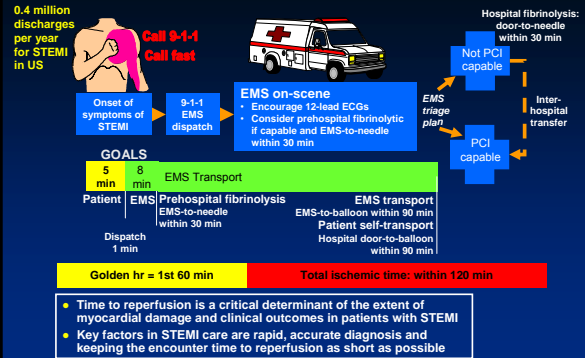


New Developments in STEMI Care

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No Conflict of Interest

Time to Treatment Is Critical in STEMI



Antman EM, et al. *J Am Coll Cardiol.* 2008;51(2):210-247.

2

Determine Whether Fibrinolysis or PCI Is Preferred

No Preference for Either Strategy If Presentation Is ≤ 3 hr and There Is No Delay in Invasive Strategy

However, fibrinolysis generally preferred when

- Invasive strategy not an option
 - Vascular access difficulties
 - No access to skilled PCI lab
- Delay to invasive strategy
 - Prolonged transport
 - Door-to-balloon time >90 min
 - >1 hr vs fibrinolysis (fibrin-specific agent) now

However, invasive strategy generally preferred when

- Skilled PCI lab is available with surgical backup
 - Door-to-balloon time <90 min
- High risk from STEMI
 - Cardiogenic shock,^a Killip class $>III$
- Contraindications to fibrinolysis, including increased risk of bleeding and ICH
- Late presentation
 - >3 hr from symptom onset
- Diagnosis of STEMI is in doubt

^a PCI strongly preferred, but if immediate PCI not available/transfer for PCI delayed and presentation ≤ 3 hours, treat with fibrinolytic therapy and transfer to a skilled PCI lab.

Antman EM, et al. *J Am Coll Cardiol.* 2004;44(3):671-719.

3

2007 ACC/AHA STEMI Focused Update

Reperfusion Therapy for STEMI

Class I Modified Recommendations

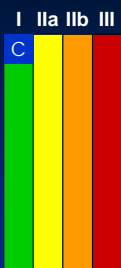
- STEMI patients presenting to a hospital with PCI capability should be treated with primary PCI within 90 minutes of first medical contact as a systems goal (*Level of Evidence: A*)
- STEMI patients presenting to a hospital without PCI capability and who cannot be transferred to a PCI center and undergo PCI within 90 minutes of first medical contact should be treated with fibrinolytic therapy within 30 minutes of hospital presentation as a systems goal unless fibrinolytic therapy is contraindicated (*Level of Evidence: B*)

Antman EM, et al. *J Am Coll Cardiol.* 2008;51(2):210-247.

4

2009 ACC/AHA STEMI/PCI Guidelines Focused Updates

Triage and Transfer for PCI (for STEMI)



New Recommendation

Each community should develop a STEMI system of care following the standards developed for *Mission: Lifeline* including:

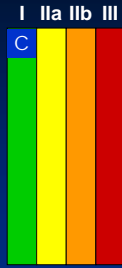
- Ongoing multidisciplinary team meetings with EMS, non-PCI-capable hospitals (STEMI referral centers) and PCI-capable hospitals (STEMI receiving centers) to evaluate outcomes and quality improvement data

Kushner FG, et al. *J Am Coll Cardiol.* 2009;54(23):2205-2241.

5

2009 ACC/AHA STEMI/PCI Guidelines Focused Updates

Triage and Transfer for PCI (for STEMI) (cont)



New Recommendation

STEMI system of care standards in communities should also include:

- Process for prehospital identification and activation
- Destination protocols to STEMI receiving centers
- Transfer protocols for patients who arrive at STEMI referral centers and are primary PCI candidates, are ineligible for fibrinolytic drugs, and/or are in cardiogenic shock

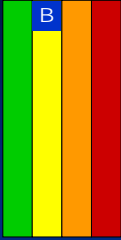
Kushner FG, et al. *J Am Coll Cardiol.* 2009;54(23):2205-2241.

