Coronary Artery Disease
Clinical Practice
Guideline Summary

This guideline is informational only. It is not intended or designed as a substitute for the reasonable exercise of independent clinical judgment by practitioners, considering each patient’s needs on an individual basis.

Guideline recommendations apply to populations of patients. Clinical judgment is necessary to design treatment plans for individual patients.

Approved by the National Guideline Directors
May 2010
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Depression in CAD

Mental Health Outcomes:
1.A. The GDT recommends that the treatment of depression in CAD patients should be based on the patients’ mental health condition(s), for the purpose of improving mental health outcomes. Consensus-based

Cardiovascular Outcomes:
1.B. The GDT recommends against treating depression in patients who are post MI with cognitive behavioral therapy in order to improve cardiovascular outcomes. Evidence-based: D
1.C. The GDT makes no recommendation for or against treating depression in patients with CAD, who are not post MI, with cognitive behavioral therapy in order to improve cardiovascular outcomes. Evidence-based: I
1.D. The GDT makes no recommendation for or against treating depression in patients with CAD with antidepressant medications in order to improve cardiovascular outcomes. Evidence-based: I

Screening for CAD
2. Exercise stress testing, CT angiography, and coronary artery calcium scoring are not recommended for screening asymptomatic individuals for CAD. Consensus-based

ACEI and ARB Therapy

ACEI Therapy
3. For patients with CAD, with or without LVSD, angiotensin-converting enzyme (ACE) inhibitor therapy is recommended for long term use, unless contraindicated. Evidence-based: B

* For patients on concomitant aspirin, low-dose aspirin (81 mg) is recommended to preserve ACE inhibitor benefit.
**ARB Therapy**

4.A. Angiotensin II Receptor Blocker (ARB) therapy is recommended for the following patients with CAD who are intolerant to ACE Inhibitors:

- Patients with CAD and diabetes with hypertension and microalbuminuria (or albuminuria)
- Patients with CAD and left ventricular systolic dysfunction (LVSD)

  *Consensus-based*

4.B. For patients with CAD and hypertension (without LVSD, microalbuminuria, or diabetes) who are intolerant to ACE Inhibitors, ARB therapy is an option equal to other antihypertensive medications. *Evidence-based*

4.C. For all other patients with CAD who are intolerant to ACE Inhibitors, there is insufficient evidence to recommend for or against ARB therapy. *Evidence-based*

**Oral Anticoagulant Therapy**

**Aspirin versus Oral Anticoagulant Therapy**

5. In CAD patients who are not at increased embolic risk and who tolerate aspirin, aspirin is recommended in preference to both oral anticoagulant therapy and the combination of aspirin and oral anticoagulant therapy. *Evidence-based*

**Aspirin plus Oral Anticoagulant Therapy**

6. Unless contraindicated, aspirin is recommended for patients with established CAD receiving warfarin for thromboembolic prophylaxis.

  *Note:* Use of warfarin in conjunction with aspirin and/or clopidogrel is associated with increased risk of bleeding. *Consensus-based*

**CAD Post MI**

7.A. Warfarin is recommended for post-MI patients with left ventricular thrombus, unless otherwise indicated. *Consensus-based*

7.B. Long term warfarin therapy may be used in consultation with cardiology for post-MI patients with large transmural anterior infarctions. *Consensus-based*

**Antiplatelet Therapy**

**Aspirin**

8.A. For all patients with CAD, daily aspirin is recommended indefinitely, unless there is clear contraindication such as active bleeding, major coagulopathy, or true aspirin allergy. *Evidence-based: B*

8.B. For CAD patients on concomitant ACE Inhibitors, low-dose aspirin (81 mg) is recommended. *Consensus-based*

8.C. For the initial six months following coronary artery stent placement, aspirin (81 to 325 mg) is recommended. Following this period, aspirin (81 to 162 mg) is recommended. *Consensus-based*
8.D. For all other patients with CAD in whom aspirin therapy is being initiated, daily aspirin (81 to 162 mg) is recommended. *Consensus-based*

**Clopidogrel Use in Stable Patients**

9.A. In stable CAD patients who tolerate aspirin well (and who are not post-procedure), clopidogrel is not recommended as either a substitute for or in addition to aspirin. *Consensus-based*

9.B. In stable CAD patients with contraindications to aspirin, clopidogrel is recommended. *Consensus-based*

**Antiplatelet Therapy Post Stent Placement**

All patients with CAD should take aspirin therapy indefinitely regardless of stenting status. In addition, the CAD GDT makes the following recommendations:

10.A. Following coronary artery bare metal stent placement clopidogrel plus aspirin is recommended to be given for at least four weeks. *Evidence-based*

10.B. It is recommended that all patients receiving drug-eluting stents (DES) be prescribed uninterrupted dual treatment with clopidogrel and aspirin for at least 12 months. *Consensus-based*

10.C. It is strongly recommended that any elective procedures which would require stopping or interrupting this therapy (dental work, colonoscopy, or other surgical procedures) should be delayed until after one year (12 consecutive months) of clopidogrel is completed. *Consensus-based*

10.D. Healthcare providers who perform invasive or surgical procedures and are concerned about peri-procedural and post-procedural bleeding must be made aware of the potentially catastrophic risk of premature discontinuation of clopidogrel in the first year following coronary DES placement. *Consensus-based*

10.E. It is strongly recommended that patients taking clopidogrel consult with their treating cardiologist before stopping this medication, even if instructed to do so by another healthcare provider. *Consensus-based*

10.F. For patients who receive a drug-eluting stent and who must have procedures that mandate stopping clopidogrel therapy, it is recommended that aspirin should be continued if at all possible, and the clopidogrel restarted as soon as possible after the procedure. *Consensus-based*

10.G. If there is presence of a rash after clopidogrel use, patients may be switched to ticlopidine. *Consensus-based*
Beta-Blocker Therapy in the Secondary Prevention of CAD

Beta-Blocker Therapy

11.A. For CAD patients, non-intrinsic sympathomimetic activity (non-ISA) beta-blocker therapy is recommended, unless contraindicated. **Consensus-based**

11.B. For patients with two or more of the following risk factors for CAD (age $\geq 65$ years, hypertension, current smoking, serum cholesterol $\geq 240$ mg/dL (6.2 mmol/L), or diabetes mellitus), beta-blocker therapy is recommended peri-operatively for vascular surgery.

