



The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
Bureau of Health Care Safety and Quality
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MEMORANDUM

Circular Letter: DHCQ 08-05-486

To: All Ambulance Services
Acute Care Hospital Chief Executive Officers
Acute Care Hospital Directors of Emergency Services
EMCAB Members

From: Paul I. Dreyer, Ph.D., Director
Bureau of Health Care Safety and Quality

Jon Burstein, M.D., FACEP, Medical Director
Office of Emergency Medical Services

Abdullah Rehayem, Director
Office of Emergency Medical Services

Re: Implementation of Statewide STEMI Triage (Point-of-Entry) Criteria

Date: May 5, 2008

Background

After extensive review and input from the Massachusetts Chapter of the American Heart Association, the Massachusetts Hospital Association, the Massachusetts College of Emergency Physicians, the Massachusetts Medical Society, the EMS community, the Department of Public Health's Invasive Cardiac Services Advisory Committee and Office of Emergency Medical Services' (OEMS) Medical Services Committee and Emergency Medical Care Advisory Board, as well as review by national experts in the field, the Department is moving forward with implementation of point-of-entry (POE) criteria to allow for direct delivery of patients with ST-elevation myocardial infarction (STEMI) from the field to hospitals capable of providing 24-hour percutaneous coronary

intervention (PCI). Currently, there are three special projects allowing for this ambulance redirection, in Boston, Cambridge, and Winchester. The data developed through these projects have supported the international findings (in Canada, Wisconsin, and North Carolina, among other places) that this will improve care for STEMI patients eligible for PCI by reducing the time from symptom onset to reperfusion by PCI. A recent article on the Ottawa experience may be found in the January 17, 2008 edition of the *New England Journal of Medicine*.

The New Statewide STEMI Treatment Protocols

To implement the change in the point-of-entry plan, the Statewide Treatment Protocols for Acute Coronary Syndrome have been revised to incorporate criteria for the redirection of certain STEMI patients. The revised protocols, which are available on the Department's website at

http://www.mass.gov/Eeohhs2/docs/dph/emergency_services/treatment_protocols_703.pdf, state on page 30:

“If the patient’s ECG is consistent with STEMI, and the patient is hypotensive, in congestive heart failure, has contraindications to thrombolytics, or the nearest PCI-capable hospital as established in a *Department approved STEMI POE plan* is within 30 minutes further transport, medical control may order transport direct to the PCI facility.”

A flowchart of the protocol as described in the Statewide Treatment Protocols is attached (see Algorithm for Cardiac Point-of-Entry for ALS Transported Patients).

In brief, a patient with a STEMI diagnosed by field 12-lead ECG is to be transported directly to a PCI-capable hospital as long as such transport does not add more than 30 minutes to field time, or the patient meets certain specific clinical criteria regardless of distance, and the destination change is so ordered by the online medical control physician. Note that this POE protocol applies only to patients with STEMI; because other forms of acute coronary syndrome do not generally need time-sensitive PCI, there should be NO change in destination for the vast majority of patients with potential cardiac syndromes. Medical control (i.e., physician) concurrence with the presumptive diagnosis of STEMI is required for destination change under the protocol. Destination alterations under this plan will be subject to medical review. While all Massachusetts paramedics are already trained in acquisition and interpretation of 12-lead electrocardiography, a STEMI-recognition training program will be made available to reinforce their capabilities.

Until full implementation of EMS electronic data collection, **the Department is requiring** that copies of the trip records and 12-lead electrocardiograms of all patients with destination altered to a PCI-capable hospital be submitted to OEMS within 90 days of the event, UNLESS the service involved was part of a Special Project Waiver for this protocol as of May 5, 2008.

Regional Point-of-Entry Plans

With the exception of those ambulance services participating in the special projects mentioned above, the bypassing of the nearest hospital for STEMI patient transport to a PCI-capable hospital may only begin in a region after that region's STEMI POE plan has been approved by the Department. The Regional EMS authorities are responsible for creating the POE plans for their regions. The Regional Offices will receive separate instructions regarding submissions of cardiac POE plans to OEMS. As part of the process of developing these plans, OEMS expects that the regional authorities will convene representatives of the regions' hospitals, EMS agencies, and physicians to prepare the POE plans. OEMS staff, such as Dr. Burstein, will be available to attend any such meetings to discuss the initiative. We also hope that sub-regional network planning for STEMI care grows out of this process, as has already occurred in many parts of the Commonwealth.

Assuming timely approval of the plans, **the Department expects full implementation of the program by the end of 2008.** Until full implementation in an EMS Region, standard current point-of-entry criteria will apply in that region. PCI hospitals enrolled in this program must meet stringent time-to-treatment and quality improvement criteria as conditions for maintaining their status.

New Cardiac Catheterization Services

The Department will monitor the existing system for the impact and effectiveness of the cardiac point-of-entry plans. To that end, effective immediately, the Department will not accept an application for approval of a new cardiac catheterization service if the hospital is located within 30 minutes travel time (via emergency ambulance) of a hospital that currently provides primary angioplasty 24 hours/day, seven days/week.

