STATE OF MICHIGAN
DEPARTMENT OF HEALTH AND HUMAN SERVICES
LANSING

GRETCHEN WHITMER
GOVERNOR

ELIZABETH HERTEL
DIRECTOR

MICHIGAN EMS COORDINATION COMMITTEE MEETING
Friday, May 16, 2025
MINUTES
9:30 a.m.
Livingston County EMS
1911 Tooley Road
Howell MI 48855
Join the meeting now
1 248-509-0316 Phone Conference ID: 651 777 333#

Attendance:
Voting Members:
K. Belanger; D. Condino; Dr. K.D. Edwards; Dr. M. Fill; B. Forbush; D. Gorelick; L. Martin; K. Miller; M. Nye; M. Oakley; J. Przytulski for R. Ortiz; K. Ostergren; E. Smith; Dr. R. Dunne for Dr. R. Smith; B. Trevithick; A. Madden for G. Wadaga; K. Wilkinson; Dr. S. Wise

Virtual/Ex Officio members:
Dr. C. Brent; Rep. Prestin; A. Sundberg; D. Pratt; G. Wadaga.

Absent:
Senator Brinks; J. Brown; R. Cronkright; K. Cummings; G. Flynn; F. Jalloul; W. Hart C. Meixner; A. Sledge.

Department Representatives:
Dr. W. Fales; E. Bergquist; N. Babb; J. Wagner; K. Piette; S. Minaudo; A. Brown; L. Corey; D. Flory; R. Chadderton; S. Bliss; S. Kerr; D. Fitzpatrick; E. Hendy; C. Laking; N. Daugherty; M. Ladetto; C. Nethaway; E. Worden; D. Burke; T. Jenkins; J. Fiedler; L. Ryal; E. Baty; P. Stevens; T. Frascone; A. Biliti; N. Rossow; L. Nelson; J. Spitzley; D. Kapnick; T. First; K. Kuhl; R. Rudzki; T. DeRosia.

Guests:
E. Snidersich, MMR; Dr. Shanley, UM; C. Hunt, Genessee County Sheriff's Office; K. Hartmann, Tenet Health; C. Bruneau, Rep. Prestin's office; Jim Etzin, self; H. Pykonen and T. Sowle, AMR; M. LaCrosse, Delta County MCA; M. Kropp, Macomb County MCA; R. Warnemuende, Saginaw-Tuscola MCA; R. Olkowski and G. Csiki, Detroit Fire; B. Miljan, HEMS; M. Bentley, Kalamazoo County MCA; K. Henderson and Dr. Domeier, Washtenaw Livingston MCA; J. Theut, Oakland County MCA; Dr. Krohmer, Region Six.

Call to Order: The meeting was called to order at 9:35 a.m. by Dr. Edwards.

Approval of Agenda: Motion to approve the agenda (Miller, Martin). Approved.

Approval of Minutes: Motion to approve the minutes from 03/21/2025 (Condino, Przytulski). Approved.

Reminders of upcoming educational opportunities:

- Midwest Fire Rescue Expo®: May 20-21, 2025 – Novi
- SaveMiHeart Conference: June 6, 2025 – Detroit
- Resuscitation Academy: June 5, 2025 – Detroit
- North American Active Assailant Conference (NAAAC): June 4-6, 2025 – Troy
- UP EMS Conference: September 11-13, 2025 – Marquette
    - Reminder, the September EMSCC will be on the 12th in Marquette.
- MDHHS Systems Conference: October 7-8, 2025 – Muskegon
- Special Pathogens Preparedness Conference: June 10, 2025 – Lansing
    - Two regional host sites in Gaylord and Harris
- Crisis Recovery after Shootings, Mass Casualty, Workplace Emergencies and Accidents: May 19, 2025 – Okemos

Guest Speaker: None.

Public Comment on Agenda Items: None.

Old Business & Committee Reports:

EMS Systems/Strategic Planning Update – E. Bergquist

- Emily Bergquist gave a report. She has been on the road quite a bit the past three weeks, attending the ImageTrend Connect conference in Minnesota, EMS Expo on Mackinac Island, and she just returned from Grand Rapids last night, where Michigan is hosting the annual meeting of the National Association of State EMS Officials (NASEMSO). She advised many of the EMS staff are still there, and the business meeting coincides with EMSCC, so Emily Baker is acting as proxy. She said EMS Expo was a fantastic conference and she thanked Lance Corey, who did many presentations for the conference and represented the EMS office in a strong way. She spoke about the NASEMSO conference and having all the EMS peers in our state. Representative Prestin came and did an introduction, and the governor recorded a video. Grand Rapids Fire Department came and did a beautiful presentation with their honor guard. She expressed thanks for the many people who sponsored the event and offered support. Mark Fankhauser from Grand Rapids Fire came out several times to make sure everyone was okay, and if we needed anything. That was appreciated.
- Technology contracts: In the last three weeks, Emily has learned things about how our contract is going to work. As everyone knows, the contract was awarded to biospatial, only for them to immediately be purchased by ImageTrend. While the EMS office is working on transitioning to First Due, ImageTrend announced agencies who are in direct entry now can continue to use their system for free.

Emily doesn't know how long that will be but there are about 90 agencies that are deciding to stay with ImageTrend. Emily has had some pretty hard conversations with them and said they are going to have to pick a day and after that day, they can't keep inserting themselves into the process or we won't be able to complete the transition by 9/30/2025. She hopes to have a firm timeline in the next couple of weeks. Emily Baker and Johnny Wagner are working hard and putting agencies into "waves" to get them moved over. It looks like a provisional authorization to operate will be granted to allow data to put into the system so testing should be able to start in June. Lance has steadily been building reports in the system so we are ready. The ad hoc report writing tool is part of the contract, but she thinks it will be an ImageTrend product rather than a biospatial product and discussed. Michigan is the only state in the middle of this ImageTrend/biospatial merger so if she sounds vague, it is because it is. The next gen report writer should be available soon and discussed. Timeline and strength of contract were briefly discussed. Next Gen report writer was discussed.

- Systems of Care Conference: Emily asked everyone to consider submitting posters for the conference. Information on that can be found here: https://misystemsofcare.com/submit-a-poster-presentation/.
- First Due HAS NOT been purchased by ImageTrend. Emily advised she is confident that would never happen in the foreseeable future.

Paramedic Exam Update – E. Bergquist

- All the technical specifications are done thanks to Tammy Forbush and Aruna Vardhanapu from DTMB. We should have an update from DTMB next week as to what path we will be moving forward with. There is an existing vendor whose contract may be able to be amended. She said if it is that vendor, it is the same vendor the state of New York uses for their test and discussed. The manager position that was posted has closed. There were 41 applicants, civil service sent 19 through, Emily picked six and there were a few that needed more information. They will be interviewing possibly five or six people. We hope to have someone to announce at the next meeting. It is moving but slowly.

