



Complete Summary

GUIDELINE TITLE

Primary care management of chronic stable angina and asymptomatic suspected or known coronary artery disease: a clinical practice guideline from the American College of Physicians.

BIBLIOGRAPHIC SOURCE(S)

Snow V, Barry P, Fihn SD, Gibbons RJ, Owens DK, Williams SV, Mottur-Pilson C, Weiss KB. Primary care management of chronic stable angina and asymptomatic suspected or known coronary artery disease: a clinical practice guideline from the American College of Physicians. *Ann Intern Med* 2004 Oct 5;141(7):562-7. [27 references] [PubMed](#)

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE
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SCOPE

DISEASE/CONDITION(S)

Chronic stable angina and asymptomatic suspected or known coronary artery disease

GUIDELINE CATEGORY

Management
Treatment

CLINICAL SPECIALTY

Cardiology
Family Practice
Internal Medicine

INTENDED USERS

Advanced Practice Nurses
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To summarize the recommendations of the 2002 American College of Cardiology/American Heart Association (ACC/AHA) updated guideline and underscore the recommendations most likely to be important to physicians seeing patients in the primary care setting
- To provide guidance on the management of patients with chronic stable angina

TARGET POPULATION

- Patients without known coronary disease whose symptoms suggest chronic stable angina
- Patients who present with known chronic stable angina
- Asymptomatic patients with evidence suggesting coronary disease on previous testing

Note: These guidelines do not apply to patients with unstable angina.

INTERVENTIONS AND PRACTICES CONSIDERED

Treatment

1. Aspirin or clopidogrel
2. Beta-blockers
3. Lipid-lowering agents with a statin
4. Angiotensin-converting enzyme inhibitors (ACE)
 - Ramipril
 - Perindopril
 - Enalapril
 - Captopril
5. Nitrates
6. Calcium-channel blockers
7. Alternative therapies (spinal cord stimulation, enhanced external counterpulsation, laser transmyocardial revascularization)

Note: Guideline developers recommended against using dipyridamole or chelation therapy to prevent myocardial infarction or death or to reduce symptoms in patients with symptomatic chronic stable angina.

Management

1. Regular follow-up visits
2. Cardiac testing
 - Echocardiogram
 - Chest radiography
 - Radionuclide imaging
 - Treadmill exercise test
 - Stress radionuclide imaging or stress echocardiography
 - Coronary angiography

MAJOR OUTCOMES CONSIDERED

- Morbidity (cardiac events) and mortality rates
- Symptoms of angina
- Ischemia rates
- Quality of life

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Since this document is based on the American College of Cardiology/American Heart Association (ACC/AHA) guidelines, the College has maintained the levels of evidence as designated by the American College of Cardiology/American Heart Association in the recommendation statements:

Levels of Evidence

Level A recommendation is based on evidence from several randomized clinical trials with large numbers of patients.

Level B recommendation is based on evidence from a limited number of randomized trials with small numbers of patients, careful analyses of nonrandomized studies, or observational registries.

Level C recommendation is based on expert consensus.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Approved by the American College of Physicians (ACP) Board of Regents in April 2004

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the National Guideline Clearinghouse (NGC) and the American College of Physicians (ACP): The American College of Cardiology/American Heart Association (ACC/AHA) published an updated guideline in 2002, which ACP recognized as a scientifically valid, high-quality review of the evidence and background paper. This ACP guideline summarizes the recommendations of the 2002 ACC/AHA updated guideline and underscores the recommendations most likely to be important to physicians seeing patients in the primary care setting.

The levels of evidence (A, B, C) are defined at the end of the "Major Recommendations" field.

Recommendations for Pharmacotherapy to Prevent Myocardial Infarction (MI) and Death and to Reduce Symptoms

Recommendation 1: The following agents should be used in patients with symptomatic chronic stable angina to prevent MI or death and to reduce symptoms:

Aspirin (**level of evidence: A**) or clopidogrel when aspirin is absolutely contraindicated (**level of evidence: B**)

Beta-Blockers in patients with previous MI (**level of evidence: A**) or without previous MI (**level of evidence: B**)

Low-density lipoprotein cholesterol-lowering therapy with a statin (**level of evidence: A**)

Angiotensin-converting enzyme (ACE) inhibitor (**level of evidence: A**)

The following agents should be used in patients with symptomatic chronic stable angina to reduce symptoms only:

Sublingual nitroglycerin or nitroglycerin spray for the immediate relief of angina (**level of evidence: B**)

Calcium antagonists (long-acting) or long-acting nitrates when beta-blockers are clearly contraindicated (**level of evidence: B**)

Calcium antagonists (long-acting) or long-acting nitrates in combination with beta-blockers when beta-blockers alone are unsuccessful (**level of evidence: B**).

