinical Guideline Centre, which is based at the Royal College of Physicians. The Centre worked with a group of healthcare professionals (including consultants, GPs and nurses), patients and carers, and technical staff, who reviewed the evidence and drafted the recommendations. The recommendations were finalised after public consultation.

For more information on how NICE clinical guidelines are developed, go to **www.nice.org.uk**

Where can I get more information about the guideline?

The NICE website has the recommendations in full, reviews of the evidence they are based on, a summary of the guideline for patients and carers, and tools to support implementation (see page 12 for more details).

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NICE clinical guidelines are recommendations about the treatment and care of people with specific diseases and conditions in the NHS in England and Wales.

This guidance represents the view of NICE, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance 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, and informed by the summary of product characteristics of any drugs they are considering.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

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Patient-centred care

Treatment and care should take into account patients' individual needs and preferences. Good communication is essential, supported by evidence-based information, to allow patients to reach informed decisions about their care. Follow advice on seeking consent from the Department of Health or Welsh Government if needed. If the patient agrees, families and carers should have the opportunity to be involved in decisions about treatment and care.

Introduction

Stable angina is pain or constricting discomfort that typically occurs in the front of the chest (but may radiate to the neck, shoulders, jaw or arms) and is brought on by physical exertion or emotional stress. Some people can have atypical symptoms, such as gastrointestinal discomfort, breathlessness or nausea. Angina is the main symptom of myocardial ischaemia and is usually caused by atherosclerotic obstructive coronary artery disease restricting blood flow and therefore oxygen delivery to the heart muscle.

The information in this guide relates only to people with a diagnosis of stable angina. Coronary artery disease can also present as acute coronary syndromes such as unstable angina or myocardial infarction. 'Chest pain of recent onset' (NICE clinical guideline 95), covers the diagnosis of stable angina and should be read in conjunction with this guide.

