

2007 Update to the ACC/AHA Guidelines for the Management of Patients With Unstable Angina and Non–ST-Segment Elevation Myocardial Infarction: Implications for Emergency Department Practice

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The American College of Cardiology and American Heart Association have updated their guidelines for the management of non–ST-segment-elevation acute coronary syndrome for the first time since 2002. In the interim, several important studies affecting choices of therapy potentially begun in the emergency department have been completed, and care patterns have changed and matured significantly. In this review, we present the new recommendations that are pertinent to emergency medicine practice and comment on their potential implementation into an evidence-based, multidisciplinary approach to the evaluation and management of this challenging patient population. [Ann Emerg Med. 2008;xx:xxx.]

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INTRODUCTION

The American College of Cardiology (ACC) and the American Heart Association (AHA) have jointly published practice guidelines for various aspects of cardiovascular disease since 1980. Throughout the years, these guidelines have become increasingly based on specific clinical trial data, allowing clinicians to relate their practice preferences objectively to the pertinent strengths and weaknesses of published experience. In September 2000¹ and in a March 2002 update,² the ACC and AHA published a practice guideline that addressed the evaluation and management of unstable angina and non–ST-segment-elevation myocardial infarction (NSTEMI) (collectively, “non–ST-segment-elevation acute coronary syndrome”). The aspects of these guidelines most relevant to emergency medicine practice were summarized and discussed in previous issues of *Annals of Emergency Medicine*.³⁻⁵ On August 6, 2007, the ACC/AHA Joint Task Force released an update to the 2002 non–ST-segment-elevation acute coronary syndrome guidelines on their respective Web sites, <http://www.acc.org> and <http://www.americanheart.org>.⁶ Review of the changes and additions in that document reveals a number of issues that will affect the emergency department (ED) aspect of practice in the non–ST-segment-elevation acute coronary syndrome continuum of care, and it is our conviction that emergency physicians should remain current on the evidence base underlying such recommendations. We therefore review and comment on them here.

DEFINITIONS AND WEIGHTING OF EVIDENCE

Non–ST-segment-elevation acute coronary syndrome comprises a clinical syndrome that presents as anginal chest pain or its equivalent (eg, dyspnea, jaw or arm pain, weakness) as the manifestation of decreased coronary blood flow. Non–ST-segment-elevation acute coronary syndrome is generally but not always caused by atherosclerotic coronary artery disease and is associated with an increased risk of transmural myocardial infarction and cardiac death. At ED presentation, non–ST-segment-elevation acute coronary syndrome may be difficult to differentiate from other forms of acute coronary syndrome and from chest pain caused by noncoronary pathology. Furthermore, patients with non–ST-segment-elevation acute coronary syndrome tend to be more heterogeneous (atypical symptomatology, older, higher likelihood of renal insufficiency, challenging electrocardiograms) than those who present with ST-segment-elevation myocardial infarction (STEMI).⁶

The term “acute coronary syndrome” refers to the constellation of symptoms manifesting as a result of acute myocardial ischemia. Acute coronary syndrome encompasses unstable angina, NSTEMI, and STEMI. Generally accepted standards of care are in place for patients with STEMI and involve urgent reperfusion therapy either by means of fibrinolysis (with a target door-to-needle time of 30 minutes) or direct (or primary) percutaneous coronary intervention (with a target door-to-balloon inflation time of 90 minutes)^{7,8}; the guidelines described and discussed here are limited to unstable angina/NSTEMI. In these guidelines, unstable angina and