

# Transforming the Emergency Department Observation Unit A Look Into the Future

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## KEYWORDS

- Chest pain • Syncope • Cardiac arrhythmias • Heart failure • Atrial fibrillation
- Emergency medical services

## KEY POINTS

- Because of the rising volume of emergency department visits, hospital overcrowding, and greater attention to the cost-effectiveness of health care, observation unit care has become an attractive alternative to inpatient admission.
- There are varying levels of evidence and growing interest in managing patients with chest pain potentially caused by acute coronary syndrome, syncope, atrial fibrillation, and acute decompensated heart failure at low to intermediate short-term risk for adverse outcomes in an emergency department observation unit setting.
- Evidence-based protocols and collaborative approaches to care have the potential to achieve similar clinical and improved economic outcomes compared with hospital admission.

## INTRODUCTION

Since the mid 1990s, the proportion of inpatient admissions originating from the emergency department (ED) has increased from approximately one-third to one-half of all hospital admissions.<sup>1</sup> This trend has been accompanied by a progressively rising number of ED visits. Data from the National Ambulatory Healthcare Survey estimate nearly 120 million annual ED visits, and this number has increased by 23% since 1997.<sup>2</sup> This increasing volume of patients has put greater demand for acute care services than can be provided, contributing to overcrowding in both the hospital and ED settings. In 2006, the Centers for Medicare and Medicaid Services, the largest insurer in the United States, began the Recovery Audit Contractor (RAC) program to identify waste in the Medicare program. One area of charge

recovery identified by the RAC program was short-stay admissions, which were considered an inappropriate use of inpatient services.<sup>3</sup>

Many institutions have developed outpatient observation units as an alternative to short-stay inpatient admissions, with 36% of US EDs reporting having observation units in 2007.<sup>3,4</sup> Several single-center studies have demonstrated equivalent clinical and improved economic outcomes when ED observation units (EDOU) are used as an alternative to inpatient admission for select conditions.<sup>5-8</sup> EDOU care, as currently delivered, is provided for select patients by means of streamlined evidence-based protocols before safe discharge from the ED.

In this article, we highlight evidence to support the efficacy of EDOU care for select cardiac conditions, as well as identify areas in which additional research is needed to develop and evaluate optimized approaches to health care delivery. The

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cardiac conditions discussed include the following: chest pain potentially caused by acute coronary syndrome (ACS), syncope, atrial fibrillation, and acute decompensated heart failure.

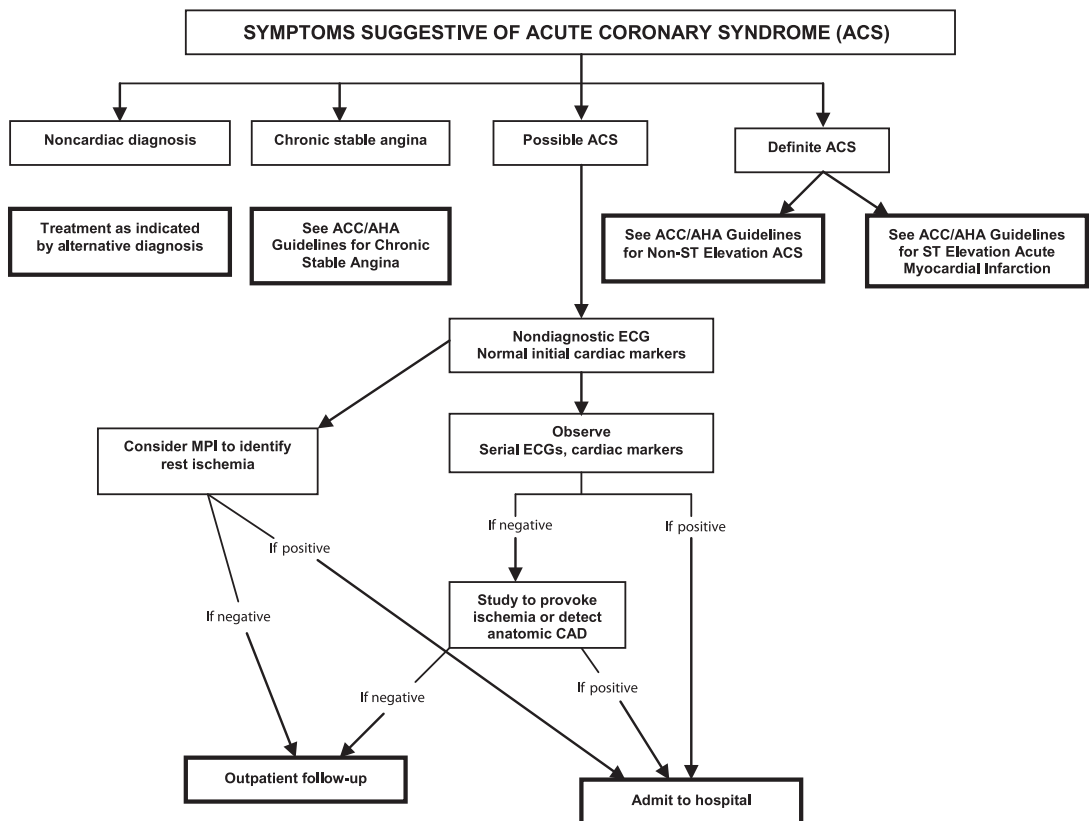
### CHEST PAIN POTENTIALLY CAUSED BY ACS

Chest pain is the second most common reason patients present to US EDs, accounting for more than 8 million visits annually.<sup>2</sup> Given the frequency with which patients present for evaluation of chest pain, the amount of time needed to reach a diagnosis, and established research on the subject, it is not surprising that it currently accounts for 84% of EDOU visits.<sup>4</sup> Quickly identifying and treating patients with ACS and other life-threatening etiologies of chest pain and risk stratifying the remaining into those safe for discharge and those who require further investigation is an ongoing challenge for clinicians, especially given the morbidity and mortality associated with missing a diagnosis of ACS. Observation unit care has arisen as an

attractive alternative to hospital admission for patients with symptoms suggestive of ACS without objective evidence of ischemia.

### Patient Selection for Observation Unit Care

When patients present to the ED with chest pain, the initial evaluation focuses on the identification and exclusion of potential life-threatening etiologies. If the initial evaluation is unrevealing, the focus of the evaluation shifts to determining the likelihood of ACS (Fig. 1).<sup>9</sup> Patients with objective evidence of ACS or hemodynamic or electrical instability are admitted to the hospital for urgent therapy. Patients recognized as having a non-cardiac etiology of chest pain are treated as appropriate for the alternative diagnosis. Patients with chronic stable angina are referred for outpatient follow-up and management according to American College of Cardiology/American Heart Association (ACC/AHA) guidelines for chronic stable angina.<sup>10</sup> Hemodynamically stable patients with no objective evidence of ischemia on



**Fig. 1.** Evaluation of patients presenting with symptoms suggestive of ACS. (Reproduced from Amsterdam EA, Kirk JD, Bluemke DA, et al, on behalf of the American Heart Association Exercise, Cardiac Rehabilitation, and Prevention Committee of the Council on Clinical Cardiology Council on Cardiovascular Nursing, and Interdisciplinary Council on Quality of Care and Outcomes Research. Testing of low-risk patients presenting to the emergency department with chest pain. *Circulation* 2010;122:1756–76; with permission.)

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