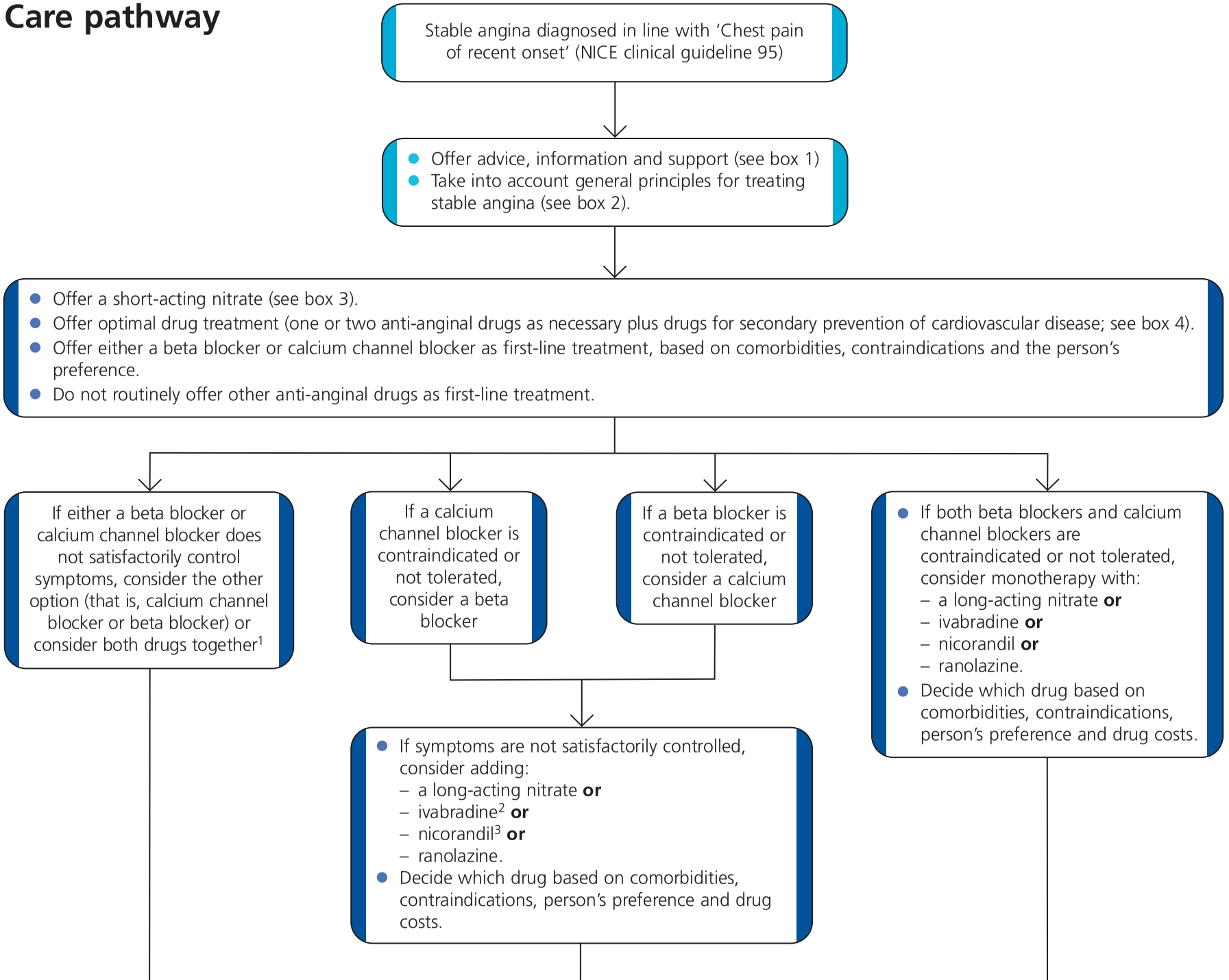
Key priorities for implementation

- Explore and address issues according to the person's needs, which may include:
  - self-management skills such as pacing their activities and goal setting
  - concerns about the impact of stress, anxiety or depression on angina
  - advice about physical exertion including sexual activity.
- Offer people optimal drug treatment for the initial management of stable angina. Optimal drug treatment consists of one or two anti-anginal drugs as necessary plus drugs for secondary prevention of cardiovascular disease.
- Consider revascularisation (coronary artery bypass graft [CABG] or percutaneous coronary intervention [PCI]) for people with stable angina whose symptoms are not satisfactorily controlled with optimal medical treatment.
- When either procedure would be appropriate, explain to the person the risks and benefits of PCI and CABG for people with anatomically less complex disease whose symptoms are not satisfactorily controlled with optimal medical treatment. If the person does not express a preference, take account of the evidence that suggests that PCI may be the more cost-effective procedure in selecting the course of treatment.
- When either procedure would be appropriate, take into account the potential survival advantage of CABG over PCI for people with multivessel disease whose symptoms are not satisfactorily controlled with optimal medical treatment and who:
  - have diabetes **or**
  - are over 65 years **or**
  - have anatomically complex three-vessel disease, with or without involvement of the left main stem.
- Consider the relative risks and benefits of CABG and PCI for people with stable angina using a systematic approach to assess the severity and complexity of the person's coronary disease, in addition to other relevant clinical factors and comorbidities.
- Ensure that there is a regular multidisciplinary team meeting to discuss the risks and benefits of continuing drug treatment or the revascularisation strategy (CABG or PCI) for people with stable angina. The team should include cardiac surgeons and interventional cardiologists. Treatment strategy should be discussed for the following people, including but not limited to:
  - people with left main stem or anatomically complex three-vessel disease
  - people in whom there is doubt about the best method of revascularisation because of the complexity of coronary anatomy, the extent of stenting required or other relevant clinical factors and comorbidities.

Continued

- Ensure people with stable angina receive balanced information and have the opportunity to discuss the benefits, limitations and risks of continuing drug treatment, CABG and PCI to help them make an informed decision about their treatment. When either revascularisation procedure is appropriate, explain to the person:
  - The main purpose of revascularisation is to improve the symptoms of stable angina.
  - CABG and PCI are effective in relieving symptoms.
  - Repeat revascularisation may be necessary after either CABG or PCI and the rate is lower after CABG.
  - Stroke is uncommon after either CABG or PCI, and the incidence is similar between the two procedures.
  - There is a potential survival advantage with CABG for some people with multivessel disease.
- Discuss the following with people whose symptoms are satisfactorily controlled with optimal medical treatment:
  - their prognosis without further investigation
  - the likelihood of having left main stem disease or proximal three-vessel disease
  - the availability of CABG to improve the prognosis in a subgroup of people with left main stem or proximal three-vessel disease
  - the process and risks of investigation
  - the benefits and risks of CABG, including the potential survival gain.

