



Track: Hospital Medicine		
Body System: Cardiovascular		
Session Topic: Atrial Fibrillation		
Educational Format		Faculty Expertise Required
REQUIRED	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>
Professional Practice Gap	Learning Objective(s) that will close the gap and meet the need	Outcome Being Measured
<ul style="list-style-type: none"> ● Family physicians have a knowledge and performance gap related to the selection of appropriate cardiac imaging modality for specific cardiovascular problems. ● Physicians are often inconsistent with regard to therapeutic decision making for patients with AF. ● Physicians frequently exhibit poor communication between caregivers for elderly patients with AF. ● Physicians are inconsistent with their long-term management of AF patients. ● Physician adherence to oral anticoagulation therapy initiation is low among incident AF patients. ● AAFP/ACP updated joint guidelines for Management 	<ol style="list-style-type: none"> 1. Utilize current clinical practice guidelines for the management of AF, and the CHA2DS2-VASc score to prescribe appropriate medications. 2. Review the coagulation cascade and compare targets of medications that affect the coagulation pathway with specific applications to current recommendations of medications for patients with atrial fibrillation. 3. Recognize potential indications for nonpharmacologic interventions (e.g., electrical cardioversion, surgical ablation) for atrial fibrillation and managing patients properly following ablation. 4. Educate patients on lifestyle modifications they can make to ensure heart health and prevent complications from AF, including stroke or heart failure. 	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<p>of Newly Detected Atrial Fibrillation.</p> <ul style="list-style-type: none"> • AAFP recent release of new Pharmacologic Management of Newly Detected Atrial Fibrillation Guidelines 		
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Faculty Instructional Goals

***NOTE TO FACULTY - This topic is part of the Hospital Medicine Track. Associated topics include: Sepsis; Anticoagulation; Skin Infections; & Clostridium Difficile.**

Expectation:

1. Include an appropriate focus on inpatient care (up to 100%)
2. Collaborate with faculty from associated topics (above)

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
 - Visit <http://www.aafp.org/journals> for additional resources
 - Visit <http://familydoctor.org> for patient education and resources
- Provide recommendations for the incorporation of current clinical practice guidelines for the management of AF, and the CHA2DS2-VASc score to prescribe appropriate medications.
- Provide recommendations for reviewing the coagulation cascade and compare targets of medications that affect the coagulation pathway with specific applications to current recommendations of medications for patients with atrial fibrillation.
- Provide strategies for recognizing potential indications for nonpharmacologic interventions (e.g., electrical cardioversion, surgical ablation) for atrial fibrillation and managing patients properly following ablation.
- Provide strategies and examples for preparing treatment plans for patients (especially the elderly) who present with atrial fibrillation.
- Provide strategies and resources to educate patients on lifestyle modifications they can make to ensure heart health and prevent complications from AF, including stroke or heart failure.



- Provide an overview research behind “the AF-risk zone”, & any implications for practice.
- Provide recommendations regarding guidelines for Medicare reimbursement.
- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of AF.
- Provide an overview of newly available treatments, including efficacy, safety, contraindications, and cost/benefit relative to existing treatments.
- Provide instructions regarding the incorporation and use of the PCMH/ACO/Primary Care Core Measure Set into practice.

Needs Assessment

Atrial fibrillation (AF) is one of the most common types of arrhythmia in adults worldwide, with an estimated 2.7-6.1 million people affected in the United States. Because AF is more common in adults older than 65 years of age, this figure will continue to rise as the population ages. AF presents as a change in heart rate with an irregular pattern, with symptoms that may worsen/change over time. AF can occur as episodes (paroxysmal) or continuously (persistent). Symptom presentation can vary among patients, with some being asymptomatic and others complaining of irregular heart rate, heart palpitations, lightheadedness, extreme fatigue, shortness of breath, anxiety, and chest pain. In addition to an increase in mortality, myocardial infarction, heart failure exacerbation, and cardiomyopathy,³⁻⁶ patients who have AF have a significantly increased risk of stroke; almost a quarter of all strokes in the elderly are related to AF. Symptoms and complications due to AF result in more than 750,000 hospitalizations and 130,000 deaths each year and cost the United States \$6 billion each year. Individual health care costs are approximately \$8,000 higher per year for patients who have AF than those who do not have AF.

Management options for AF involve rate control, rhythm control, and prevention of thromboembolic events. Options include medications to slow the heart rate, medications to achieve and maintain a regular rhythm, electrical cardioversion, ablation, and other surgical interventions. Stroke prophylaxis is a mainstay of management for individuals with AF who have additional risk factors for stroke. Until recently, the main treatment for stroke prophylaxis was Vitamin K antagonists (VKAs) such as warfarin. Newer direct oral anticoagulants offer an alternative to VKAs for prevention of stroke in patients who have AF.

