Body System: Cardiovascular		
Session Topic: Cardiomyopathies		
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. Please describe your interest and plan for teaching a PBL on your proposal form.

Professional Practice Gap	**Learning Objective(s) that will close the gap and meet the need**	**Outcome Being Measured**
• Family physicians have statistically significant and meaningful gaps in the medical skill necessary to provide optimal care of patients with cardiomyopathy; and have gaps in related conditions/topics such as, electrocardiography, cardiovascular pharmacology, myocardial infarction, cardiovascular physical examination, and arrhythmias. • Knowledge and practice gaps related to managements of long QT syndrome; recognition of Takotsubo myopathy; effective communication and coordination with cardiology; EKG evaluation; evaluation of syncope; sports participation grading for patients with HCM/EKG abnormalities; and referral	1. Suspect Hypertrophic cardiomyopathy (HCM) in patients with certain history, physical findings, and ECG abnormalities. 2. Screen for cardiomyopathy, in accordance with current clinical guidelines. 3. Include genetic counseling during evaluation of patients with familial inheritance. 4. Initiate appropriate medical therapy in patients with the obstructive form of HCM.	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.

for genetic testing for patients with hypertrophic cardiomyopathy • There are updated ACCF/AHA guidelines. • Family physicians are often unaware of the relevance to genetic testing to their practice, and are often in need of further education about diagnosing genetic syndromes. • Clinical guidelines recommend consolation with a genetics professional as part of an initial assessment for HCM, there remains an underutilization of genetic services. • Patient adherence to heart failure self-care recommendations is low and selective.		

ACGME Core Competencies Addressed (select all that apply)			
X	Medical Knowledge		Patient Care
	Interpersonal and Communication Skills		Practice-Based Learning and Improvement
	Professionalism		Systems-Based Practice

Faculty Instructional Goals

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 to help physician-learners recognize Hypertrophic cardiomyopathy (HCM) in patients with certain history, physical findings, and ECG abnormalities.
- Provide recommendations regarding clinical guidelines for screening for cardiomyopathy, in accordance with current clinical guidelines.
- Provide recommendations regarding genetic counseling during evaluation of patients with familial inheritance.
- Provide recommendations for initiating appropriate medical therapy in patients with the obstructive form of HCM.
- Provide an overview of current clinical guidelines for the diagnosis and treatment of cardiomyopathy, as it is most likely experienced in the typical family physician practice setting.
- Provide an overview of evidence-based treatment recommendations, including a comparison of current vs. new therapies.

Needs Assessment

Prevalence of cardiomyopathies varies by type, as classified by the American Heart Association (AHA) in 2006; as primary (i.e., genetic, mixed, or acquired) or secondary (e.g., infiltrative, toxic, inflammatory).[1] Some studies suggest that socioeconomic status has an effect on clinic attendance, and on clinical and psychosocial outcomes is evident in the hypertrophic cardiomyopathy (HCM) patient population, and determining ways to better serve those from more disadvantaged groups who likely present more complex clinical management issues is critical.[2]

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicate that family physicians have statistically significant and meaningful gaps in the medical skill necessary to provide optimal care of patients with cardiomyopathy; and have gaps in related conditions/topics such as, electrocardiography, cardiovascular pharmacology, myocardial infarction, cardiovascular physical examination, and arrhythmias.[3] More specifically, CME outcomes data from 2016 AAFP FMX *Cardiomyopathies* sessions, suggest that physicians have knowledge and practice gaps related to managements of long QT syndrome; recognition of Takotsubo myopathy; effective communication and coordination with cardiology; EKG evaluation; evaluation of syncope; sports participation grading for patients with HCM/EKG abnormalities; and referral for genetic testing for patients with hypertrophic cardiomyopathy.[4]

Hypertrophic cardiomyopathy, the leading cause of death from heart disease among young athletes, is caused by missense gene mutations.[5] As such, physicians should be familiar with the latest research regarding the cardiovascular health and evaluation of young athletes, especially the following guidelines from the American Heart Association and the American College of Cardiology.[6]

Eligibility and Disqualification Recommendations for Competitive Athletes With Cardiovascular Abnormalities:[7,8]

- It is recommended that the AHA's 14-point screening guidelines and those of other societies, such as the American Academy of Pediatrics' Preparticipation Physical Evaluation, be used by examiners as part of a comprehensive history taking and physical

examination to detect or raise suspicion of genetic/congenital cardiovascular abnormalities (Class I; Level of Evidence C).

