



From Rotor to Reperfusion: Closing the Gap in STEMI Care

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Disclosures

- No relevant financial disclosures.
- The clinical case and images have been de-identified for educational use.

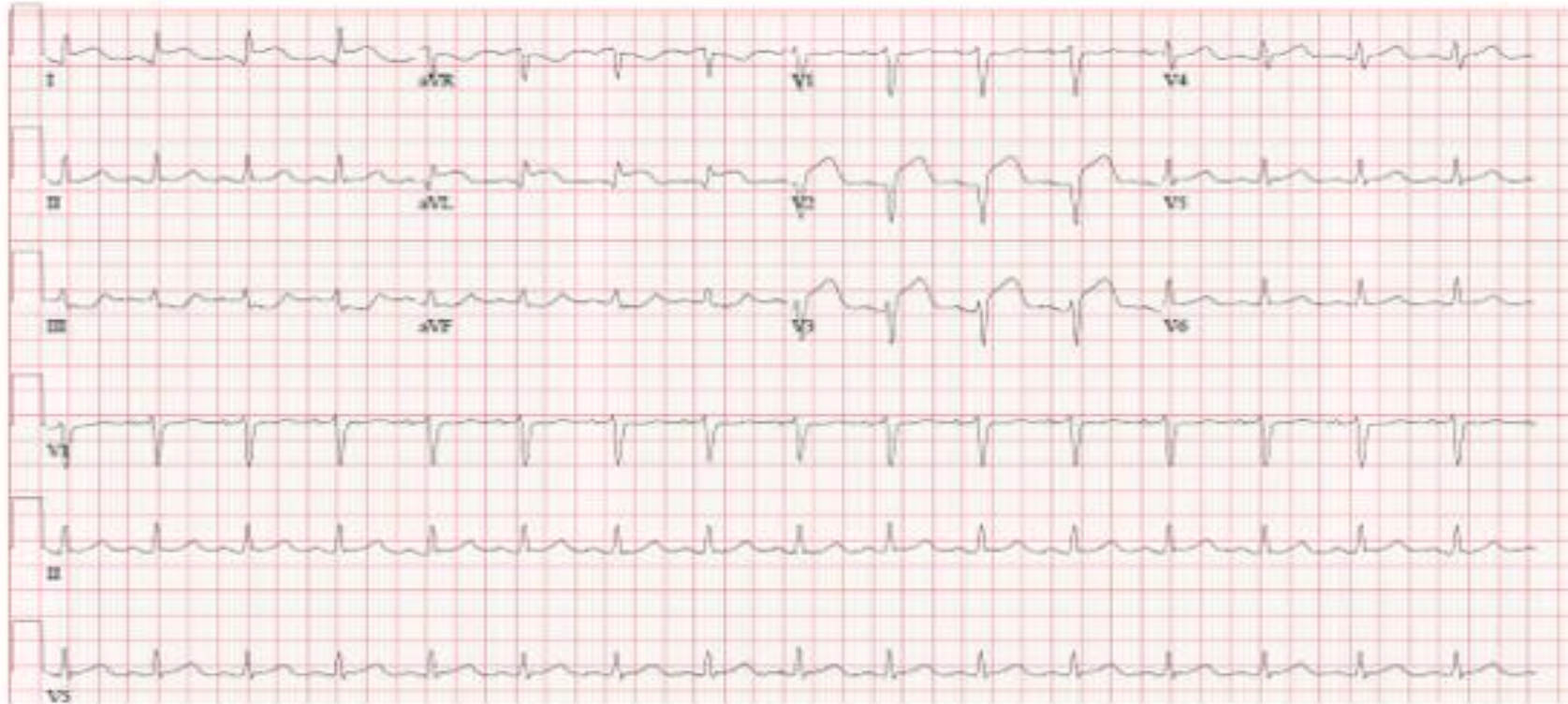
Objectives

- Discuss the role of air medical transport in rural STEMI care.
- Identify factors influencing destination selection for patients requiring PCI.
- Examine the potential impact of HEMS on time to definitive care.

