Complete Summary

GUIDELINE TITLE

Management of newly detected atrial fibrillation: a clinical practice guideline from the American Academy of Family Physicians and the American College of Physicians.

BIBLIOGRAPHIC SOURCE(S)

Snow V, Weiss KB, LeFevre M, McNamara R, Bass E, Green LA, Michl K, Owens DK, Susman J, Allen DI, Mottur-Pilson C. Management of newly detected atrial fibrillation: a clinical practice guideline from the American Academy of Family Physicians and the American College of Physicians. Ann Intern Med 2003 Dec 16;139(12):1009-17. [57 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- August 16, 2007, Coumadin (Warfarin): Updates to the labeling for Coumadin to include pharmacogenomics information to explain that people's genetic makeup may influence how they respond to the drug.
- October 6, 2006, Coumadin (warfarin sodium): Revisions to the labeling for Coumadin to include a new patient Medication Guide as well as a reorganization and highlighting of the current safety information to better inform providers and patients.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Atrial fibrillation

GUIDELINE CATEGORY

Management

CLINICAL SPECIALTY

Family Practice
Internal Medicine

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To make recommendations on the pharmacologic management of newly detected atrial fibrillation in primary care.

TARGET POPULATION

Adult patients with first-detected atrial fibrillation

INTERVENTIONS AND PRACTICES CONSIDERED

1. Rate control with chronic anticoagulation (adjusted-dose warfarin)
2. Rhythm control (based on patient symptoms, exercise tolerance, and patient preference)
3. Pharmacotherapy
    - Beta-blockers (atenolol, metoprolol)
    - Nondihydropyridine calcium-channel blockers (diltiazem, verapamil)
    - Digoxin (rate control at rest)
4. Cardioversion
    - Direct current
    - Pharmacological (ibutilide, flecainide, dofetilide, propafenone, amiodarone quinidine, procainamide, and sotalol)
5. Transesophageal echocardiography
    - Early acute cardioversion (prior anticoagulation with postcardioversion anticoagulation)
    - Delayed cardioversion (pre- and postanticoagulation)

6. Pharmacologic agents for rhythm maintenance
    - Amiodarone
    - Disopyramide
    - Propafenone
    - Sotalol
    - Flecainide
    - Quinidine
    - Azimilide
7. Anticoagulation with adjusted dose warfarin

Other antiplatelet agents considered but not specifically recommended include low dose warfarin, aspirin, and low molecular weight heparin.

MAJOR OUTCOMES CONSIDERED

- Mortality
- Quality of life
- Symptom relief
- Heart rate
- Rate of ischemic stroke
- Risk of thromboembolic disease

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Joint American Academy of Family Physicians (AAFP)/American College of Physicians (ACP) Panel focused its searches for relevant evidence on the strongest study design: randomized, controlled trials (RCTs). For the previous systematic review, the Panel identified controlled trials in the CENTRAL database produced by the Cochrane Collaboration's international efforts, searched MEDLINE from 1966 to 1998 for citations tagged as "randomized controlled trial" or "controlled clinical trial," searched the PubMed "Related Articles" feature, reviewed hand searches submitted to the Baltimore Cochrane Center, scanned the reference lists in relevant publications, and scanned the table of contents of relevant journals. For the current review, the Panel also searched MEDLINE from May 1998 through September 2001 (using the same search terms as in the original review plus terms to identify meta-analyses and decision analyses). For topics without sufficient RCTs, the Panel used observational data, consensus statements, review articles, and decision analyses obtained from their search of MEDLINE from 1966 through September 2001. Although September 2001 was used as a cutoff for the systematic searching of the literature in order to generate a report for the American College of Physicians (ACP)/American Academy of Family Physicians (AAFP) Guideline group, the Panel included selected studies published after September 2001 on the basis of input from the group.

Studies were eligible for review if they were randomized trials of adult patients that addressed the management of nonpostoperative atrial fibrillation. In the previous systematic review, 521 citations were identified and 179 articles were eligible for detailed review. The updated search yielded 29 additional articles that met the Panel's inclusion criteria.

NUMBER OF SOURCE DOCUMENTS

208

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Meta-Analysis
Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Statistical Analysis

For the quantitative analysis, the Joint American Academy of Family Physicians (AAFP)/American College of Physicians (ACP) Panel stratified data to obtain an effect measure for each drug. Stata, version 7.0 (Stata Corp., College Station, Texas) was used to calculate the odds ratio (OR) of success of the drug compared with placebo. Respective 95% confidence intervals (CIs) and *P* values were also calculated. The Joint Panel used ORs because they provided less heterogeneity of study results than relative risk ratio. Estimates of the relative rates of the outcomes of interest were pooled using standard methods for combining the OR for the outcomes of conversion to sinus rhythm, maintenance of sinus rhythm, stroke, peripheral embolism, major bleeding, minor bleeding, and death. Studies were weighted on the basis of the precision of the estimate within each study. When no heterogeneity was found, meta-analyses used the fixed-effects model (Mantel–Haenszel method for pooling). When heterogeneity was found, the random-effects model was used (DerSimonian and Laird method of pooling). An OR was considered significantly different from 1 if the *P* value was less than 0.05. Statistical strength of evidence was categorized as strong ($P \leq 0.01$), moderate ($0.01 < P \leq 0.05$), suggestive ($0.05 < P \leq 0.2$), or inconclusive ($P > 0.2$).

