



<b>Body System: Cardiovascular</b>		
<b>Session Topic: Acute Coronary Syndromes</b>		
<b>Educational Format</b>		<b>Faculty Expertise Required</b>
<b>REQUIRED</b>	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.
<b>OPTIONAL</b>	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>
<b>Professional Practice Gap</b>	<b>Learning Objective(s) that will close the gap and meet the need</b>	<b>Outcome Being Measured</b>
<ul style="list-style-type: none"> <li>Physicians are often challenged to diagnose chest pain and discomfort, including the identification of potentially fatal conditions; including risk stratification for patients with chest pain.</li> <li>Physicians are often challenged in ordering, performing, and or interpreting appropriate diagnostic tests on patients with ACS.</li> <li>Family physicians require additional training, especially related to evidence-based pharmacologic prevention and treatment, to feel comfortable initiating appropriate treatments for patients with ACS and helping them establish effective preventive methods.</li> <li>Physicians are not adept at educating patients on the symptoms of acute</li> </ul>	<ol style="list-style-type: none"> <li>Implement evidence-based secondary prevention recommendations in post-ACS patients.</li> <li>Use evidence-based criteria in determining safe and effective medications to prescribe at discharge post-ACS.</li> <li>Counsel patient to address concerns in the period immediately following discharge for ACS, with an emphasis on assessing and monitoring for psychosocial issues that may impact post-ACS outcomes.</li> <li>Prescribe cardiac rehabilitation for post-ACS patients, emphasizing coordination of care and follow-up.</li> </ol>	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<p>coronary syndrome (ACS); what to do if they experience symptoms; or how ACS differs from a stroke. A special emphasis on patient adherence, and post-myocardial depression should be integrated into every patient management strategy.</p> <ul style="list-style-type: none"> <li>Physicians are often challenged to remain up to date on guideline updates.</li> </ul>		
<b>ACGME Core Competencies Addressed (select all that apply)</b>		
X	Medical Knowledge	Patient Care
X	Interpersonal and Communication Skills	Practice-Based Learning and Improvement
	Professionalism	Systems-Based Practice
<b>Faculty Instructional Goals</b>		
<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"> <li>Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy &amp; reference citations</li> <li>Facilitate learner engagement during the session</li> <li>Address related practice barriers to foster optimal patient management</li> <li>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"> <li>Visit <a href="http://www.aafp.org/journals">http://www.aafp.org/journals</a> for additional resources</li> <li>Visit <a href="http://familydoctor.org">http://familydoctor.org</a> for patient education and resources</li> </ul> </li> <li>Provide recommendations for risk stratification of patients with chest pain.</li> <li>Provide recommendations for determining appropriate stress test, &amp; when/if catheterization is necessary.</li> <li>Provide specific examples illustrating the application of evidence-based guidelines, as it applies to each presentation of ACS.</li> <li>Provide recommendations for determining safe and effective medications to prescribe at discharge post-ACS.</li> <li>Provide strategies and resources for counseling patient to address concerns in the period immediately following discharge for ACS, with an emphasis on assessing and monitoring for psychosocial issues that may impact post-ACS outcomes.</li> <li>Provide learners with practical strategies to foster patient adherence to prevention, treatment, and management strategies.</li> <li>Provide recommendations regarding guidelines for Medicare reimbursement.</li> </ul>		



- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of ACS.
- 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

Acute coronary syndrome (ACS), a clinical term used to describe a range of symptoms related to acute myocardial ischemia, including ST elevation MI (STEMI) and non-elevation ACS, affects an estimated 1.4 million people in the U.S. each year.<sup>1</sup> In 2009, 1.2 million people were hospitalized with ACS; 829,000 of these hospitalizations were for myocardial infarction only, 357,000 were for unstable angina only and 4,000 received both diagnoses.<sup>2</sup> As cardiovascular disease frequently leads to heart disease and stroke and is the single largest killer of men and women in the U.S.,<sup>2</sup> family physicians may have increasing rates of ACS diagnoses in their patient population. Once the presentation of ACS has been established; unstable angina (UA), acute non-ST elevation myocardial infarction (NSTEMI), or acute ST elevation myocardial infarction (STEMI), family physicians should follow the appropriate evidence-based guidelines.<sup>3</sup>