Recommendation 2: The following agents should not be used to prevent MI or death or to reduce symptoms in patients with symptomatic chronic stable angina:

Dipyridamole (**level of evidence: B**)

Chelation therapy (**level of evidence: B**).

Recommendations for Pharmacotherapy to Prevent MI and Death in Asymptomatic Patients with Evidence Suggesting Coronary Artery Disease (CAD) on Previous Testing

Recommendation 3: In the absence of contraindications, the following agents should be used in asymptomatic patients to prevent MI and death:

Aspirin in patients with previous MI (**level of evidence: A**)

Beta-blockers in patients with previous MI (**level of evidence: B**)

Lipid-lowering therapy with a statin in patients with documented CAD or type 2 diabetes mellitus (**level of evidence: A**)

ACE inhibitor in patients with CAD who also have diabetes, systolic dysfunction, or both (**level of evidence: A**).

Recommendation 4: The following agents also may be used in asymptomatic patients to prevent MI and death:

Aspirin in patients without previous MI (**level of evidence: B**)

ACE inhibitor in patients with diabetes and no contraindications (**level of evidence: B**)

Alternative Therapies for Patients with Refractory Angina

Evidence is still lacking for the use of spinal cord stimulation, enhanced external counterpulsation, and laser transmyocardial revascularization. The consensus of the ACC/AHA writing committee is that these techniques should be used only in patients who cannot be managed adequately by medical therapy and who are not candidates for revascularization (interventional or surgical). Of note, laser transmyocardial revascularization and enhanced external counterpulsation are approved for this indication by the United States Food and Drug Administration.

Patient Follow-up: Monitoring Symptoms and Antianginal Therapy

Little evidence has been published on the efficacy of specific strategies for the follow-up of patients with chronic stable angina on patient outcomes. All guidance in this section is based on level C evidence, in other words, expert opinion from the ACC/AHA guideline. As a matter of policy, the ACP seldom makes clinical policy recommendations on the basis of expert opinion. However, this clinical situation has become a particularly important problem for ACP membership. Therefore, in the absence of any high-grade evidence (level A or B), the ACP highlights the recommendations from the ACC/AHA document, which were developed by using expert opinion.

Questions To Be Addressed in Follow-up of Patients with Chronic Stable Angina

The ACC/AHA writing committee, on the basis of expert opinion, suggests that 5 questions should be answered regularly during the follow-up of a patient who is receiving treatment for chronic stable angina:

1. Has the patient's level of physical activity decreased since the last visit?
2. Have the patient's anginal symptoms increased in frequency or become more severe since the last visit? If the symptoms have worsened or the patient has decreased physical activity to avoid precipitating angina, then the patient should be evaluated and treated appropriately, according to either the unstable angina or the chronic stable angina guideline.
3. How well is the patient tolerating therapy?
4. How successful has the patient been in modifying risk factors and improving knowledge about ischemic heart disease?
5. Has the patient developed any new comorbid illnesses, or has the severity or treatment of known comorbid illnesses worsened the patient's angina?

Follow-up: Frequency and Methods

By using expert opinion, the ACC/AHA writing committee suggests that patients should be evaluated every 4 to 6 months during the first year of therapy. After the first year of therapy, annual evaluations are recommended if the patient is stable and reliable enough to call or make an appointment when anginal

symptoms become worse or other symptoms occur. Patients who are comanaged by their primary care physician and cardiologists may alternate visits, provided that communication among physicians is excellent and all appropriate issues are addressed at each visit.

Use of Cardiac Testing during Follow-up

No clear evidence shows that routine, periodic cardiac testing of any sort is useful without a change in history or physical examination. The ACC/AHA writing committee consensus is that the following are indicated:

1. Repeated echocardiogram when therapy with medications affecting cardiac conduction are initiated or changed or when anginal pattern has changed, symptoms or findings suggest a dysrhythmia or conduction abnormality, or near or frank syncope occurs.
2. Chest radiography for patients with evidence of new or worsening congestive heart failure.
3. Assessment of left ventricular ejection fraction and segmental wall motion by echocardiography or radionuclide imaging in patients with new or worsening congestive heart failure or evidence of intervening MI by history or electrocardiography.
4. Echocardiography for patients with evidence of new or worsening valvular heart disease.
5. Treadmill exercise test for patients without previous revascularization who have a significant change in clinical status, can exercise, and have none of the electrocardiogram abnormalities listed in number 6.
6. Stress radionuclide imaging or stress echocardiography procedures for patients without previous revascularization who have a significant change in clinical status and cannot exercise or have 1 of the following electrocardiogram abnormalities: preexcitation (Wolff-Parkinson-White) syndrome, electronically paced ventricular rhythm, more than 1 mm of ST-segment depression at rest, or complete left bundle-branch block.
7. Stress radionuclide imaging or stress echocardiography procedures for patients who have a significant change in clinical status and require a stress imaging procedure on their initial evaluation because of equivocal or intermediate-risk results with exercise electrocardiography testing.
8. Stress radionuclide imaging or stress echocardiography procedures for patients with previous revascularization who have a significant change in clinical status.
9. Coronary angiography in patients with marked limitation of ordinary activity (Canadian Cardiovascular Society class III) despite maximal medical therapy.