Emergency Preparedness Update – Dr. Edwards

- Burn Surge facility training is June 3rd and there are still spots available. The new requirement is to take the burn surge training, and then you can take the advanced burn life support, which is a self-paced webinar. It used to be the opposite way around, so this is something new that they just started.
  There is no cost to attend or for either one of the classes. Contact your local health care coalition.

- Dr. Edwards discussed the decommissioning and distribution of the LTV ventilators.
- He spoke about the downward trend in the respiratory hat trick of Influenza, Covid, and RSV. He also spoke about measles and the importance of being vaccinated.
- The annual face to face meeting was held before the Great Lakes Homeland Security Conference earlier this month. The eight regions met with their emergency preparedness coordinators from all the health departments, as well as some other guests.
- This month, there will be a certified Hospital Emergency Coordinator (CHEC) certification program, and this is something that is being done on an annual basis in the state. Judy Wheeler does a really nice job out of the programs with. She's also the same one that coordinates and overseas our ADLS and BDLS. A one day condensed advanced disaster life support was done in Lansing with the Emergency Nurses Association conference and that that went well.
- He discussed supplemental funding related to H1N1 and avian influenza and possible funding for various regional needs.
- Dr. Edwards discussed ASPR funding in the federal budgets. There was a presidential budget released, but it is Congress that does the budget and spoke about advocating through communication with state and federal representatives. Dr. Edwards asked Jay Fiedler if he had any thoughts and he spoke briefly.
    - Bruce Trevithick spoke about advocating. He also asked about the ventilator acquisition process. The healthcare coalition has the information and they can be requested through there.
    - Eric Smith said Region Six HCC has put together a talking point document. Contact him for more information at esmith@montcalm.us.
    - Since next week is EMS Week, Dr. Edwards William Hammond introduced the first dedicated ambulance back in the Civil War, where he had an ambulance wagon transport wounded soldiers.
    .

Systems of Care Report – E. Worden

- The regional trauma coordinators are attending the regional patient movement meetings, which is great because it provides a regional trauma perspective.
- We just released the Michigan State Trauma Data registry that's on our website, and Jill Jean is working on an e-mail blast.
- They applied for the second year of the OHSP planning grant for FY 26. We haven't heard back yet, but our coordinator says things are looking positive, which is lovely, because the hiring of our data technician, Heather Curtis, to help with grants has been very helpful. She's jumped right in and is helping Jill and Stephanie, and they both have told me that they really appreciate the support. It's really helping a lot about making sure our data is clean, accurate and complete.
- Stephanie will also have some injury public facing crash injury prevention dashboards ready soon. That's one of our grant deliverables.
- She said our section is having internal meetings starting now about how we're going to revamp the RTN applications, which would start not till 27, but it takes a

long time to kind of really think about that whole governance piece and work plan structure and how we're going to fold in the systems of care work, as well into that organizational structure and the Michigan criteria.

- The Level 3 and level 4 criteria is getting ready for a final overview from the designation Committee this summer, and then it will go to STAC in August.

EMS Medical Director Report – Dr. Fales

- Dr. Fales gave a report, and his slides are attached to these minutes.

Committee Reports:

- Quality Assurance – Dr. Edwards
    - There were three updates on Special Studies at the last meeting and Dr. Edwards discussed. Damon Gorelick asked for more information and Dr. Fill spoke, as his MCA is participating.
    - Dr. Edwards spoke about the protocol work Lance Corey is doing on MCA related protocols.
    - Saginaw-Tuscola brought a sample protocol on blood products that Dr. Edwards discussed. That should be going to QATF for approval next week. Emily Bergquist spoke about the Safe Street grant and potential funding. Eligibility was discussed. Dr. Krohmer spoke about subcontracting. Emily spoke about the office's capability and what we can and can't do.
- Ambulance Operations – M. Nye
    - Ambulance Operations had changes to the checklists and is presenting today. Data had asked them to look at some of the definitions, so they looked at the checklist, as well. Mr. Nye apologized for this not going out prior to the meeting and went over the changes for the group.
        - **Motion to approve (Forbush, Martin). Motion is withdrawn (Forbush, Martin).**
            - **They would like to take this to their constituent groups.**
    - Data definitions were reviewed by Ambulance Operations, and they were good with the data subcommittee's definitions. No action is needed.
    - They discussed adding HERN radios to a checklist and Monty discussed. Bill Forbush brought this topic to the group and Bill advised he is going to take it back to the communication subcommittee. Dr. Dunne spoke about the hospital side.
    - Using compliance stickers instead of manufacture's certificate of compliance was discussed. This requirement limits choices on what ambulances could be purchased used. This is limited by administrative rules so no action was taken.

- Medical Control Authority – D. Condino
    - They have been looking at the MCA Handbook and updating it. At the last meeting, they finished the review. Krisy and the department are working on a couple of sections and then it will go back to the MCA subcommittee.
- Patient Movement Ad Hoc – D. Condino
    - The regional meetings have been taking place and there has been lots of good discussions. The goal is to have them report back to the ad hoc in July. The ad hoc is off until then.
- Ethics and Compliance – K. Cummings
    - They have not met.
- Education – K. Wilkinson
    - They reviewed the previously presented policies, and they are still in process. The department has a draft with a lot of suggested changes. The subcommittee will meet again over the summer and plans to have something out by August so everyone can review it prior to the September meeting.
- Bylaws – B. Trevithick
    - The last appointment made to Compliance and Ethics was a duplicate organization and the bylaws specify no duplicates. Bylaws will need to figure out how to handle that so they will have a meeting.
    - Emily asked if anyone has perspective on how the consumer representative gets appointed, as Bill Hart has resigned. The group discussed.
- Data – D. Gorelick
    - They continue to review the data definitions for data elements.
- Legislative – B. Trevithick
    - HB 4242 – Storage of Medical Records
        - This states medical records need to be stored in US or Canada. The legislative committee did not take action, but recommended data subcommittee looks at it.
    - SB 154 & 155 – Access to Health Care Facilities
        - This legislation references health facilities. This relates to creating felonies for anyone trying to interfere with people trying to access reproductive health. It was the committee's recommendation to take no action but make people aware.
    - HB 4249 – Ambulance Provider Funding for Corrections
        - This is a funding bill to make whole the agencies who transported individuals for the Department of Corrections. The legislative subcommittee recommends support.
            - **Motion to support HB 4249 (Forbush, Gorelick). Approved.**

- HB 4368 – Safe Delivery of Newborns – Safety Device
  - This is connected to previously opposed legislation. This says if an infant dies in the safety death, it gets reported the same. This is informational and no action was taken.
- HB 4417 – EMS Access to Opioid Antagonists
  - The subcommittee's recommendation is to oppose this bill.
    - **Motion to oppose HB 4417 (Gorelick, Dunne). Approved.**
- HB 4399 was brought up during the meeting. It would expand the scope of practice for nurse practitioners. There was concern it would allow them to be medical directors. Emily advised that this is not a concern as the public health code prescribes the requirements for the medical director.