Care pathway



- Do not offer a third anti-anginal drug if stable angina is controlled with two anti-anginal drugs.
- Consider adding a third anti-anginal drug **only** when:
  - two anti-anginal drugs do not satisfactorily control symptoms **and**
  - the person is waiting for revascularisation or revascularisation is not appropriate or acceptable.
- Decide which drug based on comorbidities, contraindications, person's preference and drug costs.

Are symptoms satisfactorily controlled?

Yes

Symptoms satisfactorily controlled with optimal drug treatment (see box 4)

- Discuss:
  - the prognosis without further investigation
  - the likelihood of having left main stem or proximal three-vessel disease
  - coronary artery bypass graft (CABG) surgery to improve the prognosis in left main stem or proximal three-vessel disease
  - the process and risks of investigation
  - the benefits and risks of CABG, including potential survival gain.
- After discussion consider:
  - a functional or non-invasive anatomical test to identify people who might benefit from surgery[4]. Results may be available from diagnostic assessment
  - coronary angiography if the test shows extensive ischaemia or likely left main stem or proximal three-vessel disease, and revascularisation is acceptable and appropriate
  - CABG if coronary angiography shows left main stem or proximal three-vessel disease and the coronary anatomy is suitable.

No

Symptoms not satisfactorily controlled with optimal drug treatment (see box 4)

- Consider revascularisation (coronary artery bypass graft [CABG] or percutaneous coronary intervention [PCI]).
- Offer coronary angiography to guide treatment strategy.
- Additional non-invasive or invasive functional testing may be needed[4].
- Consider the risks and benefits of continuing drug treatment or performing revascularisation and provide information (see boxes 5 and 6).
- If the coronary anatomy is suitable and revascularisation is appropriate:
  - offer CABG if PCI is not appropriate
  - offer PCI if CABG is not appropriate.
- If either CABG or PCI is appropriate take into account:
  - that for people with anatomically less complex disease who do not have a preference for one procedure PCI may be more cost effective
  - the potential survival advantage of CABG for people with multivessel disease who:
    - have diabetes **or**
    - are over 65 **or**
    - have anatomically complex three-vessel disease, with or without involvement of the left main stem.

Revascularisation

Re-evaluation

- If stable angina does not respond to drug treatment and/or revascularisation, re-evaluate. This may include:
  - exploring the person's understanding of their condition and the impact of symptoms on quality of life
  - reviewing the diagnosis and considering non-ischaemic causes of pain
  - reviewing drug treatment and considering future drug treatment and revascularisation options
  - acknowledging the limitations of further treatment
  - explaining how the person can manage their pain themselves
  - specific attention to the role of psychological factors in pain
  - developing skills to modify cognitions and behaviours associated with pain.
- Consider cardiac syndrome X in people with angiographically normal coronary arteries and continuing anginal symptoms:
  - continue drug treatment for stable angina if symptoms improve
  - do not routinely offer drugs for secondary prevention of cardiovascular disease.

1 When combining a calcium channel blocker with a beta blocker, use a dihydropyridine calcium channel blocker, for example, slow release nifedipine, amlodipine or felodipine.
2 When combining ivabradine with a calcium channel blocker, use a dihydropyridine calcium channel blocker, for example, slow release nifedipine, amlodipine or felodipine.
3 At the time of publication (July 2011), nicorandil did not have UK marketing authorisation for this indication. Informed consent should be obtained and documented.
4 This partially updates recommendation 1.2 of 'Myocardial perfusion scintigraphy for the diagnosis and management of angina and myocardial infarction' (NICE technology appraisal guidance 73).

