



Body System: Cardiovascular		
Session Topic: Arrhythmias and Dysrhythmias		
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"> Heart palpitations and cardiac arrhythmias are common problems encountered by family physicians. Family physicians need to be familiar with the main types of cardiac arrhythmias, and the available diagnostic tools and treatment modalities. A competence gap exists for family physicians to be able to determine which arrhythmias are benign and which indicate probable cardiac malfunction, and to manage recurrent or chronic rhythm abnormalities. Knowledge and competence gaps exist with regard to providing health coaching, having standards for routinely monitoring medication adherence, having an organized approach to chronic disease 	<ol style="list-style-type: none"> Identify the causes of ventricular arrhythmias and differentiate the types of ventricular arrhythmias and identify the causes of atrial arrhythmias and differentiate the types of atrial arrhythmias. Manage life-threatening ventricular arrhythmias, and assess, diagnose and stratify for risk patients who have, or are at risk for, ventricular arrhythmias. Be familiar with the roles of various pharmacologic and device therapies for common cardiac arrhythmias, including their indications and how to monitor for control and adverse effects. Recognize the indications and relative benefits and risks of novel oral anticoagulants, and select appropriate anticoagulant therapy for patients. 	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<p>care, engaging patients in collaborative care plans.</p> <ul style="list-style-type: none"> • 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. • AAFP/ACP updated joint guidelines for Management of Newly Detected Atrial Fibrillation. 		
ACGME Core Competencies Addressed (select all that apply)		
X	Medical Knowledge	Patient Care
X	Interpersonal and Communication Skills	Practice-Based Learning and Improvement
	Professionalism	Systems-Based Practice
Faculty Instructional Goals		
<p>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.</p> <ul style="list-style-type: none"> • 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 <u>References</u> section below are a good place to start <ul style="list-style-type: none"> ○ Visit http://www.aafp.org/journals for additional resources ○ Visit http://familydoctor.org for patient education and resources • Assist learners with the application of current practice guidelines to specific challenging scenarios in practice • Provide current, evidence-based treatment recommendations • Provide specific case-based examples illustrating diagnosis, including the identification of red flags indicating the need for further diagnostic testing and possible referral • Provide strategies and resources for establishing quality improvement plans to maximize care coordination and minimize hospital readmission • Provide evidence-based recommendations regarding prescribing treatment for atrial arrhythmias, including management of atrial fibrillation. 		



- Provide recommendations for managing premature ventricular complexes and non-sustained ventricular fibrillation in persons with and without heart disease.
- Provide recommendations regarding the roles of various pharmacologic and device therapies for common cardiac arrhythmias, including their indications and how to monitor for control and adverse effects.
- Provide strategies for recognizing the indications and relative benefits and risks of novel oral anticoagulants, and select appropriate anticoagulant therapy for patients.
- Provide recommendations regarding guidelines for Medicare reimbursement.
- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of
- 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:

Heart palpitations and cardiac arrhythmias are common problems encountered by family physicians. Patients may present with acute cardiac rhythm abnormalities. Although these arrhythmias are usually benign, they can indicate significant underlying heart disease. More often, patients have chronic arrhythmias, such as atrial fibrillation (AF), that may require treatment to reduce the risk of future complications. The challenges for the family physician are determining which arrhythmias are benign and which indicate probable cardiac malfunction, and to manage recurrent or chronic rhythm abnormalities.¹

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicate that family physicians require additional education regarding the management of patients with arrhythmias &/or dysrhythmias.² More specifically, CME outcomes data from 2012-2016 AAFP FMX (formerly Assembly): *Arrhythmias and Dysrhythmias* sessions suggest that physicians have knowledge and practice gaps with regard to ECG interpretation; recognizing life threatening changes; understanding the workup for physiologic vs. pathologic arrhythmia; when to send for echo vs cardiology consult; pathologic associated syndromes (e.g. Wellen's); understanding of evidence-based guidelines for use of anticoagulants; patient education and adherence to prescribed therapies; and available mobile applications for point of care.³⁻⁷

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.⁸⁻¹¹ There have been important strides in the management of anticoagulation (ranging from using nothing, to aspirin, to various injectables, newer prescriptions or even various combinations). The recommendations change rapidly, and family physicians who only see patients on an outpatient basis may not be aware of the medications that are available only for inpatient usage. Monitoring of the medications is now an issue (some require laboratory follow up and some don't), and side effects can vary. Family physicians should familiarize themselves with these new drugs and the guidelines for monitoring their use, along with establishing a systematic approach to anticoagulation management.¹²⁻¹⁴