- Rural – G. Wadaga
  - They have not met, and the next meeting is on Tuesday, 5/20.
- Pediatric Emergency Medicine – Dr. Sam Wrobleski
  - The next Pediatric Education hour is May 27 and CoPEM meets in July. Federal funding for EMSC was discussed, and Eileen pointed out the resources on the EIIC website.
- Air Medical – K. Wilkinson
  - They did not meet.
- EMS Safety – K. Miller
  - They did not meet.
- Critical Care Ad Hoc – E. Bergquist – ON HOLD.
- Communications – B. Forbush
  - The committee is working on revisions to the MEDCOM plan. Radio checks and ways to revitalize VHF to mitigate failure of new systems.

Recruitment and Retention Work Group – K. Cummings/E. Bergquist

- No updates for today.

Community Integrated Paramedicine (CIP) – E. Bergquist – ON HOLD.

- Emily advised a group at UM is interested in helping with this and discussed.

New Business:
Motion to cancel July's meeting (Wilkinson, Nye). Approved.

Public Comment: None.

Membership Round Table Report:

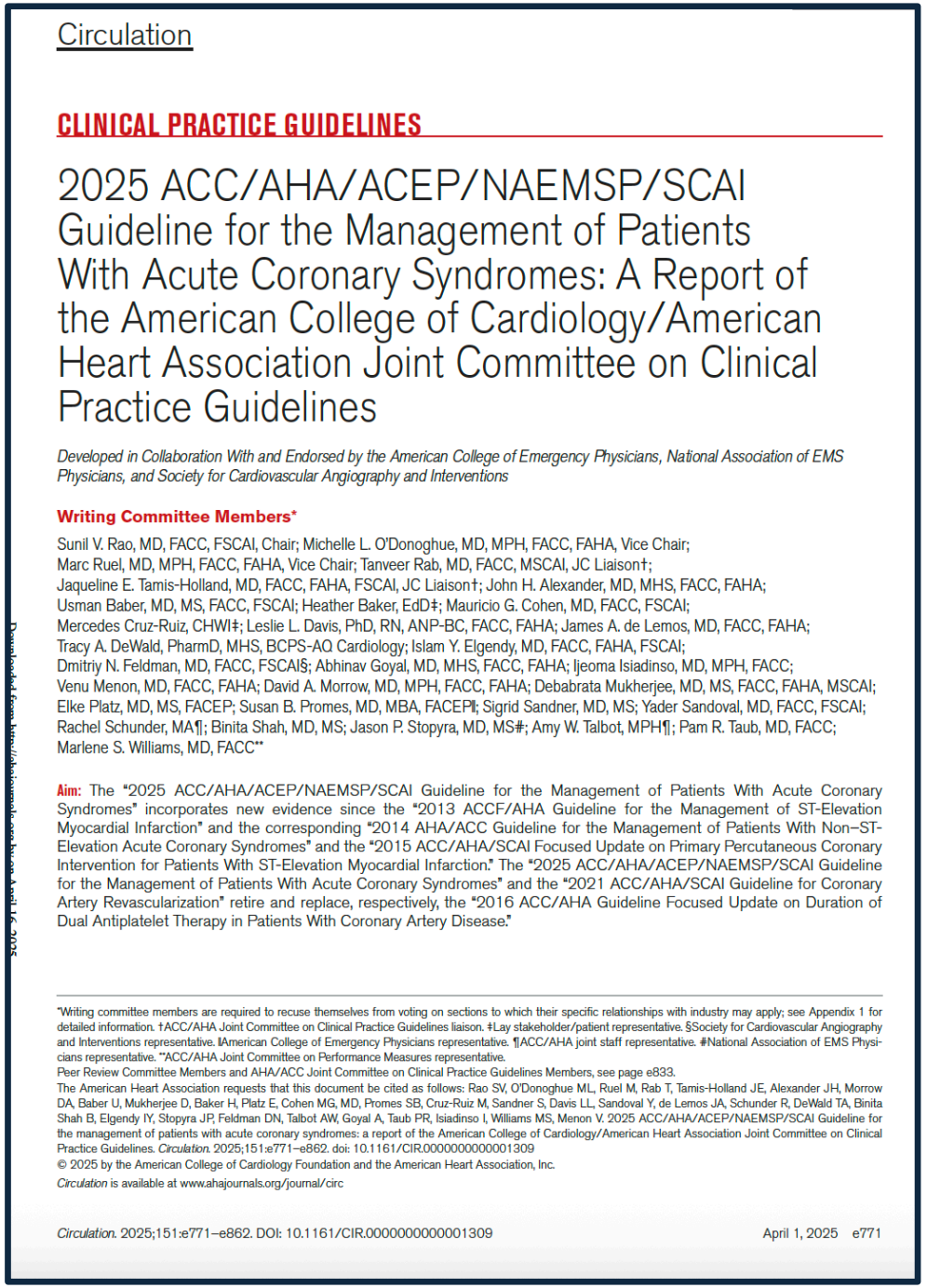
- Happy EMS Week!
- Emily advised of the free webinar offered for EMS Week called Honorable but Broken. This information was in the Wednesday Update. She also advised the office won an award at the NASEMSO annual meeting for innovation coming from the work Alissa Morrison and Emily Baker are doing with OHSP and discussed.

- Nicole advised this meeting is her 10-year anniversary of doing EMSCC and thanked everyone for their support.
- Dr. Edwards thank everyone and discussed EMS Week. He said there is not a day that goes by that he's not grateful for everything you do.

Adjournment: Motion to adjourn at 11: 41 a.m. (Gorelick, Forbush). Approved.

Guideline for the Management of Patients With Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

April 1, 2025



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CLINICAL PRACTICE GUIDELINES

2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

Developed in Collaboration With and Endorsed by the American College of Emergency Physicians, National Association of EMS Physicians, and Society for Cardiovascular Angiography and Interventions

Writing Committee Members*

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Aim: The "2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes" incorporates new evidence since the "2013 ACCF/AHA Guideline for the Management of ST-Elevation Myocardial Infarction" and the corresponding "2014 AHA/ACC Guideline for the Management of Patients With Non–ST-Elevation Acute Coronary Syndromes" and the "2015 ACC/AHA/SCAI Focused Update on Primary Percutaneous Coronary Intervention for Patients With ST-Elevation Myocardial Infarction." The "2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes" and the "2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization" retire and replace, respectively, the "2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease."

*Writing committee members are required to recuse themselves from voting on sections to which their specific relationships with industry may apply; see Appendix 1 for detailed information. †ACC/AHA Joint Committee on Clinical Practice Guidelines liaison. ‡Lay stakeholder/patient representative. §Society for Cardiovascular Angiography and Interventions representative. ‖American College of Emergency Physicians representative. ¶ACC/AHA joint staff representative. #National Association of EMS Physicians representative. **ACC/AHA Joint Committee on Performance Measures representative.