Box 1 Offering advice, information and support

- Include the person's family or carers in discussions when appropriate.
- Explain stable angina, factors provoking it and its long-term course and management.
- Encourage questions and provide opportunities for the person to discuss concerns, ideas and expectations about their condition, prognosis and treatment.
- Explore and address any misconceptions about stable angina and its implications for daily activities, heart attack risk and life expectancy.
- Discuss the purpose, risks and benefits of treatment.
- Assess the need for lifestyle advice and psychological support. Offer interventions as necessary.
- Explore and address issues such as self-management skills, concerns about the impact of stress, anxiety or depression on angina and physical exertion including sex.
- Advise the person to seek professional help if their angina suddenly worsens.

Box 2 General principles for treating stable angina

- Do not:
  - exclude people from treatment based on their age alone
  - investigate or treat symptoms differently based on gender or ethnic group
  - offer vitamins or fish oil. Inform people there is no evidence that they help stable angina
  - offer transcutaneous electrical nerve stimulation (TENS), enhanced external counterpulsation (EECP) or acupuncture to manage stable angina.

Box 3 Short-acting nitrates for preventing and treating angina

- Advise people:
  - how to administer short-acting nitrates
  - to use immediately before planned exercise or exertion
  - side-effects such as flushing, headache and light-headedness may occur
  - to sit down or hold on to something if feeling light-headed.
- When used to treat episodes of angina advise people:
  - to repeat the dose after 5 minutes if the pain has not gone
  - to call an emergency ambulance if the pain has not gone 5 minutes after the second dose.

Box 4 Optimal drug treatment

- Optimal drug treatment is one or two anti-anginal drugs as necessary plus drugs for secondary prevention of cardiovascular disease.
- Provide information about drugs in line with 'Medicines adherence' (NICE clinical guideline 76).

Anti-anginal drug treatment

- Advise people that anti-anginal drug treatment aims to prevent episodes of angina and secondary prevention aims to prevent cardiovascular events such as heart attack and stroke.
- Discuss how side effects of drug treatment might affect daily activities, and the importance of taking drug treatment regularly.
- Review response to treatment, including any side effects, 2–4 weeks after starting or changing drug treatment.
- Titrate dosage against symptoms up to the maximum tolerable dosage.

Secondary prevention

- Consider aspirin 75 mg daily. Take into account risk of bleeding and comorbidities.
- Consider angiotensin-converting enzyme (ACE) inhibitors for people with stable angina and diabetes. Offer or continue ACE inhibitors for other conditions, in line with the relevant NICE guidance.
- Offer statins in line with 'Lipid modification' (NICE clinical guideline 67).
- Offer treatment for high blood pressure in line with 'Hypertension' (NICE clinical guideline 34)[5].

Box 5 Risk and benefits

- Consider the relative risks and benefits of CABG and PCI using a systematic approach to assess severity and complexity of coronary disease and other relevant clinical factors and comorbidities.
- Ensure regular multidisciplinary team discussion about treatment strategy for people, including but not limited to:
  - people with left main stem or anatomically complex three-vessel disease **or**
  - when there is doubt about the best method of revascularisation because of coronary anatomy, extent of stenting required or other relevant clinical factors or comorbidities.
- The multidisciplinary team should include interventional cardiologists and cardiac surgeons.

Box 6 Information about PCI and CABG

- Ensure people receive balanced information and have the opportunity to discuss the benefits, limitations and risks of continuing drug treatment, CABG and PCI to help them make an informed decision.
- If either CABG or PCI is appropriate, explain:
  - the main purpose of revascularisation is to improve symptoms
  - CABG and PCI are effective in relieving symptoms
  - repeat revascularisation may be needed and the rate is lower after CABG
  - stroke is uncommon and the incidence is similar with CABG and PCI
  - the potential survival advantage with CABG for some people with multivessel disease.
- Discuss the practical aspects including vein and/or artery harvesting, likely length of hospital stay, recovery time and drug treatment after the procedure.

[5] NICE is updating clinical guideline 34 on hypertension (publication expected August 2011).

Further information

Ordering information

You can download the following documents from **www.nice.org.uk/guidance/CG126**

- The NICE guideline – all the recommendations.
- A quick reference guide (this document) – a summary of the recommendations for healthcare professionals.
- 'Understanding NICE guidance' – a summary for patients and carers.
- The full guideline – all the recommendations, details of how they were developed, and reviews of the evidence they were based on.

