UKMi North West

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A summary of prescribing recommendations from NICE guidance

MI: secondary prevention

NICE CG172; 2013

This guideline covers secondary prevention after a myocardial infarction for patients in primary and secondary care. The guideline updates and replaces NICE CG48.

Definition of terms

ACEI	angiotensin-converting enzyme inhibitor
ARB	angiotensin receptor blocker
BP	blood pressure
INR	international normalised ratio
LV	left ventricular
LVSD	left ventricular systolic dysfunction
MI	myocardial infarction
Non-STEMI	non-ST-segment-elevation myocardial infarction
STEMI	ST-segment-elevation myocardial infarction
PCI	percutaneous coronary intervention
PPI	proton pump inhibitor

Treatment and management

Non-pharmacological

- Offer everyone who has had an MI:
  - a cardiological assessment to consider whether coronary revascularisation is appropriate,
  - an assessment of LV function.

Cardiac rehabilitation after an acute MI

- Offer all patients a cardiac rehabilitation programme with an exercise component. Provide a range of options, and encourage patients to attend all those appropriate to their clinical needs.
- Treat any cardiac or other conditions that may worsen during exercise before offering the exercise component. For some, the exercise component may be adapted by an appropriately qualified healthcare professional.
- Patients with LVSD who are stable can safely be offered the exercise component of cardiac rehabilitation.
- Offer a programme:
  - designed to motivate people to attend and complete the programme,
  - in a choice of venues (including at the person's home, in hospital and in the community) and at a choice of times of day. Explain the benefits of attending and options available.
- Begin cardiac rehabilitation as soon as possible after admission and before discharge from hospital. Invite the person to a rehabilitation session within 10 days of discharge from hospital.
- Provide a range of different types of exercises, as part of the cardiac rehabilitation programme, to meet the needs of people of all ages, or those with significant comorbidity.
- **DO NOT** exclude people from the whole programme if they choose not to attend specific components.

Health education - see NICE Pathway

Lifestyle

- Encourage patients to do regular physical activity for 20 to 30 minutes each day to the point of slight breathlessness.
- Advise patients who smoke to stop and offer assistance from a smoking cessation service or pharmacotherapy. See NICE PH10: Smoking cessation services.
- Offer overweight and obese patients advice and support to achieve a healthy weight. See NICE CG43: Obesity.

Alcohol consumption

- Keep alcohol consumption within safe limits of no more than 21 units per week for men and 14 units for women. Avoid binge drinking.

Diet

- Advise people to eat a Mediterranean-style diet.
- **Do NOT** routinely recommend eating oily fish for the sole purpose of preventing another MI. If people choose to consume oily fish as part of a Mediterranean diet, there is no evidence of harm.
- **Do NOT** offer or advise people to use the following to prevent another MI:
  - omega-3 fatty acid capsules or supplemented foods,
  - beta-carotene, antioxidant supplements (vitamin E and/or C) or folic acid.
- If people choose to take omega-3 fatty acid capsules or eat omega-3 fatty acid supplemented foods, there is no evidence of harm.

Pharmacological treatment

- Offer all people who have had an acute MI treatment with:
  - ACEI
  - dual antiplatelet therapy (low-dose aspirin plus a second antiplatelet agent)
  - beta-blocker
  - statin.

ACEI

- Offer people with an **acute MI** an ACEI as soon as they are haemodynamically stable and continue indefinitely.
- Titrate upwards at short intervals (e.g. every 12 to 24 hours) in hospital and ensure complete titration within 4 to 6 weeks of hospital discharge.
- Offer an ACEI to people who had an MI **more than 12 months ago**. Titrate to the maximum tolerated or target dose (over a 4 to 6-week period) and continue indefinitely.

ARBs

- Offer an ARB to people who are intolerant to an ACEI.
- **Do NOT** offer combined treatment with an ACEI and an ARB, unless there are other reasons to use this combination.

Aldosterone antagonists

- For patients with heart failure and LVSD:
  - **ADD** an aldosterone antagonist licensed for post-MI treatment within 3 to 14 days of the MI preferably AFTER starting an ACEI,
  - if the patient is already being treated with an aldosterone antagonist (e.g for chronic heart failure), continue with the aldosterone antagonist or offer an alternative licensed for early post-MI treatment.

Statin

- See NICE TA94: Statins for the prevention of cardiovascular events and NICE CG67: Lipid modification

See the **NICE pathway: Myocardial infarction; secondary prevention**

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MI: secondary prevention continued……..

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Dual antiplatelet therapy

Aspirin

- Offer aspirin* to all people after an MI and continue it indefinitely, unless they are aspirin intolerant or have an indication for anticoagulation – see Box 1.
- Give clopidogrel monotherapy to patients with confirmed aspirin hypersensitivity.
- For patients with a history of dyspepsia or aspirin-induced ulcer bleeding that has healed and are negative for H. pylori: use a PPI. See NICE CG17: Dyspepsia.