Peer Review Committee Members and AHA/ACC Joint Committee on Clinical Practice Guidelines Members, see page e833.

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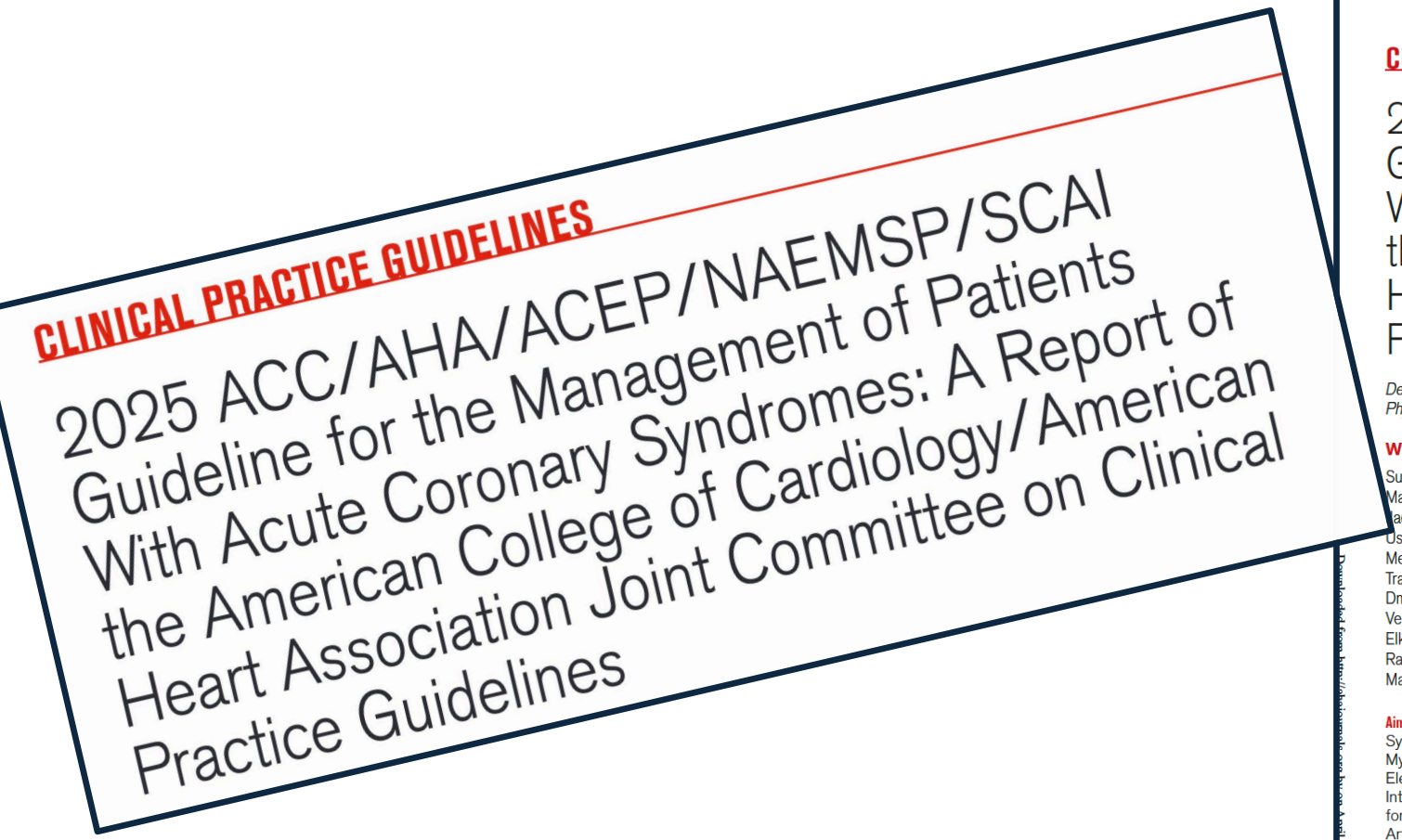

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Class of Recommendations and Level of Evidence

CLASS (STRENGTH) OF RECOMMENDATION

CLASS 1 (STRONG) — Benefit >>> Risk

Suggested phrases for writing recommendations:
- Is recommended
- Is indicated/useful/effective/beneficial
- Should be performed/administered/other
- Comparative-Effectiveness Phrases†:
  - Treatment/strategy A is recommended/indicated in preference to treatment B
  - Treatment A should be chosen over treatment B

CLASS 2a (MODERATE) — Benefit >> Risk

Suggested phrases for writing recommendations:
- Is reasonable
- Can be useful/effective/beneficial
- Comparative-Effectiveness Phrases†:
  - Treatment/strategy A is probably recommended/indicated in preference to treatment B
  - It is reasonable to choose treatment A over treatment B

CLASS 2b (WEAK) — Benefit ≥ Risk

Suggested phrases for writing recommendations:
- May/might be reasonable
- May/might be considered
- Usefulness/effectiveness is unknown/unclear/uncertain or not well-established

CLASS 3: No Benefit (MODERATE) (Generally, LOE A or B use only) — Benefit = Risk

Suggested phrases for writing recommendations:
- Is not recommended
- Is not indicated/useful/effective/beneficial
- Should not be performed/administered/other

Class 3: Harm (STRONG) — Risk > Benefit

Suggested phrases for writing recommendations:
- Potentially harmful
- Causes harm
- Associated with excess morbidity/mortality
- Should not be performed/administered/other

LEVEL (QUALITY) OF EVIDENCE‡

LEVEL A
- High-quality evidence‡ from more than 1 RCT
- Meta-analyses of high-quality RCTs
- One or more RCTs corroborated by high-quality registry studies

LEVEL B-R (Randomized)
- Moderate-quality evidence‡ from 1 or more RCTs
- Meta-analyses of moderate-quality RCTs

LEVEL B-NR (Nonrandomized)
- Moderate-quality evidence‡ from 1 or more well-designed, well-executed nonrandomized studies, observational studies, or registry studies
- Meta-analyses of such studies

LEVEL C-LD (Limited Data)
- Randomized or nonrandomized observational or registry studies with limitations of design or execution
- Meta-analyses of such studies
- Physiological or mechanistic studies in human subjects

LEVEL C-EO (Expert Opinion)
- Consensus of expert opinion based on clinical experience

COR and LOE are determined independently (any COR may be paired with any LOE).

A recommendation with LOE C does not imply that the recommendation is weak. Many important clinical questions addressed in guidelines do not lend themselves to clinical trials. Although RCTs are unavailable, there may be a very clear clinical consensus that a particular test or therapy is useful or effective.

* The outcome or result of the intervention should be specified (an improved clinical outcome or increased diagnostic accuracy or incremental prognostic information).