HPI

- Scene Call, Sheffield, MA
- 50-year-old male | No significant PMH
- 07:30 — sudden onset of midsternal chest pain
- Nausea + diaphoresis
- Drove to police department as symptoms worsened
- Developed VT with EMS
- Synchronized cardioversion 200 J
- ASA 324 mg
- LIFE STAR requested for transport to PCI center

What do you see and what changes your transport plan?



- Rate • Rhythm • ST-segment pattern • Immediate threats

One patient. Two PCI centers. One time-critical decision.

Presentation

Chest pain,
nausea and
diaphoresis
after waking at
07:30

Instability

Ventricular
tachycardia →
synchronized
cardioversion at
200 J

Destination

- Baystate: 34 NM
- Albany: 37 NM

The transport question wasn't simply “air or ground?”—it was how to reach the right cath lab safely, without avoidable delay.

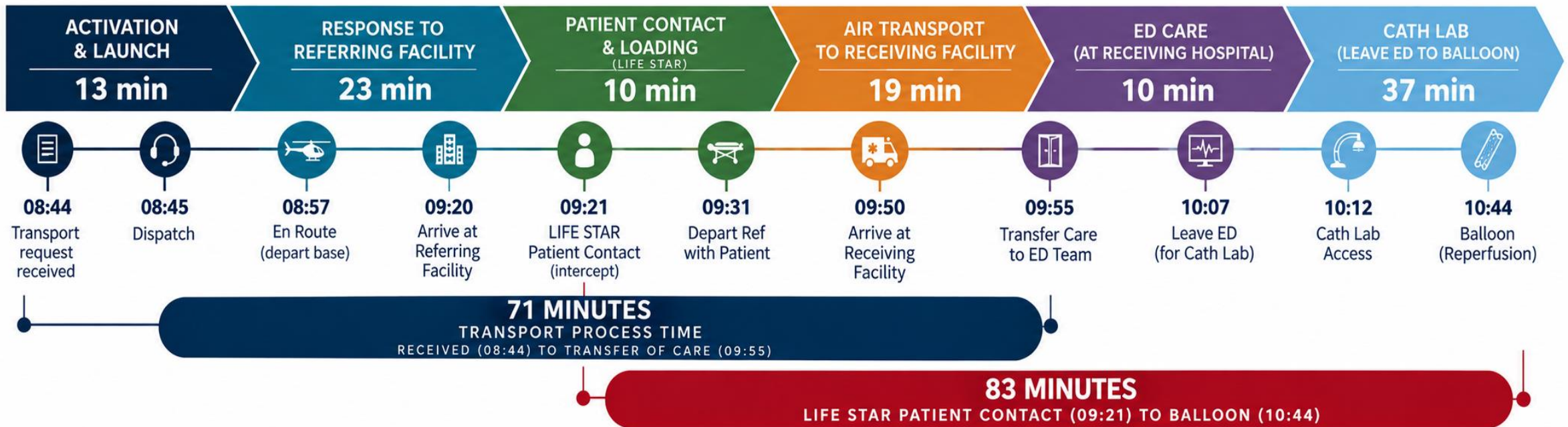
Priorities

1. Prevent Deterioration
 - Monitoring • Airway readiness • Hemodynamic support
2. Treat Symptoms and Immediate threats
 - Pain • Nausea • Dysrhythmias
3. Maintain the path to PCI
 - Appropriate PCI center • Early activation and communication • Timely transfer

STEMI Transport Timeline

LIFE STAR STEMI TRANSPORT → REPERFUSION

INTERCEPT TRANSPORT TIMELINE



The Clinical Picture

Vomited x 2. Ondansetron

Persistent pain. Fentanyl 50 mcg.

New Finding: Cool right arm + pulse discrepancy.

Concern for aortic dissection, heparin and Brilinta deferred.