Goals

This STEMI protocol is only a small part of the Commonwealth's collaborative efforts to improve care for patients with acute coronary syndromes. We hope and expect that community, EMS, and hospital partners will continue to strive to improve coronary care and survival through means such as AED placement, training, improved EMS dispatch and deployment policies, and hospital and EMS systems designed for rapid treatment, and when needed, transfer of cardiac patients to appropriate facilities for their care.

New policies facilitating this might include, for example:

- ED rapid ECG acquisition and physician evaluation,
- Hospital multidisciplinary teams for rapid treatment of ACS,
- ED/EMS planning for rapid transfer of STEMI "walk-ins",
- "Sub-regional" ED and hospital policies linking with PCI centers for standardized treatment regimens and communications pathways,
- ED and hospital policies minimizing drips in transferred cardiac patients,
- Hospital and medical system policies to assure that STEMI patients are referred back to their local facilities for convenient continuing care.

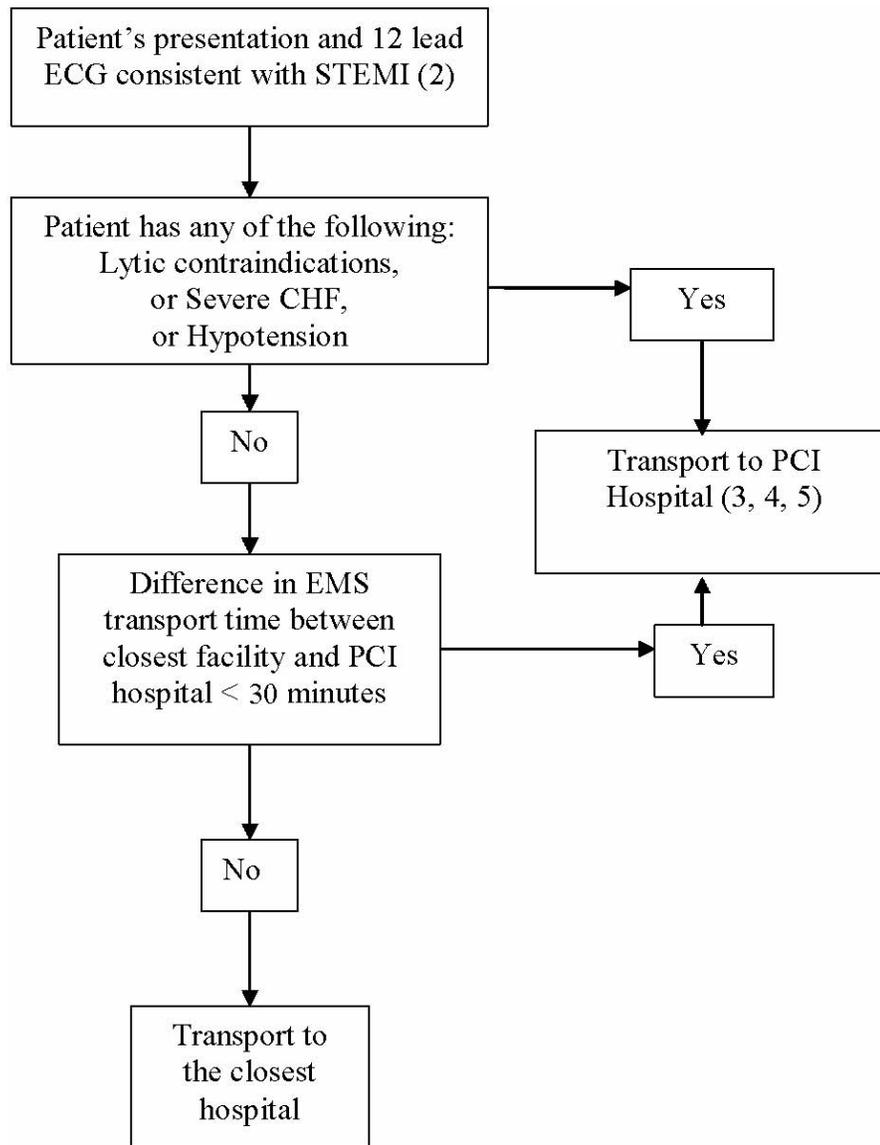
If you or your organization has questions regarding this policy, please contact Tom Quail, RN, Clinical Coordinator for OEMS, at 617-753-7318 or by email at tom.quail@state.ma.us . Dr. Burstein or other OEMS staff will also gladly be available to discuss this policy and may be contacted at 617-753-7300 or by email at jon.burstein@state.ma.us .

Thank you for your cooperation and continued assistance in providing quality EMS care to patients throughout the Commonwealth.

Attachment: Algorithm for Cardiac Point-of-Entry for ALS Transported Patients

cc DPH Invasive Cardiac Services Advisory Committee
OEMS Regional Medical Directors

Algorithm for Cardiac Point-of-Entry for ALS Transported Patients (1)



- (1) Patients in arrest, with compromised airway, or transported by BLS will go to the nearest facility
- (2) Ambiguous cases transported by ALS will go to nearest facility
- (3) Bypassing the nearest facility must be approved by On Line medical control
- (4) PCI facility will be notified
- (5) Use Patient preference/history and established relations if multiple PCI facilities