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicate that family physicians have knowledge gaps with regard to managing cardiovascular pharmacology, myocardial infarction, acute coronary syndromes and angina.<sup>4</sup> More specifically, CME outcomes data from 2012-2016 AAFP FMX (formerly Assembly): *Acute Coronary Syndromes and Angina* sessions suggest that physicians have knowledge and practice gaps with regard to guideline adherence; additional ischemia related syndromes; EKG analysis; screening for unstable angina and myocardial infarction; risk stratification for patients with chest pain; ordering appropriate and effective workup (e.g. stress vs. cath); treatment, including appropriate use of statins; and monitoring, including appropriate referral for cardiac rehabilitation.<sup>5-10</sup>

Physicians may improve their care of patients with ACS 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:<sup>11-13</sup>

- In patients with chest pain, the evaluation should include 12-lead electrocardiography within 10 minutes of presentation, risk stratification using history and physical examination findings, and cardiac troponin measurements at presentation and three to six hours after symptom onset.
- Risk scores should be used for prognosis in patients with acute coronary syndrome, and they may be useful in diagnosis and management.
- If a patient has normal serial electrocardiography results and normal troponin levels, an exercise treadmill test, a stress myocardial perfusion study, or stress echocardiography can be considered. These tests can be performed before discharge or as an outpatient if the test is scheduled within 72 hours of discharge.
- Reperfusion therapy, preferably primary PCI, should be administered to eligible patients with STEMI and symptom onset within the previous 12 hours.



- In the absence of contraindications, fibrinolytic therapy should be administered to patients with STEMI at non-PCI-capable hospitals when the anticipated first medical contact to device time at a PCI-capable hospital exceeds 120 minutes.
- Patients with STEMI should be transferred to a PCI-capable hospital for angiography after successful fibrinolysis.
- Fibrinolysis is not recommended for treatment in patients with NSTEMI-ACS.
- Parenteral anticoagulation, in addition to antiplatelet therapy, is recommended for all patients with NSTEMI-ACS regardless of initial treatment strategy.
- Clinical characteristics traditionally associated with an increased likelihood of acute myocardial infarction include male sex plus age older than 60 years; diaphoresis; pain that radiates to the shoulder, neck, arm, or jaw; and a history of angina or acute myocardial infarction.
- Physicians should consider applying a validated clinical decision rule to predict heart disease as a cause of chest pain.
- Twelve-lead electrocardiography should be performed **early** (i.e. within 10 minutes of presentation) in persons at high risk of myocardial ischemia who present with chest pain. The presence of ST segment changes, new-onset left bundle branch block, presence of Q waves, and new-onset T wave inversion increase the likelihood of acute coronary syndrome or acute myocardial infarction, and the patient should be referred to a higher level of care (emergency department or hospital).
- Patients with localized musculoskeletal pain that is reproducible by palpation, or pain reproducible by palpation in the parasternal/costochondral joints, likely have chest wall pain or costochondritis.
- Gastroesophageal reflux disease should be considered in patients with burning retrosternal pain, acid regurgitation, and a sour or bitter taste in the mouth.
- Panic disorder and anxiety state often cause chest pain and shortness of breath. Physicians should consider using a validated brief questionnaire to confirm diagnosis.
- Pericarditis should be considered in patients with the clinical triad of pleuritic chest pain that increases with inspiration or when reclining; pericardial friction rub; and diffuse electrocardiographic ST-T wave changes.
- Don't use coronary CT angiography in high-risk emergency department patients presenting with acute chest pain. note: Risk defined by the Thrombolysis In Myocardial Infarction risk score for unstable angina/acute coronary syndromes.
- Aspirin (162 to 325 mg per day) should be given to all patients with suspected acute MI and continued indefinitely at a dosage of 75 to 162 mg per day upon discharge.
- Clopidogrel, prasugrel, and ticagrelor are recommended in combination with aspirin for a minimum of 12 months in patients receiving <sup>14</sup>stents.
- Clopidogrel and ticagrelor are recommended for conservative medical management of MI in combination with aspirin (162 to 325 mg per day) for up to 12 months.
- Early administration of beta blockers is recommended during hospitalization after an MI. These agents should be continued indefinitely in patients without contraindications who have a left ventricular ejection fraction of 40% or less.
- ACE inhibitors should be administered early during hospitalization after an MI and should be continued indefinitely in patients without contraindications.



