

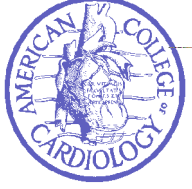


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# American College of Cardiology

## Position Statement

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## Approaches to the Early Triage of Patients with Chest Discomfort



[Following is a position statement prepared by the College's Emergency Cardiac Care Committee and approved by the Board of Trustees on March 17, 1990. Members of the Committee at the time the statement was developed were: Allan S. Jaffe, M.D., Chairman; James M. Atkins, M.D.; John M. Field, M.D.; Robert S. Gibson, M.D.; Stanley J. Goldberg, M.D.; Robert M. Mentzer, Jr., M.D.; Joseph P. Ornato, M.D.; Eugene R. Passamani, M.D.; Prediman K Shah, M.D.; and W. Douglas Weaver, M.D. Reprints are available from: Educational Products Sales and Marketing; 9111 Old Georgetown Road; Bethesda, MD 20814; 800/257-4740.]



The advent and documentation that treatment with thrombolytic agents is capable of saving substantial numbers of lives when administered early during the evolution of acute myocardial infarction have again sensitized the medical community to the need to facilitate the access of patients with chest pain into the health care system (1). In many studies, the major contraindication to administration of thrombolytic agents is late arrival after the onset of symptoms (2-5). Although there may well be benefits of even late treatment (6), there is no question that the benefits are likely to be of greater magnitude when therapy is applied earlier (6,7). However, at present, only about 20% to 25% of patients are candidates to receive thrombolytic therapy (2-5). This is in large part because only a small percentage of patients arrive at the hospital within 4 hours of the onset of symptoms (2). Even if individuals had contraindications and were not candidates to receive thrombolytic agents, many would likely benefit from early access to the system. The use of acute angioplasty and other infarct limiting agents such as nitroglycerin and beta-blockers may also be of benefit if applied early (8-12). Arrhythmias that are known to occur in the very early minutes and hours of acute infarction and are a prominent cause of mortality can be treated or perhaps prevented (10,13). Finally, expeditious application of treatment to patients with unstable angina is likely to be helpful in preventing the progression of disease, loss of cardiac function and perhaps even mortality. Thus, facilitating the earliest possible entry of patients into the emergency medical system appears to be a prudent and important strategy.

Unfortunately, a large number of studies have documented substantial delays attributable to patients, physicians and emergency medical systems (14-43). Patient and family denial

are common problems. Patients appear far more apt to seek emergency treatment expeditiously when they are away from home in unfamiliar environments and in the company of strangers (42). They also appear less prone to seek expeditious care when they have been diagnosed as having coronary artery disease and are being treated (32,43). Nonetheless, this component of delay, which in most studies is by far the greatest, needs to be addressed if early access is to be facilitated.

The second cause of delay relates to the time taken to contact and implement the instructions of physicians responsible for the care of patients with chest pain (18,22,31,33,36). Communications into busy offices or during hours when the physician is "covered" by other colleagues can cause substantial delay. There also is a tendency on the part of physicians to attempt to palliate symptoms consistent with ischemic heart disease prior to recommending transport to an emergency facility. Therefore, a substantial delay would be obviated if clear instructions of when and how to proceed to an emergency facility were provided by each physician to his patients.

Additional delays also are indigenous to many of the systems available for obtaining emergency care. Approximately 50% of patients who present to emergency facilities with chest discomfort do not come via emergency medical systems. In general, these patients arrive substantially later than those that employ ambulance services (40). However, emergency systems have limitations (e.g., numbers of vehicles, response times, protocols concerning the receiving hospital) that can add substantially to the delay. Accordingly, a third component of delay that might be improved would be coordination of efforts with the emergency medical system to facilitate identification, triage and care of patients with chest discomfort.

Although the sources of delay can be identified, solutions to overcome them are more problematic. Solutions must take into account the possibility that efforts to increase the access of patients with cardiovascular-related chest discomfort may also markedly increase the number of patients with noncardiovascular chest discomfort who seek medical attention, encumbering emergency medical systems, emergency departments and hospitals with their care. This could impede, rather than facilitate, the care of patients who actually have acute ischemic heart disease. Although approximately 7 million patients are known to have coronary artery disease, this number is small compared to the population at large (46). Thus, the admission of substantial numbers of patients with noncardiovascular chest pain for diagnosis and subsequent evaluation could represent a very substantial cost in addition to difficulties in resource allocation. Some data have been developed concerning the psychosocial and demographic characteristics of patients with cardiovascular and noncardiac chest discomfort that might permit educational materials to be targeted to avoid those with noncardiovascular symptoms (45,46).