† For comparative-effectiveness recommendations (COR 1 and 2a; LOE A and B only), studies that support the use of comparator verbs should involve direct comparisons of the treatments or strategies being evaluated.

‡ The method of assessing quality is evolving, including the application of standardized, widely-used, and preferably validated evidence grading tools; and for systematic reviews, the incorporation of an Evidence Review Committee.

COR indicates Class of Recommendation; EO, expert opinion; LD, limited data; LOE, Level of Evidence; NR, nonrandomized; R, randomized; and RCT, randomized controlled trial.

ACS and STEMI

Acute Coronary Syndromes

- **Unstable angina**
  - Transient myocardial ischemia leading to diminished flow in the absence of significant myonecrosis negative troponin).
- **NSTEMI**
  - Partially occluded coronary artery leading to subendocardial ischemia
- **STEMI**
  - Completely occluded vessel leading to transmural myocardial ischemia and infarction

STEMI
New or presumed new ST-elevation of ≥1 mm in ≥2 anatomically contiguous leads (measured at the J-point) in all leads other than V2-V3 and ≥2 mm in men ≥40 y, ≥2.5 mm in men <40 y, and ≥1.5 mm in women regardless of age in leads V2-V3.*
Posterior leads (V7-V9) should be obtained in patients with suspected left circumflex occlusion particularly in the setting of isolated ST-segment depression ≥0.5 mm in leads V1-V3.

- ST-segment depression in the anteroseptal leads (V1-V3) could indicate an evolving posterior STEMI and therefore should be managed with a high index of suspicion with a posterior lead ECG
- Right-sided leads should be obtained in patients with a concern for inferior STEMI to evaluate for right ventricular involvement.