**Note:** Drugs without ISA are atenolol, betaxolol, bisoprolol, carvedilol, labetolol, nadolol, metoprolol, propranolol, and timolol. Drugs with ISA are acebutolol, and pindolol. **Consensus-based**

**CAD plus Mild to Moderate Reversible Airway Disease or COPD**

12.A. For CAD patients with concomitant mild to moderate reversible airway disease or chronic obstructive pulmonary disease (COPD) cardioselective beta-blockers are recommended. **Evidence-based**

12.B. Discuss the risks and benefits of treatment with the patient and instruct the patient to report any increase in airway symptoms. **Consensus-based**

12.C. Initiating beta-blocker therapy is NOT recommended:

- For patients with severe airway disease requiring frequent hospitalization or intubation.
- During acute exacerbation of airway disease.
- When airway disease is unstable or poorly controlled. **Consensus-based**

**CAD plus Heart Failure**

13.A. For CAD patients with either left ventricular systolic dysfunction (LVSD) (NYHA Class II-IV) or asymptomatic LVSD (NYHA Class I), beta-blockers are strongly recommended. **Evidence-based**

13.B. For CAD patients with left ventricular systolic dysfunction carvedilol, metoprolol succinate, or bisoprolol is the recommended choice of beta-blocker therapy. **Evidence-based**

**Calcium Channel Blocker Therapy**

**CAD with Normal Ventricular Systolic Function**

14.A. Calcium channel blockers (CCBs) are NOT recommended to reduce morbidity or mortality from CAD. **Evidence-based**

14.B. In CAD patients with normal ventricular systolic function, calcium channel blockers (CCBs) may be used for the treatment of angina pectoris or hypertension when beta-blockers and ACE inhibitors are ineffective or contraindicated. **Consensus-based**

14.C. In patients with CAD, immediate release formulations of nifedipine are NOT recommended due to the increased risk of cardiovascular mortality. **Evidence-based**
**CAD with LVSD**

15.A. Amlodipine* and felodipine* (second generation dihydropyridine calcium channel blockers) are options for the treatment of angina pectoris or hypertension in patients with LVSD. *Evidence-based*

15.B. The GDT recommends against the use of calcium channel blockers (CCBs) other than amlodipine* and felodipine* in patients with LVSD. *Evidence-based*

**Lifestyle Modification**

**Diet Therapy**

16. For all patients with CAD, a diet rich in fruits, vegetables, legumes, nuts, whole grains, and n-3 (omega-3) polyunsaturated fatty acids is recommended. *Evidence-based*

**Dietary Fat Modification**

17. For all patients with CAD consuming a usual Western diet, the following modifications in dietary fat are recommended:

- Increase intake of n-3 (omega-3) polyunsaturated fatty acids to a level of ~ 1 g/day from a variety of sources (flaxseed, canola, and soybean oils, nuts, fish, and fish oil supplements).
- Replace saturated fatty acids with polyunsaturated and monounsaturated fatty acids.
- Reduce or eliminate intake of trans-fatty acids.

*Consensus-based*

**Dietary Supplement Therapy**

18.A. For patients with CAD, supplemental vitamins C, E, and beta carotene are not recommended for prevention of cardiovascular mortality or subsequent coronary events. *Evidence-based: D*

18.B. For patients with CAD, supplemental folic acid, vitamin B6, and vitamin B12 are not recommended. *Evidence-based: D*

**Smoking Cessation**

19. For all patients with CAD who smoke, complete smoking cessation is strongly recommended. *Evidence-based: A*

**Exercise**

20.A. For all patients with CAD, 30 to 60 minutes of exercise (walking, jogging, cycling, or other aerobic activity) at least three to four times weekly is recommended. *Evidence-based: B*

20.B. Either supervised or non-supervised exercise is recommended. *Consensus-based*

* Not FDA-approved for heart failure.
**Hormone Therapy**

21.A. For postmenopausal women with CAD, unopposed estrogen therapy and estrogen and progestin combination therapy are not recommended for the prevention of cardiovascular events. Women taking these therapies solely to prevent cardiovascular events are strongly recommended to discontinue these therapies. *Evidence-based*

21.B. Women currently taking hormone therapy solely for the prevention of cardiovascular events are advised to discontinue use either all at once or by tapering the dose. *Consensus-based*

**Comorbid Conditions**

**Hypertension: Target Blood Pressure**

22.A. The optimal goal blood pressure for patients with CAD or CAD risk equivalents (AAA, peripheral arterial disease, or carotid arterial disease) is < 130/80 mm Hg. *Consensus-based*

22.B. The optimal goal blood pressure for patients with CAD and diabetes or renal disease is < 130/80 mm Hg. *Consensus-based*

**Acute Management – Statin Initiation**

23. In patients with acute coronary syndrome, treatment with a statin should be initiated as soon as possible regardless of baseline LDL-C. *Consensus-based*