Time to Reperfusion

- Door-to-balloon: 47 minutes
- Life Star Patient Contact to Balloon: 83 minutes

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Baystate Heart & Vascular Program

BAYSTATE REGIONAL HEART ATTACK PROGRAM

STEMI Feedback Report

Baystate Medical Center

Patient/DOB: [REDACTED]

Door to Balloon (Goal 90min): 47 minutes

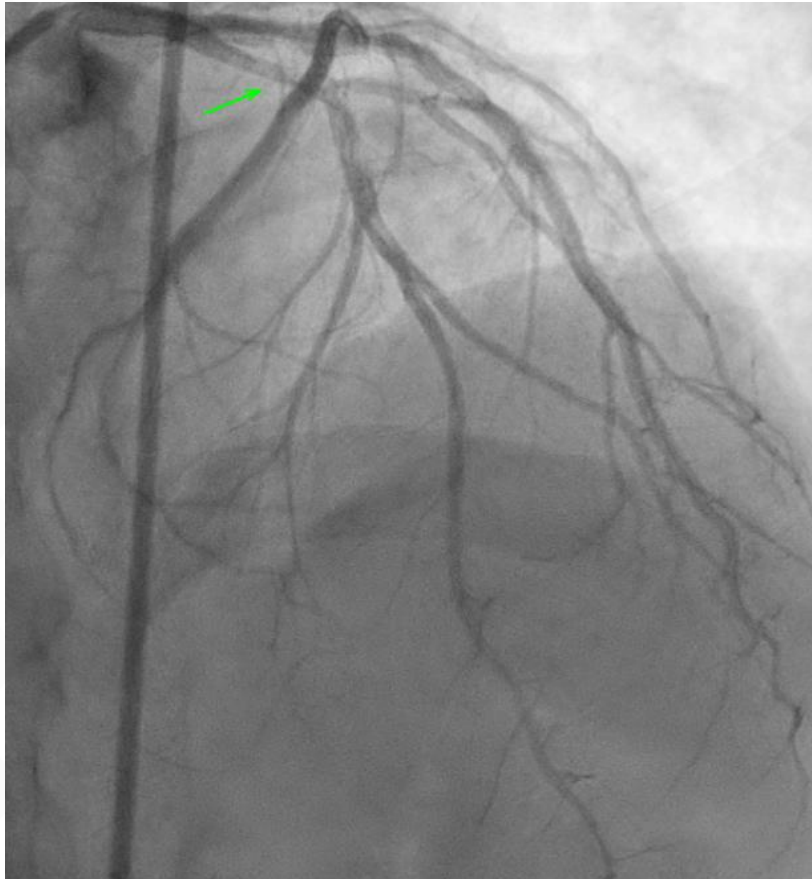
First Medical Contact (FMC) to Balloon (Goal 90min): 83 minutes