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

The Guyatt Approach to Grading Recommendations was used.

Grade of Recommendation

1A
Clarity of Risk-Benefit: Clear
Methodologic Strength of Supporting Evidence: Randomized trials without important limitations
Implications: Strong recommendation, can apply to most patients in most circumstances without reservation

1B
Clarity of Risk-Benefit: Clear
Methodologic Strength of Supporting Evidence: Randomized trials without important limitations (inconsistent results, nonfatal methodologic flaws)
Implications: Strong recommendation; likely to apply to most patients

1C+
Clarity of Risk-Benefit: Clear
Methodologic Strength of Supporting Evidence: No randomized trials for this specific patient or patient population, but results from randomized trial(s) including different patients can be unequivocally extrapolated to the patient under current consideration; or overwhelming evidence from observational studies is available
Implications: Strong recommendation; can apply to most patients in most circumstances

1C
Clarity of Risk-Benefit: Clear
Methodologic Strength of Supporting Evidence: Observational studies
Implications: Intermediate-strength recommendation; may change when stronger evidence is available

2A
Clarity of Risk-Benefit: Unclear
Methodologic Strength of Supporting Evidence: Randomized trials without important limitations
Implications: Intermediate-strength recommendation; best action may differ depending on circumstances or patients´ or societal values

2B
Clarity of Risk-Benefit: Unclear
Methodologic Strength of Supporting Evidence: Randomized trials without important limitations (inconsistent results, nonfatal methodologic flaws)
Implications: Weak recommendation; alternative approaches likely to be better for some patients under some circumstances

2C
Clarity of Risk-Benefit: Unclear

Methodologic Strength of Supporting Evidence: Observational studies
Implications: Very weak recommendation; other alternatives may be equally reasonable

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

The American Academy of Family Physicians (AAFP) and the American College of Physicians (ACP) created this guideline in collaboration. Drafts of the manuscript were reviewed by members of the American Academy of Family Physicians/American College of Physicians guidelines committee for management of atrial fibrillation. This manuscript was approved by the American College of Physicians Board of Regents on March 31, 2003 and by the American Academy of Family Physicians Board of Directors on April 29, 2003.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The grades of recommendations (1A, 1B, 1C+, 1C, 2A, 2B, 2C) are defined at the end of the "Major Recommendations" field.

Recommendation 1: Rate control with chronic anticoagulation is the recommended strategy for the majority of patients with atrial fibrillation. Rhythm control has not been shown to be superior to rate control (with chronic anticoagulation) in reducing morbidity and mortality and may be inferior in some patient subgroups to rate control. Rhythm control is appropriate when based on other special considerations, such as patient symptoms, exercise tolerance, and patient preference. **Grade: 2A**

Recommendation 2: Patients with atrial fibrillation should receive chronic anticoagulation with adjusted-dose warfarin, unless they are at low risk of stroke or have a specific contraindication to the use of warfarin (thrombocytopenia, recent trauma or surgery, alcoholism). **Grade: 1A**

Recommendation 3: For patients with atrial fibrillation, the following drugs are recommended for their demonstrated efficacy in rate control during exercise and while at rest: atenolol, metoprolol, diltiazem, and verapamil (drugs listed alphabetically by class). Digoxin is only effective for rate control at rest and therefore should only be used as a second-line agent for rate control in atrial fibrillation. **Grade: 1B**

Recommendation 4: For those patients who elect to undergo acute cardioversion to achieve sinus rhythm in atrial fibrillation, both direct-current cardioversion **(Grade: 1C+)** and pharmacological conversion **(Grade: 2A)** are appropriate options.

Recommendation 5: Both transesophageal echocardiography with short-term prior anticoagulation followed by early acute cardioversion (in the absence of intracardiac thrombus) with postcardioversion anticoagulation versus delayed cardioversion with pre-and postanticoagulation are appropriate management strategies for those patients who elect to undergo cardioversion. **Grade: 2A**

Recommendation 6: Most patients converted to sinus rhythm from atrial fibrillation should not be placed on rhythm maintenance therapy since the risks outweigh the benefits. In a selected group of patients whose quality of life is compromised by atrial fibrillation, the recommended pharmacologic agents for rhythm maintenance are amiodarone, disopyramide, propafenone, and sotalol (drugs listed in alphabetical order). The choice of agent predominantly depends on specific risk of side effects based on patient characteristics. **Grade: 2A**

Definitions:

Grade of Recommendation

1A
Clarity of Risk-Benefit: Clear
Methodologic Strength of Supporting Evidence: Randomized trials without important limitations
Implications: Strong recommendation, can apply to most patients in most circumstances without reservation