Bleeding risk can also be assessed for patients treated with anticoagulants or aspirin. The HAS-BLED scale is the most studied and most commonly used. Scores for this tool can range from zero to nine, with a score of three or greater indicating an increased risk for bleeding. Many of the risk factors for bleeding are the same as those for stroke, making it challenging to estimate the trade-off between stroke risk and risk of bleeding.¹

Supraventricular arrhythmias, which include tachycardia, atrial flutter and atrial fibrillation (AF), the latter of which serves as the most common type of serious arrhythmia; with prevalence projected to increase from 5.2 million in 2010 to 12.1 million cases in 2030.^{2,3} Chronic or long-term AF is associated with an increased risk of stroke, heart failure and mortality, especially among women.⁴ While it becomes more common as people age, heavy alcohol use and an



overactive thyroid can lead to the condition as well. Not only does AF serve as the most common arrhythmia in clinical practice, it also accounts for nearly one-third of hospitalizations for cardiac rhythm disturbances, affecting an estimated 2.3 million people in North America.⁴ Some research even points to an association between AF-related mortality and AF-risk zone birth is explained by indicators of childhood social disadvantage or adult risk factors.⁵ Physicians, especially those practicing in the “AF-risk zone” (6 southeastern states) need to understand how the relationship between place of birth and risk of AF-related mortality is a social determinant of health; as well as the implications for patient-centered care.

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicate that family physicians have knowledge gaps with regard to evaluating and managing AF, effective use of electrocardiography, cardiovascular physical examination, and cardiovascular pharmacology.⁶ More specifically, CME outcomes data from 2012-2016 AAFP FMX (formerly Assembly): *Arrhythmias and Dysrhythmias*, and *Atrial Fibrillation* sessions suggest that physicians need additional continuing medical education with regard to ECG analysis; using CHA₂DS₂-VASC score and HAS BLED scores to make clinical decisions; updates on new treatment therapies; educating patients on lifestyle modification and treatment adherence; and guideline adherence.⁷⁻⁹ It is also important for physicians to keep up to date on new anticoagulant drugs for AF treatment.¹⁰

It is well established that interpretation of ECGs is within the scope of family medicine, and that the diagnosis and management of cardiovascular disorders is routinely taught in family medicine residency programs.¹¹ However, studies suggest that family practice residents have considerable deficiencies in ECG interpretation skills.¹² CME outcomes data from the 2012 AAFP Scientific Assembly session: *Electrocardiography and Internal Monitor Devices* suggests that over 57% of learners indicated a need for more advanced continuing education is the use of ECG. In practice, there is some evidence that primary care physicians have deficiencies regarding ECG interpretation that distinguishes normal physiological adaptations in athletes from abnormal findings suggestive of pathology; as well as deficiencies regarding accurate ECG diagnosis of atrial tachyarrhythmia using visual criteria rather than quantitative analysis.¹³⁻¹⁵ Additionally, AAFP CME Needs Assessment Survey data indicates that family physicians have a statistically significant and meaningful knowledge gap related to the use of electrocardiography – i.e. electrocardiography is highly relevant to the management of patients in their practice, but did not feel comfortable with their medical skill to effectively use electrocardiography.⁶

Physicians are often inconsistent with regard to therapeutic decision making for patients with AF, frequently exhibit poor communication between caregivers, and are inconsistent with their long-term management of these patients.¹⁶⁻¹⁹ In particular, physician adherence to oral anticoagulation therapy (OAT) initiation is low among incident atrial fibrillation (AF) patients, and more than one-third of the antiarrhythmic drugs (AADs) used in patients with AF and coronary artery disease (CAD) or heart failure did not conform to guideline recommendations.^{19,20} Physicians need guidance on the use of risk assessment tools to support decision-making with regard to initiating antithrombotic therapy for stroke prevention in AF.^{17,21}

Family physicians should be familiar with current guidelines and recommendations on managing atrial fibrillation:^{22,23} The AAFP and the American College of Physicians developed joint



guidelines for *Management of Newly Detected Atrial Fibrillation* in 2003, and later affirmed by the AAFP Board of Directors in 2008. As of April 2017, the guidelines have been updated. FMX, faculty should review the updates to the guideline, and educate learners on changes impacting their practice. Physicians may improve their care of patients with AF by engaging in continuing medical education that provides practical integration of current evidence-based guidelines and recommendations into their standards of care, including, but not limited to the following:^{1,24-26}