The ACC/AHA writing committee does not recommend the following procedures in managing patients with chronic stable angina:

1. Echocardiography or radionuclide imaging for assessment of left ventricular ejection fraction and segmental wall motion in patients with a normal electrocardiogram, no history of MI, and no evidence of congestive heart failure.
2. Repeated treadmill exercise testing in less than 3 years in patients who have no change in clinical status and an estimated annual mortality rate less than 1% on their initial evaluation, as demonstrated by one of the following: low-

- risk Duke treadmill score (without imaging), low-risk Duke treadmill score with negative imaging, normal left ventricular function and a normal coronary angiogram; or normal left ventricular function and clinically insignificant CAD.
3. Stress imaging or echocardiography procedures for patients who have no change in clinical status and a normal rest electrocardiogram, are not taking digoxin, can exercise, and did not require a stress imaging or echocardiographic procedure on their initial evaluation because of equivocal or intermediate-risk treadmill results.
 4. Repeated coronary angiography in patients with no change in clinical status, no change on repeated exercise testing or stress imaging, and clinically insignificant CAD on initial evaluation.

Definitions:

Levels of Evidence

Level A recommendation is based on evidence from several randomized clinical trials with large numbers of patients.

Level B recommendation is based on evidence from a limited number of randomized trials with small numbers of patients, careful analyses of nonrandomized studies, or observational registries.

Level C recommendation is based on expert consensus.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is identified and graded in the "Major Recommendations" field.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

The treatment of stable angina has 2 major purposes. The first is to prevent myocardial infarction (MI) and death and thereby increase the length of life. The second is to reduce symptoms of angina and occurrence of ischemia, which should improve quality of life.

POTENTIAL HARMS

- The usual oral doses of dipyridamole can enhance exercise-induced myocardial ischemia in patients with stable angina.

- Immediate-release or short acting dihydropyridine calcium antagonists increase adverse cardiac events.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- **Note:** Clinical practice guidelines are "guides" only and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinicians' judgment. All American College of Physicians (ACP) clinical practice guidelines are considered automatically withdrawn, or invalid, 5 years after publication or once an update has been issued.
- This guideline in no way constitutes an endorsement of noninvasive testing in asymptomatic patients for the purposes of "screening" but rather acknowledges the clinical reality that patients often present after having undergone such an evaluation. Although this guideline covers pharmacologic therapy, physicians should always recommend lifestyle modifications, such as smoking cessation, appropriate diet, and exercise, to patients.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

The American College of Cardiology/American Heart Association (ACC/AHA) published an updated guideline in 2002, which the American College of Physicians (ACP) recognized as a scientifically valid, high-quality review of the evidence and background paper. This ACP guideline summarizes the recommendations of the 2002 ACC/AHA updated guideline (American College of Cardiology Foundation, American Heart Association. ACC/AHA 2002 guideline update for the management of patients with chronic stable angina: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines [Committee to update the 1999 guidelines]. Bethesda [MD]: American College of Cardiology Foundation; 2002. 127 p.) and underscores the recommendations most likely to be important to physicians seeing patients in the primary care setting.

DATE RELEASED

2004 Oct 5

GUIDELINE DEVELOPER(S)

American College of Physicians - Medical Specialty Society

SOURCE(S) OF FUNDING

American College of Physicians

GUIDELINE COMMITTEE

Clinical Efficacy Assessment Subcommittee of the American College of Physicians (ACP)

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Potential Conflicts of Interest: Employment: P. Barry (Merck Institute of Aging and Health); Consultancies: R.J. Gibbons (CV Therapeutics, DOV Pharmaceuticals, King Pharm, Medicare, Boehringer Ingelheim, Hawaii Biotech, GlaxoSmithKline, TargeGen); Stock ownership or options (other than mutual funds): P. Barry (Merck & Co., Inc.); Grants received: P. Barry (Merck Company Foundation), R.J. Gibbons (Medtronic, King Pharm, Wyeth-Ayerst, Radiant Medical, Alsius Corp.,

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R.J. Gibbons (Boehringer Ingelheim)

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American College of Physicians (ACP) Web site:

- [HTML Format](#)
- [Portable Document Format \(PDF\)](#)

Print copies: Available from the American College of Physicians (ACP), 190 N. Independence Mall West, Philadelphia PA 19106-1572.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

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