1B
Clarity of Risk-Benefit: Clear
Methodologic Strength of Supporting Evidence: Randomized trials without important limitations (inconsistent results, nonfatal methodologic flaws)
Implications: Strong recommendation; likely to apply to most patients

1C+
Clarity of Risk-Benefit: Clear
Methodologic Strength of Supporting Evidence: No randomized trials for this specific patient or patient population, but results from randomized trial(s) including different patients can be unequivocally extrapolated to the patient under current consideration; or overwhelming evidence from observational studies is available
Implications: Strong recommendation; can apply to most patients in most circumstances

1C
Clarity of Risk-Benefit: Clear
Methodologic Strength of Supporting Evidence: Observational studies
Implications: Intermediate-strength recommendation; may change when stronger evidence is available

2A
Clarity of Risk-Benefit: Unclear
Methodologic Strength of Supporting Evidence: Randomized trials without important limitations
Implications: Intermediate-strength recommendation; best action may differ depending on circumstances or patients´ or societal values

2B
Clarity of Risk-Benefit: Unclear
Methodologic Strength of Supporting Evidence: Randomized trials without important limitations (inconsistent results, nonfatal methodologic flaws)
Implications: Weak recommendation; alternative approaches likely to be better for some patients under some circumstances

2C
Clarity of Risk-Benefit: Unclear
Methodologic Strength of Supporting Evidence: Observational studies
Implications: Very weak recommendation; other alternatives may be equally reasonable

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

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

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Relief of symptoms
- Decreased mortality and morbidity
- Prevention of stroke
- Cardioversion/restoration and maintenance of sinus rhythm
- Prevention of thromboembolism

POTENTIAL HARMS

Rhythm Control

In the Atrial Fibrillation Follow-up Investigation of Rhythm Management (AFFIRM) trial, patients who were older than age 65 years, who did not have congestive heart failure, and who had coronary heart disease showed a trend towards increased mortality.

The Rate Control versus Electrical (RACE) cardioversion trial found a trend for increased mortality in the rhythm-control group in patients with hypertension and in women.

Pharmacological Rate Control; Conversion

Refer to the evidence synthesis in the original guideline document for a discussion of side effects reported in clinical trials.

Anticoagulation

Warfarin is associated with an increase in major bleeding risk.

Antiarrhythmic Therapy

The risk for torsades de pointes and other ventricular arrhythmias should be considered when choosing which antiarrhythmic agents to use for maintenance of sinus rhythm. However, the true risks of each antiarrhythmic agent are not well elucidated in the literature. Refer to the evidence synthesis in the original guideline document.

CONTRAINDICATIONS

CONTRAINDICATIONS

Flecainide is contraindicated in patients with previous myocardial infarction.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- 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 clinical practice guidelines are considered automatically withdrawn, or invalid, 5 years after publication, or once an update has been issued.
- The authors of the guideline are responsible for its contents, including any treatment recommendations. No statement in this article should be construed as an official position of the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Patient Resources

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

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)

Snow V, Weiss KB, LeFevre M, McNamara R, Bass E, Green LA, Michl K, Owens DK, Susman J, Allen DI, Mottur-Pilson C. Management of newly detected atrial fibrillation: a clinical practice guideline from the American Academy of Family Physicians and the American College of Physicians. Ann Intern Med 2003 Dec 16;139(12):1009-17. [57 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003 Dec 16

GUIDELINE DEVELOPER(S)

American Academy of Family Physicians - Medical Specialty Society
American College of Physicians - Medical Specialty Society

SOURCE(S) OF FUNDING

American College of Physicians and American Academy of Family Physicians

GUIDELINE COMMITTEE

Joint American College of Physicians (ACP)/American Academy of Family Physicians (AAFP) Panel on Atrial Fibrillation and ACP's Clinical Efficacy

Assessment Subcommittee (CEAS) and AAFP Commission on Clinical Policies and Research

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Consultancies: R.L. McNamara (Aventis, EU3)

Grants received: L.J. Tamariz (National Heart, Lung, and Blood Institute)

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

The following is available:

- Management of atrial fibrillation: review of the evidence for the role of pharmacologic therapy, electrical cardioversion, and echocardiography. Ann Intern Med 2003 Dec 16;139(12):1018-34.

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.

PATIENT RESOURCES

The following is available:

- Summaries for patients. Management of newly detected atrial fibrillation: recommendations from the American College of Physicians and the American Academy of Family Physicians. Ann Intern Med 2003 Dec 16;139(12):I32.

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.

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NGC STATUS

This NGC summary was completed by ECRI on May 20, 2004. The information was verified by the guideline developer on June 4, 2004. This summary was updated by ECRI on March 6, 2007 following the U.S. Food and Drug Administration (FDA) advisory on Coumadin (warfarin sodium). This summary was updated by ECRI Institute on September 7, 2007 following the revised U.S. Food and Drug Administration (FDA) advisory on Coumadin (warfarin).

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