6

2009 ACC/AHA STEMI/PCI Guidelines Focused Updates

Triage and Transfer for PCI (for STEMI)

I **Ila** **Ilb** **III** **New Recommendation**



It is reasonable to transfer high-risk patients who receive fibrinolytic therapy as primary reperfusion therapy at a non-PCI-capable facility to a PCI-capable facility as soon as possible where PCI can be performed either when needed or as a pharmacoinvasive strategy

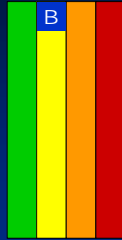
Kushner FG, et al. *J Am Coll Cardiol.* 2009;54(23):2205-2241.

7

2009 ACC/AHA STEMI/PCI Guidelines Focused Updates

Triage and Transfer for PCI (for STEMI)

I **Ila** **Ilb** **III** **New Recommendation**



Consideration should be given to initiating a preparatory antithrombotic (anticoagulant plus antiplatelet) regimen before and during patient transfer to the catheterization laboratory

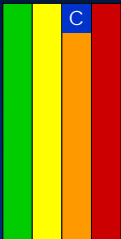
Kushner FG, et al. *J Am Coll Cardiol.* 2009;54(23):2205-2241.

8

2009 ACC/AHA STEMI/PCI Guidelines Focused Updates

Triage and Transfer for PCI (for STEMI)

I **Ila** **Ilb** **III** **Modified Recommendation**



Patients who are not at high risk who receive fibrinolytic therapy as primary reperfusion therapy at a non-PCI-capable facility may be considered for transfer as soon as possible to a PCI-capable facility where PCI can be performed either when needed or as a pharmacoinvasive strategy

Consideration should be given to initiating a preparatory antithrombotic (anticoagulant plus antiplatelet) regimen before and during patient transfer to the catheterization laboratory

Kushner FG, et al. *J Am Coll Cardiol.* 2009;54(23):2205-2241.

9

Door to Balloon (D2B): An Alliance for Quality Campaign

Strategies Associated With a Significant Reduction in DTB Time

Strategy	Mean reduction in door-to-balloon time, min ^a
Having emergency medicine physicians activate the cath lab	8.2
Having a single call to a central page operator activate the cath lab	13.8
Having the ED activate the cath lab while patient is still en route	15.4
Expecting staff to arrive at the cath lab within 20 minutes after page	19.3
Having an attending cardiologist always on site	14.6
Having staff in the ED and cath lab use and receive real-time feedback	8.6

^a P<.05 for all.
Bradley EH, et al. *N Engl J Med.* 2006;355(22):2308-2320.

10

ACC/AHA 2008 Performance Measures^a: Acute Care in STEMI

- Aspirin at arrival
- Evaluation of LVSF
- Time to fibrinolytic therapy
- Time to PCI
- Reperfusion therapy
- STEMI patients transferred for primary PCI: time from ED arrival at referral facility to ED discharge
- STEMI patients transferred for primary PCI: time from ED arrival at referral facility to primary PCI

^a These performance measures remain current for 2010.
Krumholz HM, et al. *J Am Coll Cardiol.* 2008;52(24):2046-2099.

11

MISSION: Lifeline™

Improving the System of Care for STEMI Patients




12

American Heart Association
Learns and Lives

Registered STEMI Systems

- Every day, new systems from all areas of the United States register with Mission: Lifeline.
- STEMI systems will improve the quality of care for all myocardial infarction patients.
- <http://www.americanheart.org/presenter.jhtml?identifier=3059652>



American Heart Association
Learns and Lives

STEMI Certification & Recognition

- **The American Heart Association will:**
 - Develop recommendations for a certification program
 - Generate and publish criteria to define as:
 - STEMI system of care
 - EMS
 - Non-PCI hospital
 - PCI hospitals!
 - Support policy approaches that advance the development of STEMI systems
 - Develop a recognition program to:
 - Salute health care teams who comply with guidelines
 - Commend STEMI systems for raising quality of care
 - Help compliant hospitals differentiate themselves
 - Motivate more health care providers to embrace the Mission: Lifeline standards