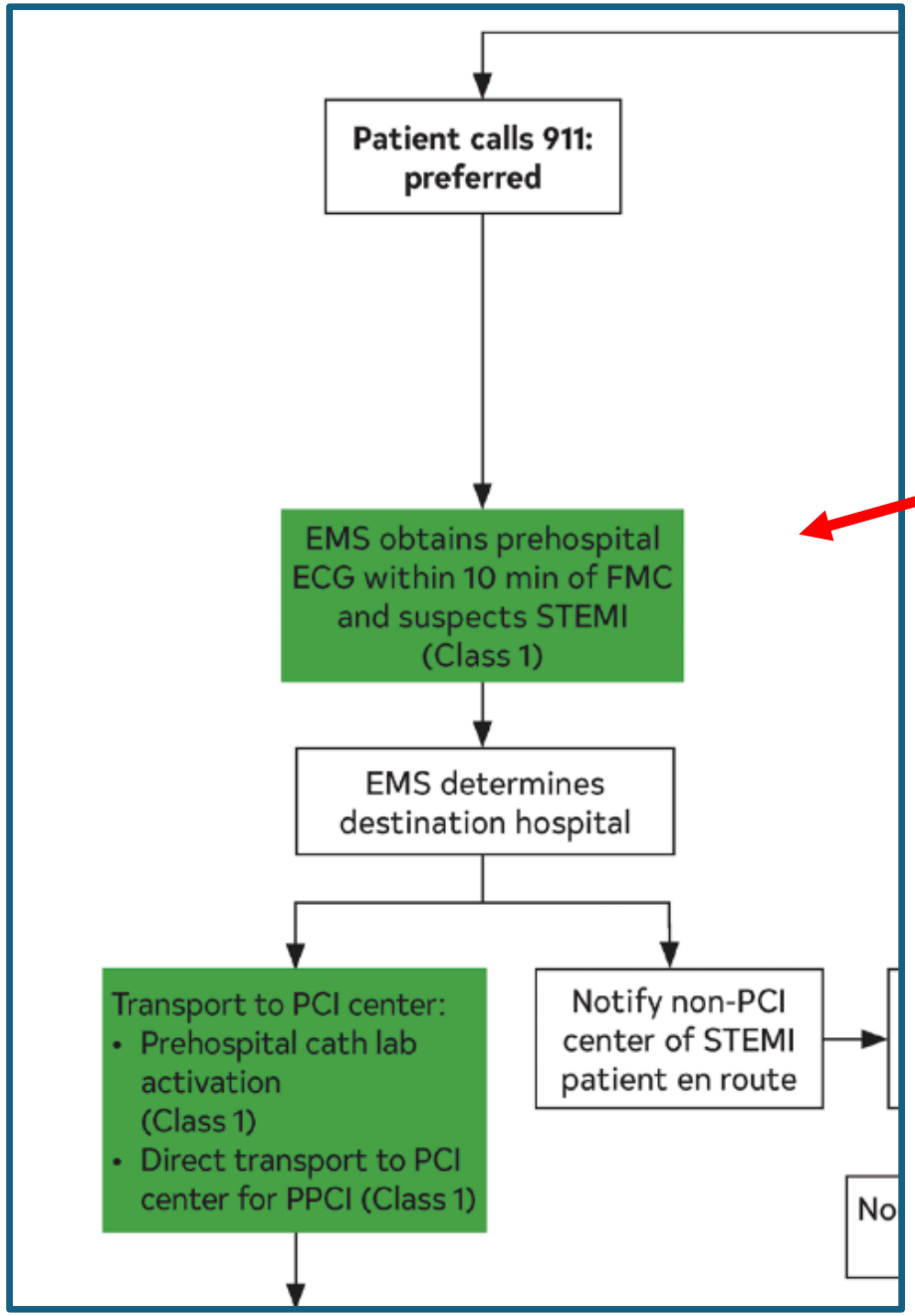
Prehospital Considerations

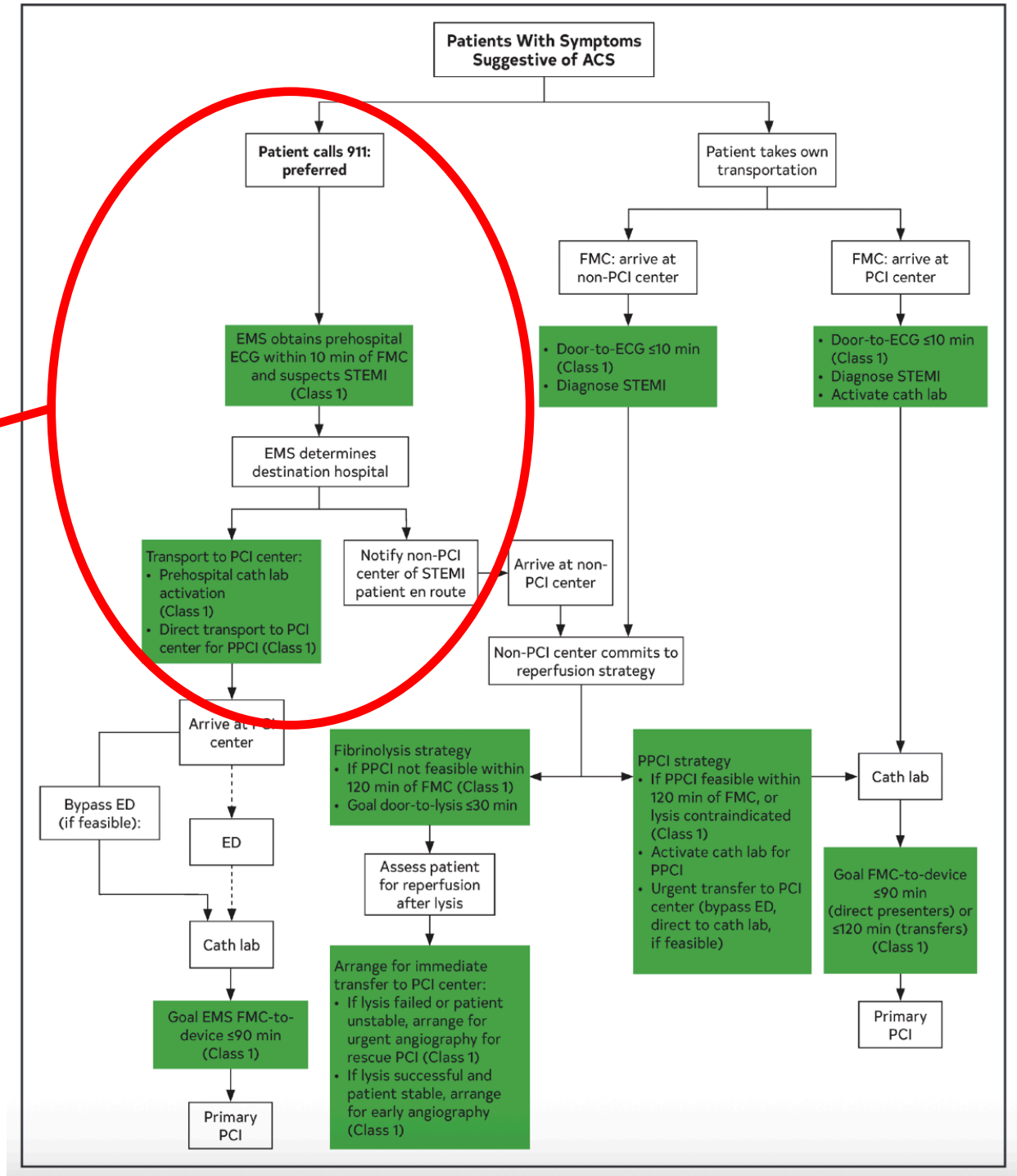
Recommendations for Prehospital Assessment and Management Considerations for Suspected ACS
Referenced studies that support recommendations are summarized in the Evidence Table.

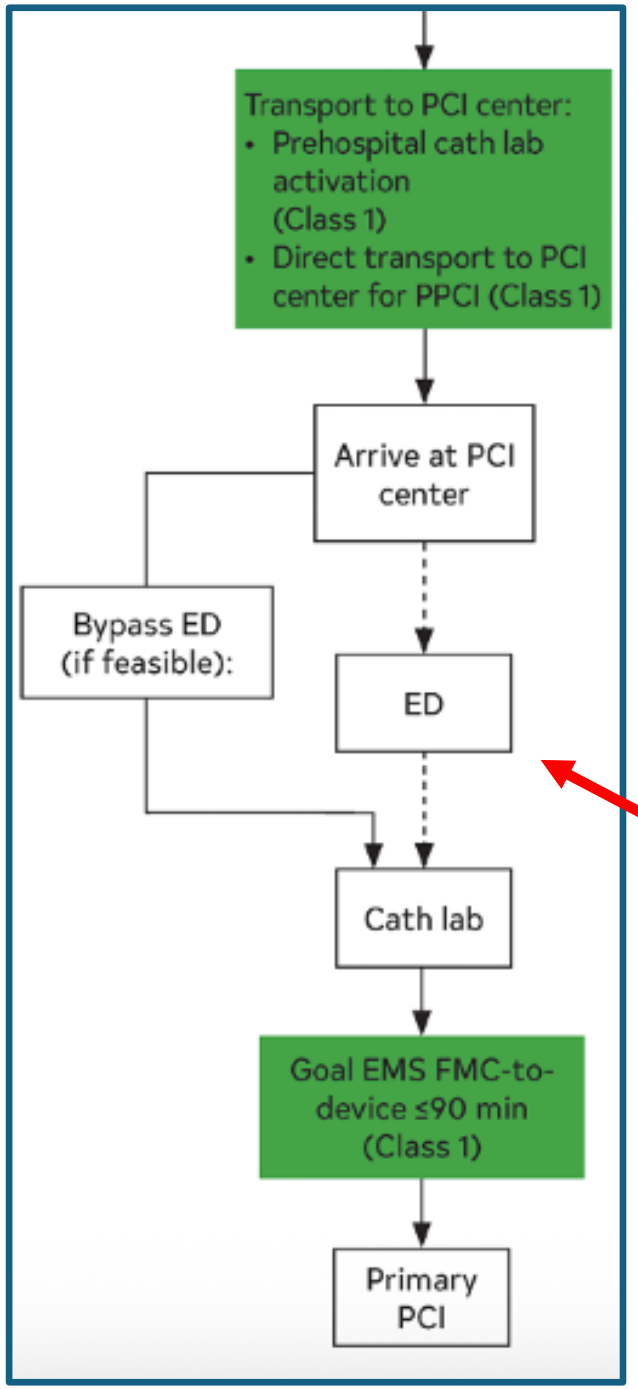
COR	LOE	Recommendations
Suspected ACS		
1	B-NR	1. In patients with suspected ACS, a 12-lead ECG should be acquired and interpreted within 10 minutes of first medical contact (FMC)* to identify patients with STEMI.[1,2]