For printed copies of the quick reference guide or 'Understanding NICE guidance', phone NICE publications on 0845 003 7783 or email publications@nice.org.uk and quote:

- N2602 (quick reference guide)
- N2603 ('Understanding NICE guidance').

Implementation tools

NICE has developed tools to help organisations implement this guidance (see **www.nice.org.uk/guidance/CG126**).

Related NICE guidance

For information about NICE guidance that has been issued or is in development, see **www.nice.org.uk**

Published

- Off-pump coronary artery bypass grafting. NICE interventional procedure guidance 377 (2011). Available from **www.nice.org.uk/guidance/IPG377**
- Chronic heart failure (partial update). NICE clinical guideline 108 (2010). Available from **www.nice.org.uk/guidance/CG108**
- Chest pain of recent onset. NICE clinical guideline 95 (2010). Available from **www.nice.org.uk/guidance/CG95**
- Unstable angina and NSTEMI. NICE clinical guideline 94 (2010). Available from **www.nice.org.uk/guidance/CG94**
- Endoscopic saphenous vein harvest for coronary artery bypass grafting. NICE interventional procedure guidance 348 (2010). Available from **www.nice.org.uk/guidance/IPG348**
- Prevention of cardiovascular disease at population level. NICE public health guidance 25 (2010). Available from **www.nice.org.uk/guidance/PH25**
- Depression in chronic health problems. NICE clinical guideline 91 (2009). Available from **www.nice.org.uk/guidance/CG91**
- Medicines adherence. NICE clinical guideline 76 (2009). Available from **www.nice.org.uk/guidance/CG76**
- Percutaneous laser revascularisation for refractory angina pectoris. NICE interventional procedure guidance 302 (2009). Available from **www.nice.org.uk/guidance/IPG302**

- Transmyocardial laser revascularisation for refractory angina pectoris. NICE interventional procedure guidance 301 (2009). Available from **www.nice.org.uk/guidance/IPG301**
- Spinal cord stimulation for chronic pain of neuropathic or ischaemic origin. NICE technology appraisal guidance 159 (2008). Available from **www.nice.org.uk/guidance/TA159**
- Drug-eluting stents for the treatment of coronary artery disease (part review of NICE technology appraisal guidance 71). NICE technology appraisal guidance 152 (2008). Available from **www.nice.org.uk/guidance/TA152**
- Lipid modification. NICE clinical guideline 67 (2008). Available from **www.nice.org.uk/guidance/CG67**
- Smoking cessation services. NICE public health guidance 10 (2008). Available from **www.nice.org.uk/guidance/PH10**
- Ezetimibe for the treatment of primary (heterozygous-familial and non-familial) hypercholesterolaemia. NICE technology appraisal guidance 132 (2007). Available from **www.nice.org.uk/guidance/TA132**
- MI: secondary prevention. NICE clinical guideline 48 (2007). Available from **www.nice.org.uk/guidance/CG48**
- Varenicline for smoking cessation. NICE technology appraisal guidance 123 (2007). Available from **www.nice.org.uk/guidance/TA123**
- Hypertension. NICE clinical guideline 34 (2006). Available from **www.nice.org.uk/guidance/CG34**
- Statins for the prevention of cardiovascular events. NICE technology appraisal guidance 94 (2006). Available from **www.nice.org.uk/guidance/TA94**
- Intraoperative fluorescence angiography in coronary artery bypass grafting. NICE interventional procedure guidance 98 (2004). Available from **www.nice.org.uk/guidance/IPG98**
- Myocardial perfusion scintigraphy for the diagnosis and management of angina and myocardial infarction. NICE technology appraisal guidance 73 (2003). Available from **www.nice.org.uk/guidance/TA73**
- Guidance on the use of coronary artery stents. NICE technology appraisal guidance 71 (2003). Available from **www.nice.org.uk/guidance/TA71**

Under development

- Hypertension (update). NICE clinical guideline. Publication expected August 2011.

Updating the guideline

This guideline will be updated as needed, and information about the progress of any update will be available at **www.nice.org.uk/guidance/CG126**

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