- Angiotensin receptor blockers are indicated in all patients who have had an MI and are allergic to or cannot tolerate ACE inhibitors. Angiotensin receptor blockers should not be used in combination with ACE inhibitors.
- Statin therapy is recommended after an MI and should be continued indefinitely in patients without contraindications.
- Early initiation of statin therapy is recommended during hospitalization after an MI.
- A standardized, patient-centered discharge process should be used in all patients who have had an MI.
- Before a patient who has had an MI is discharged from the hospital, the physician should initiate counseling about diet and smoking cessation, and should refer the patient for exercise-based cardiac rehabilitation.

Best Practices in Cardiology: Recommendations From The Choosing Wisely Campaign:<sup>13,14</sup>

- Do not test for myoglobin or creatine kinase-MB in the diagnosis of acute myocardial infarction. Instead, use troponin I or T. (American Society for Clinical Pathology)
- Do not test for myoglobin or creatine kinase MB in the diagnosis of acute myocardial infarction. Instead, use troponin I or T measurements. (American Society for Clinical Pathology)
- Do not use coronary computed tomography angiography in high-risk emergency department patients presenting with acute chest pain. (Society of Cardiovascular CT)

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.

An optimal pharmacologic approach in patients with acute coronary syndrome is of major importance; with a particular emphasis on the antiplatelet regimen, which remains the cornerstone of the initial ACS treatment at hospital admission and during percutaneous coronary interventions (PCI).<sup>15</sup> The goal for family physicians who manage patients who have had a myocardial infarction or revascularization procedure is secondary prevention of coronary artery disease by comprehensive risk factor modification reduces mortality, decreases subsequent cardiac events, and improves quality of life.<sup>16</sup> Family physicians must closely monitor patients who have had implantation of drug-eluting coronary artery stents. Following placement of a stent, strict adherence to dual antiplatelet therapy is imperative.<sup>17</sup> Many patients and physicians prematurely discontinue dual antiplatelet therapy too early, increasing the risk of stent thrombosis, myocardial infarction, and death; therefore family physicians are encouraged to follow the adapted recommendations from the AHA/ACC/SCAI/ACS/ADA Science Advisory to prevent premature discontinuation of dual antiplatelet therapy in patients with coronary artery stents.<sup>17,18</sup>



Although management guidelines from the American College of Cardiology and the American Heart Association have been published and widely accepted, barriers to the optimal treatment of patients with ACS still exist and opportunities to provide guideline-recommended care are missed, especially among diabetic patients<sup>19,20</sup>. Family physicians can help patients make necessary lifestyle modifications to incorporate new therapies and decrease their risk for developing other cardiovascular diseases.<sup>21,22</sup> However, patient non-adherence to prescribed medication regimens or lifestyle changes is another barrier to optimal care, thus requiring physicians to need additional education and training to foster patient-based care strategies and patient adherence.<sup>23-25</sup> Additionally, as many as 65% of patients with acute myocardial infarction report experiencing symptoms of depression; therefore, the American Academy of Family Physicians (AAFP) Commission on Science convened a Post-Myocardial Infarction Depression Clinical Practice Guideline panel to develop guidelines that are intended to help family physicians be prepared to make clinical decisions regarding the care of patients who present with postmyocardial infarction (post-MI).<sup>26</sup>