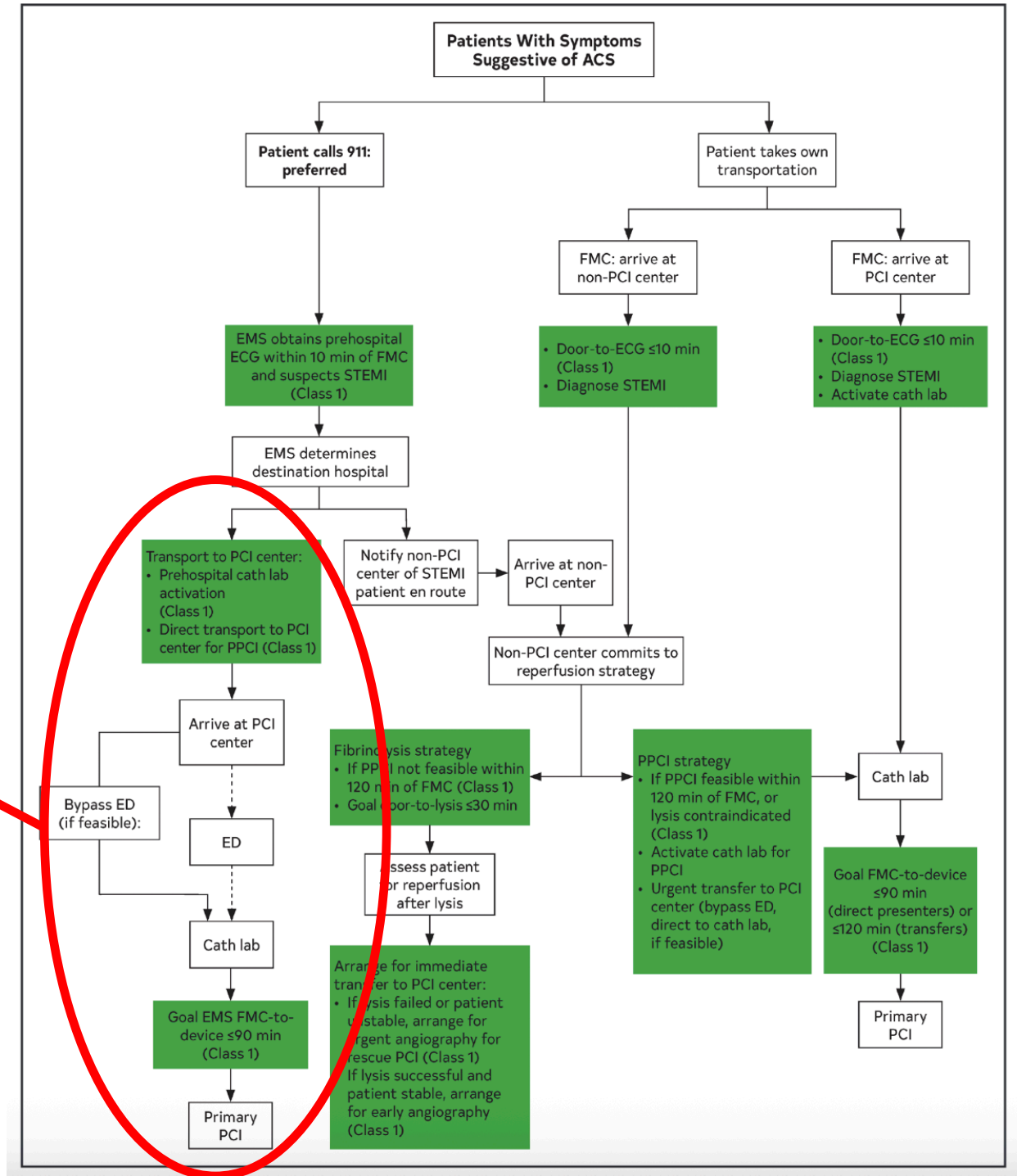
Recommendations for Prehospital Assessment and Management Considerations for Suspected ACS (Continued)

COR	LOE	Recommendations
1	C-LD	2. In patients with suspected ACS in which the initial ECG is nondiagnostic of STEMI, serial ECGs to detect potential ischemic changes should be performed, especially when clinical suspicion of ACS is high, symptoms are persistent, or the clinical condition deteriorates.†[3,4]
STEMI		
1	B-NR	3. In patients with suspected STEMI, immediate emergency medical services (EMS) transport to a PCI-capable hospital for primary PCI (PPCI‡) is the recommended triage strategy, with an FMC–to-first-device time system goal of ≤90 minutes.[5–7]
1	B-NR	4. In patients with suspected STEMI, early advance notification of the receiving PCI-capable hospital by EMS personnel and activation of the cardiac catheterization team is recommended to reduce time to reperfusion.[1,8,9]


Patient calls 911: preferred
EMS obtains prehospital ECG within 10 min of FMC and suspects STEMI (Class 1)
EMS determines destination hospital
Transport to PCI center:
• Prehospital cath lab activation (Class 1)
• Direct transport to PCI center for PPCI (Class 1)
Notify non-PCI center of STEMI patient en route
No


Patients With Symptoms Suggestive of ACS
Patient calls 911: preferred
Patient takes own transportation
FMC: arrive at non-PCI center
FMC: arrive at PCI center
EMS obtains prehospital ECG within 10 min of FMC and suspects STEMI (Class 1)
• Door-to-ECG ≤10 min (Class 1)
• Diagnose STEMI
• Door-to-ECG ≤10 min (Class 1)
• Diagnose STEMI
• Activate cath lab
EMS determines destination hospital
Transport to PCI center:
• Prehospital cath lab activation (Class 1)
• Direct transport to PCI center for PPCI (Class 1)
Notify non-PCI center of STEMI patient en route
Arrive at non-PCI center
Non-PCI center commits to reperfusion strategy
Arrive at PCI center
Bypass ED (if feasible):
ED
Cath lab
Goal EMS FMC-to-device ≤90 min (Class 1)
Primary PCI
Fibrinolysis strategy
• If PPCI not feasible within 120 min of FMC (Class 1)
• Goal door-to-lysis ≤30 min
Assess patient for reperfusion after lysis
Arrange for immediate transfer to PCI center:
• If lysis failed or patient unstable, arrange for urgent angiography for rescue PCI (Class 1)
• If lysis successful and patient stable, arrange for early angiography (Class 1)
PPCI strategy
• If PPCI feasible within 120 min of FMC, or lysis contraindicated (Class 1)
• Activate cath lab for PPCI
• Urgent transfer to PCI center (bypass ED, direct to cath lab, if feasible)
Cath lab
Goal FMC-to-device ≤90 min (direct presenters) or ≤120 min (transfers) (Class 1)
Primary PCI


Transport to PCI center:
• Prehospital cath lab activation (Class 1)
• Direct transport to PCI center for PPCI (Class 1)
Arrive at PCI center
Bypass ED (if feasible):
ED
Cath lab
Goal EMS FMC-to-device ≤90 min (Class 1)
Primary PCI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• Activate cath lab
EMS determines destination hospital
Transport to PCI center:
• Prehospital cath lab activation (Class 1)
• Direct transport to PCI center for PPCI (Class 1)
Notify non-PCI center of STEMI patient en route
Arrive at non-PCI center
Non-PCI center commits to reperfusion strategy
Arrive at PCI center
Bypass ED (if feasible):
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Cath lab
Goal EMS FMC-to-device ≤90 min (Class 1)
Primary PCI
Fibrinolysis strategy
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• Activate cath lab for PPCI
• Urgent transfer to PCI center (bypass ED, direct to cath lab, if feasible)
Cath lab
Goal FMC-to-device ≤90 min (direct presenters) or ≤120 min (transfers) (Class 1)
Primary PCI

