



University of Miami Miller School of Medicine
Gordon Center for Research in Medical Education
Division of Prehospital and Emergency Healthcare

Acute Coronary Syndromes With 12-lead ECG Interpretation

Course Description

Cardiovascular disease is the leading cause of death in America. Early management by prehospital providers and other emergency personnel significantly reduces morbidity and mortality. Course participants learn a rapid and systematic approach to the prehospital and emergency department evaluation and management of patients with acute coronary syndromes (ACS). Pathophysiology, clinical assessment, 12-lead ECG performance and interpretation, dysrhythmia recognition, indications and contraindications for reperfusion therapy (including coronary intervention and thrombolytics), and field treatment are reviewed. The curriculum emphasizes the standard of care as outlined in guidelines from the American College of Cardiology and the American Heart Association and stresses interaction through hands-on ECG performance, case-based workshops, and immersive simulation training scenarios. Use of a focused Prehospital Checklist and Algorithm emphasizes accurate and efficient field management and reporting to the Emergency Department. Patient management in the Emergency Department is also reviewed, as optimal care requires interprofessional teamwork.

Learning Goals:

1. Explain the pathophysiology of acute coronary syndromes.
2. Describe the anatomy of the coronary arteries and the areas they perfuse.
3. Explain the differential diagnosis of chest pain and describe other signs/symptoms of acute coronary syndromes.
4. Demonstrate a focused cardiovascular exam.
5. List the indications for and appropriately perform a 12-lead ECG.
6. Apply a systematic approach to ECG interpretation to actual tracings.
7. Identify the ECG mimics of acute myocardial infarction (AMI) and arrhythmias associated with AMI.
8. Describe regional systems of care and the importance of patient delivery to the most appropriate facility.
9. Describe the principles of acute coronary syndrome (ACS) management including initial treatment including reperfusion strategies and adjunctive therapies.

Course Length: 8 hours



Acute Coronary Syndromes & 12-Lead ECG

Course Agenda



7:30 AM **Registration and Introduction**

8:00 AM **Pretest**

8:30 AM **Course Overview & Learning Goals**

8:45 AM **Anatomy and Pathophysiology**

9:15 AM **History and Physical Examination**

9:45 AM **Dysrhythmia Workshop**
Interactive Large Group

10:30 AM Break

10:45 PM **12-Lead ECG and Systematic Approach to ECG Interpretation – Didactic**
Including performing the 12-lead ECG – hands-on small group

11:45 AM **ECG Patterns of Acute Myocardial Infarction**

12:15 AM **ECG Mimics of Acute Myocardial Infarction**

12:30 PM Lunch

1:15 PM **ECG Workshop**
Interactive Large Group

1:45 PM **Treatment of ACS – Including Reperfusion Strategies**

2:30 PM Break

2:45 PM **Small Group Sessions**
Group 1: Simulation Scenarios
Group 2: Case Workshop

3:30 PM **Small Group Sessions**
Group 1: Case Workshop
Group 2: Simulation Scenarios

4:15 PM **ACS Jeopardy**

4:30 PM **Posttest**

5:00 PM **Test Review / Q & A**

5:15 PM **Course Evaluations**

5:30 PM **Adjourn**
