



Body System: Cardiovascular		
Session Topic: Valvular Heart Disease		
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"> Physicians demonstrate significant deficiencies in cardiac auscultation skills; especially if the patient is female, and particularly when male physicians are attempting to correctly auscultate the mitral valve region and palpate for the apical impulse on female versus male patients. Physicians need to be kept up to date on recent (2014 ACC/AHA) guidelines on the management of patients with valvular heart disease. Degenerative valve disease is the most common form of valvular heart disease in this country, and physicians should expect to see more cases as the population ages. Physicians should also be alert to the possibility of rheumatic valve disease in patients who have come to the U.S. from developing nations, where rheumatic 	<ol style="list-style-type: none"> Identify the major symptoms and risk factors for the connective tissue disorders dermatomyositis, scleroderma and systemic lupus erythematosus, including age, race, family history and gender. Differentiate between dermatomyositis, scleroderma, and systemic lupus erythematosus and other conditions that present with similar symptoms; provide an appropriate diagnosis and/or suggest additional testing when necessary Counsel patients on treatment regimens to manage symptoms including combinations of immunosuppressant and/or anti-inflammatory medications, diet, lifestyle, and follow-up appointments. Describe possible complications associated with connective tissue disorder treatment. 	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<p>heart disease accounts for most valvular heart disease.</p> <ul style="list-style-type: none"> Valvular heart disease constitutes the major cause of heart disease in pregnancy. In the presence of valvular heart disease, the hemodynamic changes of pregnancy might cause heart failure and lead to maternal and fetal morbidity and mortality. 		
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 Provide recommendations for identifying the major symptoms and risk factors for the connective tissue disorders dermatomyositis, scleroderma and systemic lupus erythematosus, including age, race, family history and gender. Provide strategies for differentiating between dermatomyositis, scleroderma, and systemic lupus erythematosus and other conditions that present with similar symptoms; provide an appropriate diagnosis and/or suggest additional testing when necessary Provide recommendations for counseling patients on treatment regimens to manage symptoms including combinations of immunosuppressant and/or anti-inflammatory medications, diet, lifestyle, and follow-up appointments. Provide recommendations for identifying possible complications associated with connective tissue disorder treatment, including proper complication management. Provide recommendations regarding guidelines for Medicare reimbursement. Provide recommendations to maximize office efficiency and guideline adherence to the 		



diagnosis and management of VHD

- 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

Family physicians routinely encounter patients with valvular heart disease. The incidence of valvular heart disease is expected to increase over the next several decades as a large proportion of the U.S. population advances into the later decades of life. Recent data suggest that the prevalence of any valve disease is 2.5%, with no difference between men and women. In 2013, 50 222 deaths were related to valvular HD. Of those, 67.5% were due to aortic valve disorders.¹

Auscultation has a reported sensitivity of 70 percent and a specificity of 98 percent for detection of valvular heart disease. However, the sensitivity and specificity vary substantially with the expertise of the examiner.²

A review of the literature validates that physicians at all training levels demonstrate significant deficiencies in cardiac auscultation skills; especially if the patient is female, and particularly when male physicians are attempting to correctly auscultate the mitral valve region and palpate for the apical impulse on female versus male patients.^{3,4} Additionally, aortic stenosis affects 3% of persons older than 65 years; and primary care physicians should consider aortic stenosis in adults who present with any of the cardinal symptoms accompanied by a systolic murmur.⁵

Diagnostic errors associated with heart failure in common in primary care; particularly, process breakdowns frequently involved the patient-practitioner clinical encounter (78.9%) but are also related to referrals (19.5%), patient-related factors (16.3%), follow-up and tracking of diagnostic information (14.7%), and performance and interpretation of diagnostic tests (13.6%).⁶ CME outcomes data from the American Academy of Family Physicians (AAFP) Advanced Cardiac Testing CME Program, as well as data from a national study of the National Research Network (NRN), indicate that cardiac tests ordered by family physicians vary regionally, and that physician-patient communication gaps, as well as coordination of care gaps exist and are barriers to optimal patient care. 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.⁷ However, studies suggest that family practice residents have considerable deficiencies in ECG interpretation skills.⁸ Documentation of diagnostic imaging is also inconsistent among many primary care providers; therefore, family physicians should be familiar with ACR practice guidelines for communication of diagnostic imaging findings.^{9,10} Family physicians can also improve clinical decision making by utilizing clinical decision support tools and documenting decision making.^{11,12} Physicians require training and strategies to improve documentation and decision making, improve the effectiveness of health coaching, and improve medication adherence.¹¹⁻¹⁷