Since mass media campaigns apparently can increase the frequency of early responses, but not the percentage of those due to true cardiovascular emergencies, the concept of a mass media campaign to impact on behavior also may not be optimal (35,39,47). "Mass media blitzes" tend to affect behavior acutely more than chronically. In some studies, the impact on patients seeking care

was negligible by 6 to 8 weeks into the campaign (43). Only time and continued education transform public awareness into changes in behavior. Accordingly, whatever is recommended must have multiple points of reinforcement and continuity. With these considerations in mind, the American College of Cardiology (ACC) recommends the following:

1. That an initial, immediate and vigorous effort be directed to assist physicians in encouraging their patients with known coronary artery disease and those deemed to be a high risk for cardiovascular events to seek medical attention expeditiously when symptoms occur. To assist physicians, this effort should provide materials that emphasize the need for an early response when chest pain occurs. Such information could be of a variety of sorts, be it computer-based, video-based or paper-based, but should be constructed according to the psychological profile of patients with coronary heart disease for whom there is a substantial database. Such materials must not undercut the reassurance concerning prognosis or increase the level of anxiety about each episode of chest pain in patients, but must clearly emphasize the need for rapid response to sustained, i.e., noticeably longer than usual, or multiple recurrent episodes of chest discomfort;
2. Physicians should instruct their patients in the use of the local emergency care system. They should define what circumstances should stimulate a call to the emergency medical system, indicate how to communicate with the system and define the most appropriate and expeditiously available facilities for each patient;
3. Facilitated transport of patients based on defined algorithms for triage and transport to appropriate facilities also is essential. Protocols should be established to move patients to the most appropriate, yet closest, facility rapidly. Guidelines, such as those being developed by the American Medical Association encouraging the transport of patients to facilities that are capable of all aspects of emergency cardiologic care and that ensure the continuity of physician care, should be supported, but only if no more than a minimal delay is induced ( $\leq 15$  minutes);
4. These efforts also will require the development of emergency departments capable of expeditiously identifying patients in need of emergency treatment and implementing such treatments immediately. In addition, those for whom emergency treatment is not required must also be evaluated and discharged expeditiously so that long delays do not inhibit the enthusiasm of patients for presenting to emergency departments with symptoms of concern;
5. The efforts above relate predominantly to the 7 million patients in the United States known to have coronary heart disease and those identified by their physicians as at high risk. There are inadequate data to know how to identify others not diagnosed as having coronary heart disease or clearly at overt risk who might also benefit from rapid access to emergency care for cardiovascular disease. The suggestion that a national program to facilitate the access of all patients with chest discomfort to emergency room settings whether they have known coronary artery disease or not has the risk of increasing the access of patients with noncardiac chest pain, delaying care to those truly in need of it and extracting a substantial cost in terms of hospital

utilization and financial resources for health care. Some of this concern might be obviated by increased research concerning how to augment the response of patients who tend to deny or who might have greater risk factors for coronary artery disease and how to de-emphasize this need in patients with noncardiac chest discomfort in whom panic disorder and some evidence of depressive disease frequently are present. Research on strategies to identify patients who require hospitalization and those who can be sent home is needed. The ACC urges that research organizations strongly consider proposals for research in these areas to provide stronger data upon which to more clearly define strategies to target those apt to have coronary disease;

6. The ACC believes that the screening of patients with cardiovascular disease to increase the identification of patients potentially at risk is of great importance. The ACC believes that additional efforts to develop better screening techniques for asymptomatic individuals with coronary disease are needed; and

7. Educating our population of the need for rapid responses to patients with chest discomfort and a commitment by the practitioner and emergency medical system to cardiovascular health are responsibilities of the community at large. Accordingly, a widespread educational program beginning in our school systems concerning prudent cardiovascular health, including identification of those signs or symptoms that may be warning signs of cardiovascular disease, is essential. We should also emphasize the responsibility of all citizens to aid in identifying individuals with symptoms who need treatment or risk factors that need evaluation and how to activate the emergency medical system.

The concept that more rapid triage and/or treatment may be necessary for patients with chest discomfort will not be unique to patients with acute ischemic heart disease. It is now clear that a program of aggressive defibrillation of patients with cardiac arrest is seriously needed and in the process of being developed at multiple venues (48). The systems developed to facilitate the triage and treatment of individuals with chest discomfort should be developed with a clear understanding of the need to evolve and/or incorporate additional efforts related to emergency medicine so that each advance requiring early application does not require a separate effort.

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