Additional antiplatelet

Clopidogrel

- For patients with STEMI who have received a bare-metal or drug-eluting stent **OR** those with NSTEMI:
  - offer clopidogrel* in combination with aspirin for up to 12 months.
- For patients with STEMI and medical management with or without reperfusion treatment with a fibrinolytic agent:
  - offer clopidogrel in combination with aspirin for at least 1 month and consider continuing for up to 12 months.
- For patients who have had a STEMI and CABG surgery:
  - continue the **second antiplatelet agent** for up to 12 months.
- For people with other clinical vascular disease and who have had an MI and stopped dual antiplatelet therapy or had an MI >12 months ago:
  - offer clopidogrel instead of aspirin in line with NICE TA210

Ticagrelor§

- Ticagrelor* in combination with aspirin is recommended as a treatment option for up to 12 months in adults with acute coronary syndromes:
  - with STEMI that cardiologists intend to treat with primary PCI, **OR**
  - with NSTEMI.

Beta blocker**

- Offer as soon as patient is haemodynamically stable after an MI.
- Titrate up to the maximum tolerated or target dose.
- For patients without heart failure and/or LVSD:
  - continue for at least 12 months after an MI.
- For patients with LVSD: continue indefinitely.
- For patients who had an MI >12 months ago who have LVSD: offer a beta-blocker whether or not they have symptoms.
- **Do NOT** offer a beta-blocker to people without LVSD or HF who had an MI >12 months ago unless there is an additional indication for a beta-blocker.
- For people with heart failure and LVSD see NICE CG108: Chronic heart failure

Potassium channel activators

- **Do NOT** offer nicorandil for secondary prevention in patients who have had an MI.

Calcium channel blockers

- **Do NOT** routinely offer calcium channel blockers for secondary prevention in patients who have had an MI.
- If beta-blockers are contraindicated or need to be stopped consider diltiazem* or verapamil* in patients without pulmonary congestion or LVSD.
- For patients who are stable after an MI, calcium channel blockers can be used to treat hypertension and/or angina.
- For patients with heart failure:
  - give amlodipine*,
  - **do NOT** use verapamil, diltiazem or short-acting dihydropyridines. See NICE CG108: Chronic heart failure

Box 1

Indication for anticoagulation

- When considering treatment for patients who have an indication for anticoagulation, take into account:
  - bleeding risk,
  - thromboembolic risk,
  - cardiovascular risk.

People needing anticoagulation who have had an MI

- Unless there is a high risk of bleeding, continue anticoagulation and add **aspirin** in people who have:
  - had their condition managed medically, **OR**
  - undergone balloon angioplasty, **OR**
  - undergone CABG surgery.
- Continue anticoagulation and add **clopidogrel** in people who have undergone PCI with bare-metal or drug-eluting stents.
- Offer clopidogrel with warfarin* to people with a sensitivity to aspirin.
- **Do NOT** routinely offer warfarin in combination with prasugrel§ or ticagrelor.
- After 12 months since the MI, continue anticoagulation and take into consideration the need for ongoing antiplatelet therapy, taking into account all of the following:
  - the indication for anticoagulation,
  - thromboembolic risk,
  - bleeding risk,
  - cardiovascular risk,
  - the person's wishes.
- **Do NOT** add a new oral anticoagulant (rivaroxaban*, apixaban* or dabigatran*) in combination with dual antiplatelet therapy
- Consider using warfarin and discontinuing treatment with a new oral anticoagulant (rivaroxaban, apixaban or dabigatran), unless there is a specific clinical indication to continue it.

Monitoring

- Ensure a clear management plan is available to the patient and is also sent to the GP, including:
  - details and timing of any further drug titration,
  - monitoring of BP and renal function.
- Offer all people who have had an MI an assessment of bleeding risk at their follow-up appointment.

ACEI or ARB

- Monitor renal function, serum electrolytes and BP before **and** within 1 or 2 weeks of starting treatment.
- Monitor during dose titration, until the maximum tolerated or target dose is reached, and then at least annually.

Aldosterone antagonist

- Monitor renal function and serum potassium before and during treatment.
- If hyperkalaemia is a problem, either halve the dose or stop treatment.

Management of other complications

Patients with hypertension – see NICE Pathway: Hypertension

Patients with LVSD

- Consider an implantable cardioverter defibrillator. See NICE TA95

§Editorial note: Guidance on prasugrel has not been incorporated into CG172 as it is scheduled for update. For further information see the NICE website.

*See Summary of Product Characteristics for full prescribing information .

**Licensed indications and doses differ. Check SPC for individual products for full prescribing information.