- It is recommended that standardization of the questionnaire forms used as guides for examiners of high school and college athletes in the United States be pursued (Class I; Level of Evidence C).
- Screening with 12-lead ECGs (or echocardiograms) in association with comprehensive history-taking and physical examination to identify or raise suspicion of genetic/congenital and other cardiovascular abnormalities may be considered in relatively small cohorts of young healthy people 12 to 25 years of age, not necessarily limited to competitive athletes (e.g., in high schools, colleges/universities or local communities). Close physician involvement and sufficient quality control is mandatory. If undertaken, such initiatives should recognize the known and anticipated limitations of the 12-lead ECG as a population screening test, including the expected frequency of false-positive and false-negative test results, as well as the cost required to support these initiatives over time (Class IIb; Level of Evidence C).
- Mandatory and universal mass screening with 12-lead ECGs in large general populations of young healthy people 12 to 25 years of age (including on a national basis in the United States) to identify genetic/congenital and other cardiovascular abnormalities is not recommended for athletes and nonathletes alike (Class III, no evidence of benefit; Level of Evidence C).
- Consideration for large-scale, general population, and universal cardiovascular screening in the age group 12 to 25 years with history taking and physical examination alone is not recommended (including on a national basis in the United States) (Class III, no evidence of benefit; Level of Evidence C).

It is important for physicians to keep up to date on current guidelines, and know how to apply those guidelines to practice. The American College of Cardiology Foundation (ACCF) and the American Heart Association (AHA) have updated guidelines on the diagnosis and treatment of hypertrophic cardiomyopathy (HCM).[9] These guidelines provide genetic testing strategies and family screening recommendations; however, data from AAFP CME Needs Assessment surveys indicate that family physicians are often unaware of the relevance to genetic testing to their practice, and are often in need of further education about diagnosing genetic syndromes.[3,9] A review of the literature suggests that while clinical guidelines recommend consolation with a genetics professional as part of an initial assessment for HCM, there remains an underutilization of genetic services.[10]

Research indicates that while current American College of Cardiology and American Heart Association (ACC/AHA) guidelines recommend the implantation of an implantable cardioverter-defibrillators (ICD) for preventing sudden cardiac death (SCD) in patients with ischemic and nonischemic cardiomyopathy; there exists underutilization and inequality in the distribution of ICDs among eligible patients.[11] The data from this research goes on to suggest that primary care physicians are less aware of clinical guidelines than are cardiologists.

Patient adherence to heart failure self-care recommendations is low and selective.[12] Physicians may lower cardiovascular risk factors for patients by engaging in continuing medical education that provides practical integration of current *Behavioral Counseling to Promote a Healthful Diet*

and Physical Activity for Cardiovascular Disease Prevention in Adults with Cardiovascular Risk Factors from the U.S. Preventive Services Task Force.[13]

Cardiomyopathies: the most common cardiomyopathies we deal with are ischemic (post MI) cardiomyopathy and dilated cardiomyopathy. Whether it is from us doing a better job of diagnosing, or doing a better job of keeping critically ill patients alive, we are seeing many more uncommon diagnoses like postpartum cardiomyopathy and alcoholic cardiomyopathy. As the prognosis of alcoholic cardiomyopathy with current heart failure therapy in unknown, physician-learners may benefit from recommendations drawn from current research involving patients receiving beta-blocker therapy with angiotensin converting enzyme inhibitor therapy.[14] The family doc has to now manage younger patients with cardiomyopathy vs the traditional old man post MI cardiomyopathy.

Physicians should be prepared to manage unusual causes of cardiomyopathy such as Chagas disease and Takotsubo Cardiomyopathy. CME outcomes data from the AAFP FP Audio: *Takotsubo Cardiomyopathy* activity suggest that physicians lack general awareness of this type of cardiomyopathy, and lack knowledge of treatment guidelines.[15]

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.[16,17]

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

- Cardiomyopathy: an overview[18]
- ACCF/AHA guidelines on the diagnosis and treatment of hypertrophic cardiomyopathy (HCM)[9]
- 2013 ACCF/AHA guideline for the management of heart failure: executive summary: a report of the American College of Cardiology Foundation/American Heart Association Task Force on practice guidelines[19]
- Simple tools to increase patient satisfaction with the referral process[16]
- USPSTF Behavioral counseling to promote a healthful diet and physical activity for cardiovascular disease prevention in adults with cardiovascular risk factors[13]
- Adding health education specialists to your practice[20]
- Envisioning new roles for medical assistants: strategies from patient-centered medical homes[21]
- The benefits of using care coordinators in primary care: a case study[22]
- Engaging Patients in Collaborative Care Plans[23]
- Health Coaching: Teaching Patients to Fish[24]
- Medication adherence: we didn't ask and they didn't tell[25]
- Encouraging patients to change unhealthy behaviors with motivational interviewing[26]

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