Exclusion Y/N: None

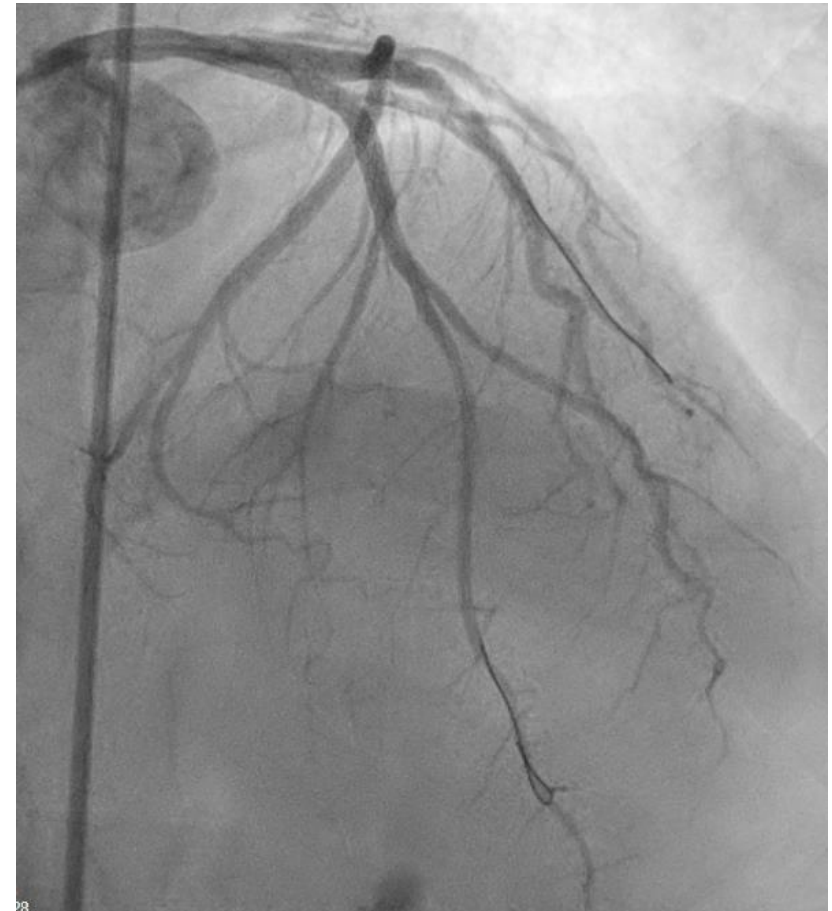
Ambulance/Walk-In:	LifeStar intercept for Southern Berkshire Volunteer Ambulance
On/Off Hours:	On
EMS:	
First Medical Contact:	[REDACTED] 09:21
FMC to EKG (goal 5min):	3 minutes
FMC to e-Bridge Initial Alert (goal 10min):	N/A
First Notification (Method and Time):	Unk
FMC to Depart Scene (goal 15min):	10 minutes
Transport Time:	19 minutes
EMS Providers:	[REDACTED]
ED:	
Door time:	[REDACTED] 09:57
Door to EKG (goal 5min):	1 minute
Door to Cath Lab Activation (goal 7min):	0 minutes
Cath Lab Activation to Leave ED (goal 28min):	19 minutes
Door to Leave ED (goal 35min):	10 minutes
ED Providers (MDs, RNs, PCTs):	[REDACTED]
Cath Lab:	
Leave ED to Cath Lab Access (goal 10min):	5 minutes
Access to Balloon (goal 15min):	22 minutes
Start Case to Balloon (goal 25min):	32 minutes
PCI Time:	[REDACTED] 10:44
Interventionalist:	[REDACTED]
Fellow/PA:	[REDACTED]
Cath Lab Staff:	[REDACTED]
Comments:	49-year-old gentleman without any significant past medical history who presented to the hospital with anterior STEMI. In the emergency room, patient underwent V-fib cardiac arrest and cardioversion was performed which restored normal sinus rhythm. He is brought to the cardiac Cath Lab emergently for coronary angiogram.
Findings:	LMCA: Normal. Lesion in ~~Prox~~ LAD: Proximal subsection. 80% stenosis (Culprit) LCx: Mild luminal irregularities (<30%). RCA: Mild diffuse disease (<30%)
Procedure:	IVUS guided successful PCI of the proximal LAD with aspiration thrombectomy with 3.0 mm X 26 mm drug-eluting stent. Gentle POBA was performed with 2.0 mm X12 millimeter semicompliant balloon to break down the thrombus. Considering presence of thrombus in D1, we decided to put the patient on <u>Integrilin</u> drip for next 18 hours.
Condition After Procedure/Discharge:	Patient discharged home in stable condition on 1/19 with EF 30-35%

