Acute Myocardial Infarction (AMI) Core Processes

Appropriate treatment of heart attacks with these core processes improves patient outcomes.

Domain

Patient Care Processes:
Clinical processes that ensure delivery of high-quality care to individual patients

Aims

Effective:
An evidence-based practice that produces better outcomes than its alternative

Timely:
Care delivery that is prompt and provided without delay to mitigate any harm to a patient

Process Attributes

Cost to Implement
The monetary resources required to implement this process

Moderate: In addition to the improvement effort, relies on additional personnel and/or technology

Time to Implement
The amount of time, from months to years, it will take on average to establish this process

Fewer than 12 months

Difficulty to Implement
The challenges of implementing this process

Moderately Challenging: Either involves multiple units or disciplines OR requires a substantial shift in culture and/or operations, but not both of these

Level of Evidence
The degree to which the actions in this process are supported by research and experience; based on the Cochrane scale

Strong Evidence: Level I or Level II — Studies published using randomized trials

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Details

Elements

- Provide early administration of aspirin
  Assess for aspirin administration on arrival to inpatient unit and administer if not given.

- Provide aspirin at discharge

- Provide beta-blocker at discharge

- Provide ACE inhibitor or angiotensin receptor blockers (ARB) at discharge for patients with systolic dysfunction
  • Develop standard discharge documents to include all relevant items.
  • Use a discharge contract to ensure consistent and complete patient education.

- Institute timely initiation of reperfusion (thrombolysis or percutaneous intervention)
  • Thrombolysis – 30 minutes from door to needle
  • Percutaneous intervention (PCI) – 90 minutes from hospital arrival to PCI
  • Pre-hospital electrocardiogram (ECG) or within 5 minutes of arrival.
  • Emergency department (ED) physician activation of the catheterization lab.
  • One phone call to activate all necessary personnel.
  • Activation of catheterization lab prior to arrival.
  • 20-minute response time for catheterization lab personnel to be in the lab.
  • Transfer patients bypass the ED and proceed directly to catheterization lab.
  • For patients who could either receive lytics in their initial hospital or PCI in a transfer hospital, if the difference in time is greater than 60 minutes, they should stay and get lytics.

- Provide smoking cessation counseling for all smokers

Outcomes

- Mortality (HSMR): Decreased mortality (hospital standardized mortality ratio, or HSMR)
- Readmissions within 30 Days: Decreased readmissions within 30 days
- Reliability: Increased delivery of evidence-based care 100% of the time

Service Lines and Critical Functions

- Cardiac
- Emergency Department
- Intensive Care

Key Measures

- Inpatient mortality of AMI patients

- Percent AMI Patients Whose PCI is Within 90 Minutes
  • Numerator: AMI patients whose time from hospital arrival to primary PCI is 90 minutes or less
  • Denominator: AMI patients with ST-elevation or LBBB on ECG who received primary PCI

Reasons and Implications

Importance for Patients and Families
Giving heart attack patients the right treatment at the right time has been shown to reduce the severity of the heart attack, speed recovery, and prevent future heart attacks and hospitalizations.
Requirement, Standards, Policies, and Guidelines

- Agency for Healthcare Research and Quality (AHRQ)
- American Heart Association (AHA)
- Centers for Medicare & Medicaid Services (CMS)
- National Priorities Partnership (NPP)
- National Quality Forum (NQF)
- The Joint Commission (TJC)

Financial Implications

- Expense reduction due to decreased cost per discharge, fewer ICU days, and fewer rehospitalizations.

Prerequisites

None for this process

Resources

Additional Resources

- The Commonwealth Fund
  Why Not the Best?
  Comparative performance data on AMI care

- American Heart Association
  Mission: Lifeline

- American College of Cardiology (ACC)
  The 2009 Focused Updates:
  ACC/AHA Guidelines for the Management of Patients With ST-Elevation Myocardial Infarction (Updating the 2004 Guideline and 2007 Focused Update)
  ACC/AHA/SCAI Guidelines on Percutaneous Coronary Intervention (Updating the 2005 Guideline and 2007 Focused Update)

- American Heart Association (AHA)
  ACC/AHA 2008 Performance Measures for Adults With ST-Elevation and Non–ST-Elevation Myocardial Infarction

- U.S. Department of Health and Human Services
  Hospital Compare: A quality tool provided by Medicare

- The D2B Alliance
  A resource of the American College of Cardiology

- American Heart Association
  Heart Disease and Strong Statistics 2010 Update At-A-Glance

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