- Rate control is recommended in preference to rhythm control for the majority of patients who have atrial fibrillation. Preferred options for rate control therapy include non-dihydropyridine calcium channel blockers and beta blockers.
- Rhythm control may be considered for certain patients based on patient symptoms, exercise tolerance, and patient preferences.
- Lenient rate control (<110 beats per minute resting) is recommended over strict rate control (<80 beats per minute resting) for patients who have atrial fibrillation.
- The risk of stroke and bleeding should be discussed with all patients considering anticoagulation. The CHA₂DS₂-VASc should be considered for prediction of risk of stroke and the HAS-BLED should be considered for prediction of risk for bleeding in patients who have atrial fibrillation.
- Chronic anticoagulation is recommended for patients who have atrial fibrillation unless they are at low risk of stroke (CHA₂DS₂-VASc <2) or have specific contraindications (strong recommendation, high quality evidence). Choice of anticoagulation therapy should be based on patient preferences and patient history. Options for anticoagulation therapy may include warfarin, apixaban, dabigatran, edoxaban, or rivaroxaban.
- Dual treatment with anticoagulant and antiplatelet therapy is not recommended in most patients who have atrial fibrillation.
- Rate control is the recommended treatment strategy in most patients with atrial fibrillation. Rhythm control is an option for patients in whom rate control is not achievable or who remain symptomatic despite rate control.
- Rhythm control of atrial fibrillation through electrical or pharmacologic cardioversion requires anticoagulation therapy three weeks before and four weeks after cardioversion.
- Rate control improves diastolic filling and coronary perfusion, decreases myocardial energy demand, and prevents tachycardia-mediated cardiomyopathy. The goal is to achieve a ventricular response of less than 80 beats per minute at rest and less than 110 beats per minute during exercise.
- Warfarin is more effective than aspirin in preventing thromboembolic events in patients with atrial fibrillation, although it confers a higher risk of bleeding. Warfarin is superior to aspirin plus clopidogrel and confers the same risk of bleeding. Adding full-dose aspirin to warfarin should be avoided because of the increased risk of bleeding.
- Patients with nonvalvular atrial fibrillation who are at low risk of stroke can be treated with 81 to 325 mg of aspirin per day.
- 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 (or direct oral anticoagulant), 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.

These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.

Physicians should be kept up to date on new treatment therapies, changes to therapies, or warnings associated with existing therapies. Provide recommendations regarding new FDA approved medications used during treatment of atrial fibrillation; including safety, efficacy, tolerance, and cost considerations relative to currently available options. Some recent examples include, but are not limited to:^{27,28}

- Savaysa (edoxaban); Daiichi Sankyo; For the treatment of deep vein thrombosis, pulmonary embolism and risk of stroke and embolism due to atrial fibrillation, Approved January 2015.
- Eliquis (apixaban); Bristol-Myers Squibb; For the prevention of stroke and systemic embolism resulting from nonvalvular atrial fibrillation, Approved December 2012.



- Xarelto (rivaroxaban); Janssen Pharmaceuticals; For the reduction in the risk of stroke and systemic embolism resulting from atrial fibrillation, Approved November 2011.
- Pradaxa (dabigatran etexilate mesylate); Boehringer Ingelheim; For the risk reduction of stroke and embolism due to atrial fibrillation, Approved October 2010.
- Multaq (dronedarone); Sanofi-aventis; For the treatment of paroxysmal or persistent atrial fibrillation or atrial flutter, Approved July 2009.

Physicians should also be made aware when the FDA posts warnings, such as how the use of the antibiotic azithromycin (Zithromax or Zmax) can lead to a potentially fatal irregular heart rhythm in people with certain risk factors.²⁹ Additionally, recent studies of Canadian patients show that older adults (age ≥ 66) with atrial fibrillation taking dabigatran who also received simvastatin or lovastatin had approximately a 50 percent greater risk of hospitalization for major hemorrhage relative to those who used other statins.³⁰⁻³² Hospital readmissions for cardiac dysrhythmias, acute myocardial infarction, heart failure, and complications of surgical procedures are among the top 10 conditions with the most hospital readmission rates; therefore, physicians should focus on these areas for quality improvement and care coordination.³³

The American Academy of Family Physicians Academy has participated in the Core Measures Collaborative (the Collaborative) convened by America's Health Insurance Plans (AHIP) since August 2014. The Collaborative is a multi-stakeholder effort working to define core measure sets of various specialties promoting alignment and harmonization of measure use and collection across both public and private payers.

Participants in the Collaborative included Centers for Medicare and Medicaid Services (CMS), the National Quality Forum (NQF), private payers, provider organizations, employers, and patient and consumer groups. This effort exists to decrease physician burden by reducing variability in measure selection, specifications and implementation—making quality measurement more useful and meaningful for consumers, employers, as well as public and private clinicians.

With significant AAFP input, a PCMH/ACO/Primary Care Core Measure Set has been developed for primary care. The goal of this set is to decrease burden and allow for more congruence between payer reporting programs.³⁴

Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- Atrial fibrillation: diagnosis and treatment²⁵
- AAFP Guidelines: Pharmacologic Management of Newly Detected Atrial Fibrillation¹
- AAFP/ACP Guidelines: Management of newly detected atrial fibrillation²⁴
- ACCF/AHA/HRS Focused Update on the Management of Patients With Atrial Fibrillation²³
- ACC/AHA Joint Guidelines³⁵
- Updated Guidelines on Management of Atrial Fibrillation from the ACCF/AHA/HRS²²
- Catheter ablation of supraventricular arrhythmias and atrial fibrillation³⁶
- AMA PCPI Approved Quality Measure: Atrial Fibrillation and Atrial Flutter³⁷
- Improving anticoagulation management at the point of care³⁸



- A systematic approach to managing warfarin doses³⁹
- Simple Tools to Increase Patient Satisfaction With the Referral Process⁴⁰
- Engaging Patients in Collaborative Care Plans⁴¹
- Health Coaching: Teaching Patients to Fish⁴²
- Encouraging patients to change unhealthy behaviors with motivational interviewing⁴³

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