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.<sup>27</sup>

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

- Acute Coronary Syndrome: Diagnostic Evaluation<sup>13</sup>
- Acute Coronary Syndrome: Current Treatment<sup>14</sup>
- 2012 ACCF/AHA focused update of the guideline for the management of patients with unstable angina/Non-ST-elevation myocardial infarction<sup>28</sup>
- National Guideline Clearinghouse: (1) Guidelines for the management of acute coronary syndromes 2006. (2) 2007 addendum to the National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand guidelines for the management of acute coronary syndromes 2006. (3) 2011 addendum to the National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand guidelines for the management of acute coronary syndromes (ACS) 2006<sup>3</sup>



- ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines and the Society for Cardiovascular Angiography and Interventions<sup>15</sup>
- 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction<sup>29</sup>
- Third universal definition of myocardial infarction<sup>30</sup>
- Drug-eluting coronary artery stents<sup>17</sup>
- ACR Appropriateness Criteria® chest pain, suggestive of acute coronary syndrome (guideline)<sup>31</sup>
- Health coaching for patients with chronic illness<sup>21</sup>
- Thinking on paper: documenting decision making<sup>22</sup>
- AAFP Guidelines for Diagnosis & Management of Post-Myocardial Infarction Depression<sup>26</sup>
- Engaging Patients in Collaborative Care Plans<sup>32</sup>
- Simple tools to increase patient satisfaction with the referral process<sup>33</sup>
- FamilyDoctor.org. Angina | Overview (patient resource)<sup>34</sup>
- FamilyDoctor.org. Heart Attack | Diagnosis & Tests (patient resource)<sup>35</sup>

## References

1. Acute Coronary Syndrome. 2011;
2. Roger VL, Go AS, Lloyd-Jones DM, et al. Heart disease and stroke statistics--2012 update: a report from the American Heart Association. *Circulation*. 2012;125(1):e2-e220.
3. National Guideline Clearinghouse. (1) Guidelines for the management of acute coronary syndromes 2006. (2) 2007 addendum to the National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand guidelines for the management of acute coronary syndromes 2006. (3) 2011 addendum to the National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand guidelines for the management of acute coronary syndromes (ACS) 2006.
4. AAFP. 2012 CME Needs Assessment: Clinical Topics. American Academy of Family Physicians; 2012.
5. American Academy of Family Physicians (AAFP). AAFP FMX CME Outcomes Report. Leawood KS: AAFP; 2016.
6. American Academy of Family Physicians (AAFP). AAFP FMX CME Outcomes Report. Leawood KS: AAFP; 2015.
7. American Academy of Family Physicians (AAFP). AAFP Assembly CME Outcomes Report. Leawood KS: AAFP; 2014.
8. American Academy of Family Physicians (AAFP). 2012 AAFP Scientific Assembly: CME Outcomes Report. Leawood KS: AAFP; 2012.
9. American Academy of Family Physicians (AAFP). 2013 AAFP Scientific Assembly: CME Outcomes Report. Leawood KS: AAFP; 2013.
10. Mercado MG, Smith DK, McConnon ML. Myocardial infarction: management of the subacute period. *American family physician*. 2013;88(9):581-588.
11. McConaghy JR, Oza RS. Outpatient diagnosis of acute chest pain in adults. *American family physician*. 2013;87(3):177-182.
12. American Academy of Family Physicians (AAFP). Don't use coronary CT angiography in high-risk emergency department patients presenting with acute chest pain. note: Risk