A review of the literature also indicates that patients, particularly older patients with multimorbidities, often need help integrating self-management tasks for potentially interacting conditions.¹⁵ Physicians are often challenged to provide optimal care for patients with chronic diseases, achieving standards of care only 50%-60% of the time.¹⁶ Physicians can improve these standards of care through health coaching, having standards for routinely monitoring medication adherence, having an organized approach to chronic disease care, engaging patients in collaborative care plans, and adding a health education specialist to their practice.¹⁷⁻²¹

Family physicians should consider stress testing and electrophysiology studies (EPS) for diagnostic evaluation of patients who have remote myocardial infarction with symptoms suggestive of ventricular tachyarrhythmias including palpitations, presyncope and syncope, for diagnostic evaluation of wide-QRS-complex tachycardias of unclear mechanism in patients who have coronary heart disease, and in patients who have syncope of unknown cause with impaired left ventricular function or structural heart disease.²² It may also be considered for risk stratification in patients who have remote myocardial infarction, nonsustained ventricular tachycardia, and left ventricular ejection fraction equal to or less than 40%, and in patients who have syncope when bradyarrhythmias or tachyarrhythmias are suspected and in whom noninvasive diagnostic studies are not conclusive. While family physicians will refer for these tests, they are in a unique position to coordinate the care of their patients with all sub-specialists.

Family physicians should be familiar with current guidelines and recommendations on managing atrial fibrillation:^{23,24} 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 May 2016, the guidelines are being updated. If available, by 2017 FMX, faculty should review the updates to the guideline, and educate learners on changes impacting their practice. As of May 2016, physicians should consider the following evidence-based recommendations:^{22,25,26}

- Rate control with chronic anticoagulation is recommended for the majority of patients with atrial fibrillation. Rhythm control is appropriate when based on special considerations such as patient symptoms, exercise intolerance, and patient preference.
- Patients with atrial fibrillation should receive chronic anticoagulation with adjusted-dose warfarin, unless they are at low risk for stroke or have a specific contraindication to warfarin.
- For patients with atrial fibrillation, the following drugs are recommended: atenolol, metoprolol, diltiazem, and verapamil. Digoxin should only be used as a second-line agent for rate control as it is only effective at rest.
- 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. The choice of agent predominantly depends on specific risk of side effects based on patient characteristics.
- Patients taking warfarin (Coumadin) should be treated using systematic processes of care to optimize effectiveness and minimize adverse effects. Health care professionals skilled in the initiation and assessment of therapy and dosing adjustments can dramatically influence outcomes.



- In patients with atrial fibrillation and at least one other risk factor for stroke, direct oral anticoagulants (e.g. rivaroxaban, edoxaban, etc.) that do not require frequent laboratory monitoring are as effective as warfarin for prevention of stroke or systemic embolism and have comparable risks of major bleeding.
- Compared with usual clinic-based care, patient self-testing for international normalized ratios, with or without self-dosing of warfarin, is associated with significantly fewer deaths and thromboembolic complications without any increase in bleeding complications for a selected group of motivated patients who have completed appropriate training.

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 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.³⁰ Additionally, the FDA has issued other warnings suggesting that certain medications and other agents are linked to QT interval prolongation that could lead to development of torsades de pointes, a potentially fatal abnormal heart rhythm. Examples include (but are not limited to) the following:³¹⁻³⁴ citalopram, ondansetron, quetiapine, phenothiazines, tricyclic antidepressants - amitriptyline, Haloperidol, Azithromycin, Chloroquine, Erythromycin, Pentamidine, Trimethoprim-sulfamethoxazole, Arsenic, Organophosphate insecticides, Diuretics, Antihistamines, Terfenadine, Astemizole, Bepidil, Lidoflazine, Probuco, Amantadine, Cisapride.

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.³⁵

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

- ACCF/AHA/HRS Focused Update on the Management of Patients With Atrial Fibrillation²⁴
- ACC/AHA Joint Guidelines³⁶
- Updated Guidelines on Management of Atrial Fibrillation from the ACCF/AHA/HRS²³
- Catheter ablation of supraventricular arrhythmias and atrial fibrillation³⁷
- AMA PCPI Approved Quality Measure: Atrial Fibrillation and Atrial Flutter³⁸
- Improving anticoagulation management at the point of care¹⁴
- Management of common arrhythmias: Part I. Supraventricular arrhythmias¹
- Management of common arrhythmias: Part II. Ventricular arrhythmias and arrhythmias in special populations³⁹
- A systematic approach to managing warfarin doses¹³
- FamilyDoctor.org. Arrhythmia | Overview (patient resource)⁴⁰

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