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicates that family physicians have a significant knowledge gap with regard to



diagnosing and managing valvular heart diseases.¹⁸ More specifically, CME outcomes data from 2012 AAFP Scientific Assembly (currently FMX) *Valvular Heart Disease* sessions, indicate that physicians have knowledge and practice gaps with regard to evaluation of murmurs through physical examination; effective auscultation of murmurs; knowing when to order echocardiogram; when to refer, and effective referral management.¹⁹

Physicians may want to consider the following evidence-based recommendations:⁵

- Transthoracic echocardiography is indicated when there is a loud unexplained systolic murmur, a single second heart sound, a history of a bicuspid aortic valve, or symptoms that might be caused by aortic stenosis.
- Aortic valve replacement is the only treatment that improves mortality in patients with symptomatic severe aortic stenosis.
- Watchful waiting is recommended for most patients with asymptomatic aortic stenosis.
- In asymptomatic patients, serial Doppler echocardiography is recommended every six to 12 months in patients with severe aortic stenosis, every one to two years in those with moderate disease, and every three to five years in those with mild disease.
- Antimicrobial prophylaxis for bacterial endocarditis is not recommended for patients with aortic stenosis unless they have undergone aortic valve replacement or have a history of endocarditis.

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.

In addition to patients older than 65 years of age, all persons undergoing preparticipation physical evaluations should be questioned about exertional symptoms, the presence of a heart murmur, symptoms of Marfan syndrome, and family history of premature serious cardiac conditions or sudden death.²⁰

In order to make an accurate diagnosis and appropriate selection of therapeutic interventions, physicians need to be kept up to date on major advances in diagnostic imaging, interventional cardiology and surgical approaches.²¹ Awareness of surgical history can help rule out sounds made by prostheses. A prosthetic mitral valve produces a distant click early in diastole that is loudest at the apex and transmitted precordially. A prosthetic aortic valve, on the other hand, causes a sound early in systole. Animal tissues may be silent, and pacemakers no longer produce a sound.²²

If an abnormal murmur is suspected, physicians may order a chest x-ray, echocardiogram, electrocardiogram, or additional cardiac testing. An echocardiogram is the standard for establishing the cause of a murmur, and family physicians should have working knowledge of



current American College/American Heart Association (ACC/AHA) guidelines on the management of patients with valvular heart disease, including recommendations for the use echocardiography in patients with symptomatic and asymptomatic murmurs.^{23,24}

Family physicians may choose to refer some patients to sub-specialists for further evaluation and testing, but family physicians should still coordinate care and help explain the potential findings to families. In cases in which specific cardiac abnormalities are confirmed, family physicians are able to offer guidance on steps that can be taken to ensure long-term health, especially when the patient is a child. Depending upon the etiology, family physicians also should be able to discuss potential treatment options, as well as options that may limit progression of further disease, when available. Physicians can improve patient satisfaction with the referral process by using readily available strategies and tools such as, improving internal office communication, engaging patients in scheduling, facilitating the appointment, tracking referral results, analyzing data for improvement opportunities, and gathering patient feedback.^{25,26}

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.²⁷

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

- 2014 AHA/ACC Guideline for the Management of Patients With Valvular Heart Disease²⁴
- Aortic Stenosis: Diagnosis and Treatment⁵
- The Preparticipation Sports Evaluation²⁰
- Diagnosis and evaluation of heart failure²³
- Simple tools to increase patient satisfaction with the referral process²⁵
- Medication adherence: we didn't ask and they didn't tell¹³
- Encouraging patients to change unhealthy behaviors with motivational interviewing²⁸
- Integrating a behavioral health specialist into your practice²⁹
- Adding health education specialists to your practice³⁰
- Envisioning new roles for medical assistants: strategies from patient-centered medical homes³¹



- The benefits of using care coordinators in primary care: a case study³²
- Engaging Patients in Collaborative Care Plans¹⁷
- FamilyDoctor.org. Heart Murmurs | Overview (patient resource)³³

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