NICE GUIDELINES

Secondary prevention for patients after a myocardial infarction: summary of NICE guidance

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Why read this summary?

Although premature mortality from coronary heart disease in the United Kingdom has fallen since the 1970s, it remains higher than in most other Western countries. After an acute myocardial infarction, many eligible patients are prescribed aspirin, β blockers, angiotensin converting enzyme inhibitors, and statins. Not everyone, however, is offered the most effective secondary prevention^{1 2}—that is, all four of these drugs or other effective drugs—nor does everyone receive lifestyle advice and cardiac rehabilitation. This article summarises the most recent recommendations from the National Institute for Health and Clinical Excellence (NICE) on effective secondary prevention in patients after myocardial infarction.³ The detailed consideration of the evidence is available in the full guideline (www.nice.org.uk/CG048).

Recommendations

NICE recommendations are based on systematic reviews of best available evidence. For the guidance on secondary prevention for patients after a myocardial infarction, in cases where minimal evidence was available, the guideline development group developed the recommendations on the basis of their own opinions and those of leading specialists; such recommendations are indicated with an asterisk (*).

Every discharge summary after a myocardial infarction should confirm this diagnosis and include results of investigations, future management plans, and advice on secondary prevention.*

Lifestyle

Lifestyle advice should be consistent and take account of patients' current habits; any changes should be tailored to the individual.

Advise patients:

- To take enough regular physical activity to increase exercise capacity (reduces total mortality), building this up to 20-30 minutes a day to the point of slight breathlessness
- To quit smoking. Offer support, advice, and pharmacotherapy to those wishing to quit^{4 5}
- To eat a Mediterranean-style diet: more bread, fruit, vegetables, and fish; less meat; inclusion of products based on vegetable and plant oils rather than butter and cheese (reduces total mortality and the risk of myocardial infarction)
- To consume at least 7 g of omega 3 fatty acids (from two to four portions of oily fish) a week. If

within three months of the patient's myocardial infarction they are not achieving this, consider offering at least 1 g daily of omega 3 acid ethyl esters treatment licensed for secondary prevention after myocardial infarction for up to four years. It is not recommended that omega 3 acid ethyl esters supplements are routinely prescribed to patients who have had a myocardial infarction more than three months earlier (no evidence of benefit)

- To keep weekly alcohol consumption within safe limits (no more than 21 units a week for men, 14 units for women) and to avoid binge drinking (more than three drinks in 1-2 hours)*
- To achieve and maintain a healthy weight if overweight or obese. Offer appropriate advice and support.⁶
- Advise patients against taking:
- Supplements containing α -carotene (may increase risk of cardiovascular death)
- Vitamin E or C supplements (no evidence of benefit)
- Folic acid supplements (no evidence of benefit).

Cardiac rehabilitation

All healthcare professionals (including senior medical staff) caring for patients after a myocardial infarction should actively promote cardiac rehabilitation.*

- Offer cardiac rehabilitation with an exercise component to all patients (reduces total mortality), and provide access regardless of the patient's age, sex, ethnicity, socioeconomic status, or comorbidities.
- Include the following components in comprehensive cardiac rehabilitation: exercise (reduces total mortality), health education, and stress management (reduces anxiety, depression and the risk of non-fatal myocardial infarction). However, complex psychological interventions, such as cognitive behavioural therapy, should not be routinely offered.
- Comprehensive cardiac rehabilitation may be offered as a validated home based programme (for example, the Edinburgh Heart Manual⁷) with follow-up by a trained facilitator.
- Involve partners or carers, if the patient wishes.*
- Include advice on return to work and to activities of daily living, taking into account the patient's physical and psychological status, the nature of the activity or work proposed, and the work environment.*
- Reassure patients that after recovery from a heart

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attack, sexual activity presents no greater risk of triggering a subsequent attack than if the patient had never had one.

- Take into account the patient's wider health and social needs, which may involve economic needs, welfare rights, or social support issues, especially for those in more deprived situations.*

Drug treatment after acute myocardial infarction

- Treat all patients with the following combination:
 - 1 Angiotensin converting enzyme inhibitor (reduces mortality, the risk of myocardial infarction, and, in selected patients, the risk of developing heart failure)
 - 2 Aspirin (reduces cardiovascular mortality and morbidity)
 - 3 β blocker (reduces total mortality and cardiovascular morbidity)
 - 4 Statin (reduces total mortality and cardiovascular morbidity).
- After a non-ST elevation myocardial infarction, treat patients with both clopidogrel and low dose aspirin for 12 months⁸ (reduces cardiovascular mortality and the risk of myocardial infarction and stroke). After an ST elevation myocardial infarction, treat patients for at least four weeks if this combination has been started within the first 24 hours (reduces total mortality and the risk of myocardial infarction and stroke). Thereafter, continue standard treatment, including low dose aspirin without clopidogrel, unless there are other indications to continue both.
- In patients intolerant of both aspirin and clopidogrel, consider treatment with moderate intensity warfarin (aiming for an international normalised ratio of 2-3) instead (reduces the risk of myocardial infarction). In patients intolerant of clopidogrel and who have a low risk of bleeding, consider treatment with aspirin and moderate intensity warfarin combined.
- In patients already taking warfarin for another indication, continue warfarin; in those taking moderate intensity warfarin (international normalised ratio of 2-3) and who have a low risk of bleeding, consider adding aspirin.

Heart failure after myocardial infarction

- Treat patients with heart failure and left ventricular systolic dysfunction with an aldosterone antagonist licensed for this indication, preferably after treatment with an angiotensin converting enzyme inhibitor, within three to 14 days of the acute myocardial infarction (reduces total mortality and the risk of hospital admission for cardiovascular events, including heart failure).

Cardiological assessment

- Offer cardiological assessment, taking account of comorbidity, to all patients so that those who

will benefit from coronary revascularisation for secondary prevention (reduces the risk of myocardial infarction and total mortality in appropriately selected patients) or from other cardiological interventions⁹ can be identified.

Overcoming barriers

Effective implementation of these recommendations depends on planning between specialist and generalist services. Thus, as secondary prevention measures are generally started before discharge, timely discharge summaries with recommendations for ongoing care are crucial.

Appropriate review and patient education in both primary and secondary care improves concordance with drug treatment. Some drugs will need further monitoring and doses increased for optimal efficacy.

Standard models of care should include advice about lifestyle for all patients. Existing cardiac rehabilitation programmes should evaluate their current provision in relation to the recommendations and ensure continuity of care before and after discharge. The costing tool being developed by NICE can be used to estimate additional costs (www.nice.org.uk/page.aspx?o=tools).

As the NICE guidance includes recommendations for all patients who have had a previous myocardial infarction, general practitioners should review their disease registers and ensure that all eligible patients are being appropriately managed.

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