PCI restores coronary flow

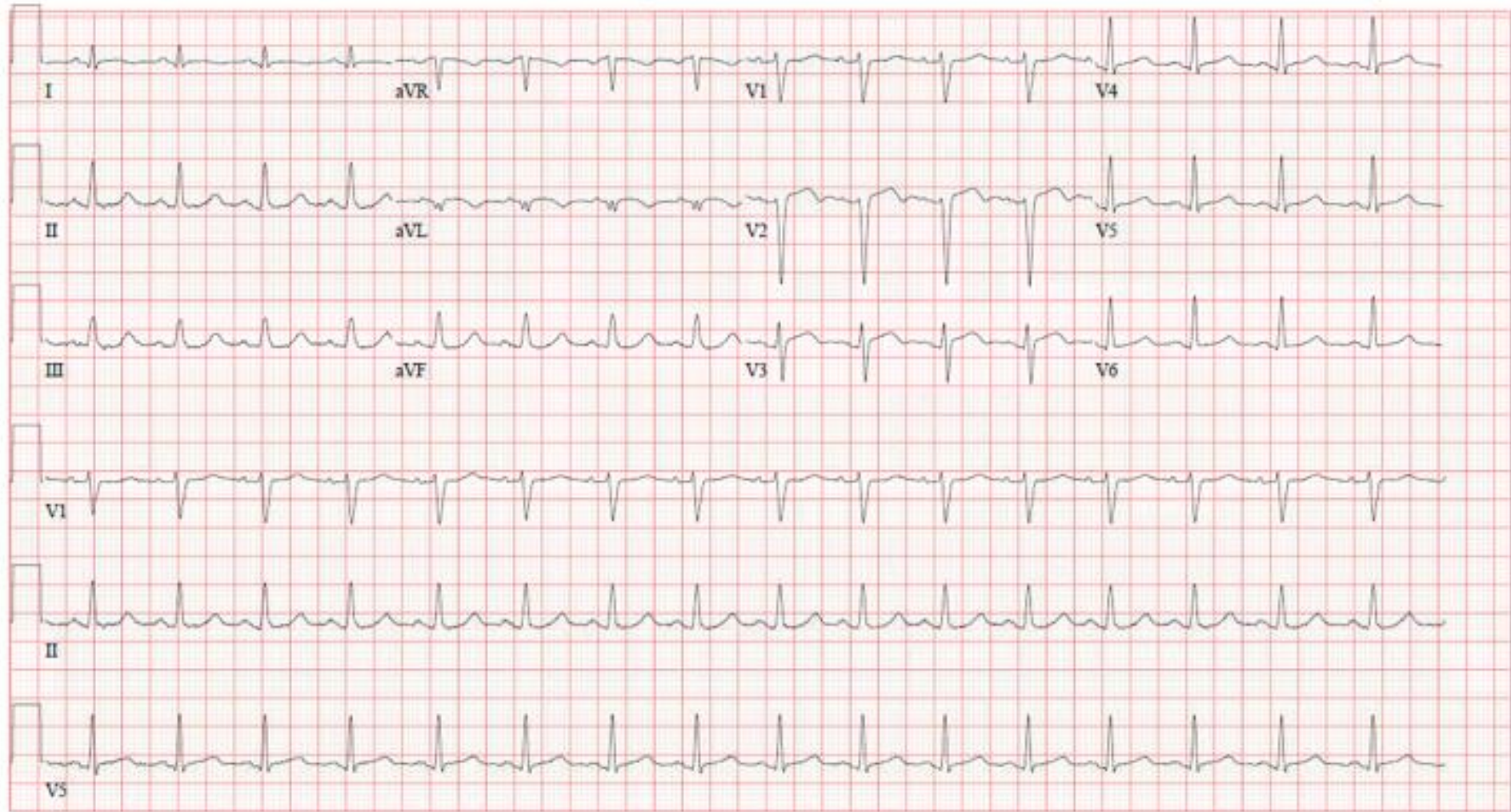
Pre Intervention



Post Intervention



Post-PCI EKG



Discharged Home

- Patient discharged home in stable condition with an EF 30-35%.

What Does the Evidence Show?

Study	Population	Key Finding	What it Means for HEMS?
Schoenfeld et al., 2025	Retrospective cohort; 22 STEMI patients, single hospital pair 8 miles apart	HEMS was 32 min faster than GEMS from transport request to PCI-suite arrival	HEMS may provide a time advantage even over short distances.
Mørk et al., 2022	Multicenter, observational, retrospective study. Rural STEMI/PCI access	Air transport reduced system delay when geography favored HEMS	Distance and geography matter
Ostlie et al., 2026	Retrospective chart review; 91 interfacility STEMI transports	Helipad to cath lab can impact time	Landing is not synonymous with PCI
Moens et al., 2015	Prospective, single-center study; 342 rural STEMI patients transferred for primary PCI	Median system delay: 52 min HEMS vs 110 min estimated ground; median time savings 60 min	HEMS can substantially reduce system delay in geographically isolated patients
Hakim et al., 2020	Prospective multicenter registry; 1,911 rural STEMI patients	Helicopter transport did not consistently shorten time to PCI, slower in some circumstances	Air is not automatically faster

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Thank you! Questions?

Hartford HealthCare

LIFE STAR