- defined by the Thrombolysis In Myocardial Infarction risk score for unstable angina/acute coronary syndromes. *Choosing Wisely* 2014;
13. Barstow C, Rice M, McDivitt JD. Acute Coronary Syndrome: Diagnostic Evaluation. *American family physician*. 2017;95(3):170-177.
  14. Switaj TL, Christensen SR, Brewer DM. Acute Coronary Syndrome: Current Treatment. *American family physician*. 2017;95(4):232-240.
  15. Levine GN, Bates ER, Blankenship JC, et al. 2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines and the Society for Cardiovascular Angiography and Interventions. *Circulation*. 2011;124(23):e574-651.
  16. Hall SL, Lorenc T. Secondary prevention of coronary artery disease. *American family physician*. 2010;81(3):289-296.
  17. Dehmer GJ, Smith KJ. Drug-eluting coronary artery stents. *American family physician*. 2009;80(11):1245-1251.
  18. Grines CL, Bonow RO, Casey DE, Jr., et al. Prevention of premature discontinuation of dual antiplatelet therapy in patients with coronary artery stents: a science advisory from the American Heart Association, American College of Cardiology, Society for Cardiovascular Angiography and Interventions, American College of Surgeons, and American Dental Association, with representation from the American College of Physicians. *Circulation*. 2007;115(6):813-818.
  19. Yan RT, Yan AT, Tan M, et al. Underuse of evidence-based treatment partly explains the worse clinical outcome in diabetic patients with acute coronary syndromes. *American heart journal*. 2006;152(4):676-683.
  20. Kikano GE, Brown MT. Antiplatelet therapy for atherothrombotic disease: an update for the primary care physician. *Mayo Clinic proceedings Mayo Clinic*. 2007;82(5):583-593.
  21. Bennett HD, Coleman EA, Parry C, Bodenheimer T, Chen EH. Health coaching for patients with chronic illness. *Family practice management*. 2010;17(5):24-29.
  22. Edsall RL, Moore KJ. Thinking on paper: documenting decision making. *Family practice management*. 2010;17(4):10-15.
  23. Bird GC, Cannon CP, Kennison RH. Results of a survey assessing provider beliefs of adherence barriers to antiplatelet medications. *Critical pathways in cardiology*. 2011;10(3):134-141.
  24. Qureshi AI, Suri MF, Guterman LR, Hopkins LN. Ineffective secondary prevention in survivors of cardiovascular events in the US population: report from the Third National Health and Nutrition Examination Survey. *Archives of internal medicine*. 2001;161(13):1621-1628.
  25. Makaryus AN, Friedman EA. Patients' understanding of their treatment plans and diagnosis at discharge. *Mayo Clinic proceedings Mayo Clinic*. 2005;80(8):991-994.
  26. Panel PMIDCPG. AAFP Guideline for the Detection and Management of Post-Myocardial Infarction Depression. *The Annals of Family Medicine*. 2009;7(1):71-79.
  27. American Academy of Family Physicians (AAFP). PCMH/ACO/Primary Care Core Measure Set. 2016;
  28. Writing Committee M, Jneid H, Anderson JL, et al. 2012 ACCF/AHA focused update of the guideline for the management of patients with unstable angina/Non-ST-elevation myocardial infarction (updating the 2007 guideline and replacing the 2011 focused



- update): a report of the American College of Cardiology Foundation/American Heart Association Task Force on practice guidelines. *Circulation*. 2012;126(7):875-910.
29. American College of Emergency P, Society for Cardiovascular A, Interventions, et al. 2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *Journal of the American College of Cardiology*. 2013;61(4):e78-140.
  30. Thygesen K, Alpert JS, Jaffe AS, et al. Third universal definition of myocardial infarction. *Circulation*. 2012;126(16):2020-2035.
  31. National Guideline Clearinghouse. ACR Appropriateness Criteria: chest pain, suggestive of acute coronary syndrome.
  32. Mauksch L, Safford B. Engaging Patients in Collaborative Care Plans. *Family practice management*. 2013;20(3):35-39.
  33. Jarve RK, Dool DW. Simple tools to increase patient satisfaction with the referral process. *Family practice management*. 2011;18(6):9-14.
  34. FamilyDoctor.org. Angina | Overview. 2000;
  35. FamilyDoctor.org. Heart Attack | Diagnosis & Tests. 2010;