Hospital Management of Patients After Cardiac Arrest

COR	LOE	Recommendations
1	C-LD	1. Patients with cardiac arrest and STEMI who have been resuscitated should preferentially be transferred by EMS to a PPCI-capable center.[1,2]
1	B-NR	2. Patients who have been resuscitated after cardiac arrest and are noncomatose or who are comatose with favorable prognostic features and with evidence of STEMI, should undergo PPCI to improve survival.[3–7]
2b	C-LD	3. In patients with cardiac arrest who are comatose, have unfavorable prognostic features, and evidence of STEMI, PPCI may be reasonable after individualized assessment.[4,7]
3: No Benefit	A	4. In resuscitated patients who are comatose after cardiac arrest, electrically and hemodynamically stable, and without evidence of STEMI, immediate angiography is not recommended due to lack of benefit.[8–14]

Recommendations on Specific Therapy Applicable to EMS

- Oxygen Therapy
- Analgesia
- Platelet Therapy
- Regional Systems of Care

Recommendation for Oxygen Therapy

Recommendations for Oxygen Therapy Referenced studies that support recommendations are summarized in the Evidence Table.		
COR	**LOE**	**Recommendations**
1	**C-LD**	1. In patients with ACS and confirmed hypoxia (oxygen saturation <90%), supplemental oxygen to increase oxygen saturations to ≥90% is recommended to improve myocardial oxygen supply and decrease anginal symptoms.[1]
3: No Benefit	**A**	2. In patients with ACS and oxygen saturations ≥90%, routine administration of supplemental oxygen is not recommended because it does not improve cardiovascular outcomes.[2–4]

Recommendations for Analgesia

Table 6. Analgesic Treatment Options for Cardiac Chest Pain

Medication	Route	Suggested Dosing	Considerations
Nitroglycerin*	SL (tablets, spray)	0.3 or 0.4 mg every 5 min as needed up to a total of 3 doses	Use in hemodynamically stable patients with SBP ≥90 mm Hg.
Nitroglycerin*	IV	Start at 10 μg/min and titrate to pain relief and hemodynamic tolerability.	Consider for persistent anginal pain after oral nitrate therapy, or if ACS is accompanied by hypertension or pulmonary edema.[20–22] Avoid use in suspected RV infarction, SBP <90 mm Hg or a change in SBP >30 mm Hg below baseline. Tachyphylaxis may occur after approximately 24 h.
Morphine	IV	2-4 mg; may repeat if needed every 5-15 min. Doses up to 10 mg may be considered.	Use for relief of pain that is resistant to other maximally tolerated anti-ischemic medications. May delay the effects of oral P2Y12 therapy.[7,9–12] Monitor closely for adverse effects.
Fentanyl	IV	25-50 μg; may repeat if needed. Doses up to 100 μg may be considered.	Use for relief of pain that is resistant to other maximally tolerated anti-ischemic medications. May delay the effects of oral P2Y12 therapy.[8] Monitor closely for adverse effects.

*Nitrates should not be administered after recent PDE5 inhibitor use. Avoid use of nitrates/nitroglycerin within 12 h of avanafil, 24 h of sildenafil/vardenafil, or 48 h of tadalafil.[23–25]

ACS indicates acute coronary syndromes; PDE5, phosphodiesterase-5 inhibitor; RV, right ventricular; SBP, systolic blood pressure; and SL, sublingual.

Antiplatelet Therapy - Aspirin

Recommendation for Aspirin Referenced studies that support recommendations are summarized in the Evidence Table.		
COR	**LOE**	**Recommendation**
1	A	1. In patients with ACS, an initial oral loading dose of aspirin, followed by daily low-dose aspirin, is recommended to reduce death and MACE.[1–5]

- Loading dose 162-325 mg orally. Aspirin (non-enteric coated) should be chewed, when possible, to achieve faster onset of antiplatelet action.
- Loading dose should be administered for patients already on aspirin therapy.

Antiplatelet Therapy – Oral P2Y12 Inhibitors

All Patients With ACS (STEMI and NSTE-ACS)		
1	A	1. In patients with ACS, an oral P2Y12 inhibitor should be administered in addition to aspirin to reduce MACE.[1–5]
3: Harm	B-R	2. In patients with a history of stroke or transient ischemic attack, prasugrel should not be administered because of worse net clinical outcomes.*†[4]

- Prasugrel (Effient®)or ticagrelor (Brilinta®) should be administered to reduce MACE and stent thrombosis.
  - Clopidogrel is an alternative when above unavailable, etc.
- Prehospital Administration: ???

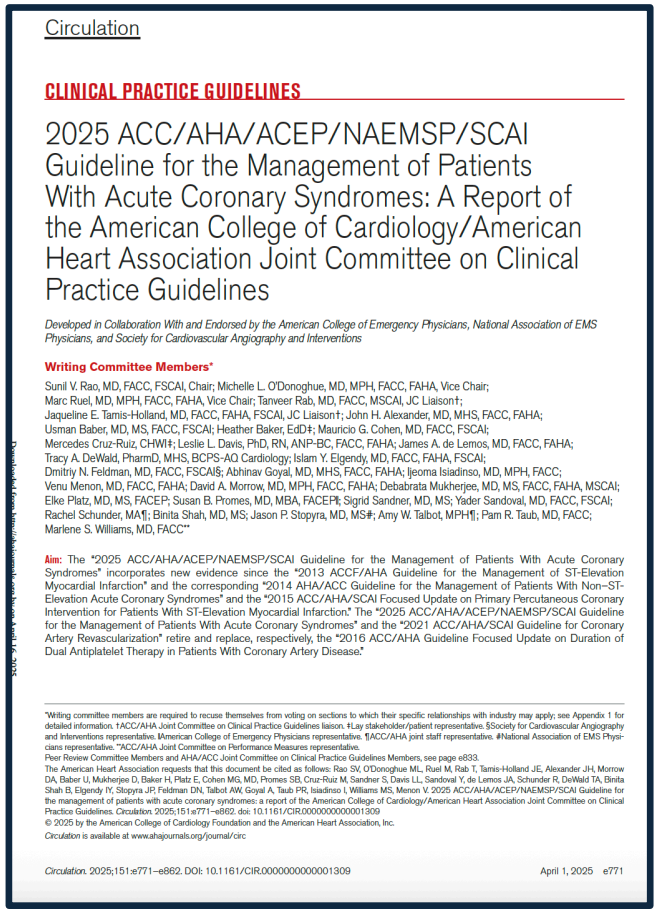
Regional Systems of STEMI Care

Recommendation for Regional Systems of STEMI Care Referenced studies that support recommendation are summarized in the Evidence Table.		
COR	**LOE**	**Recommendation**
1	**B-NR**	1. All communities should create and maintain regional systems of STEMI care that coordinate prehospital and hospital-based STEMI care processes with the goal of reducing total ischemic time and improving survival in patients with STEMI.[1–6]

- **Best clinical practice consists of:**
  - Patients calling 9-1-1 to activate EMS;
  - EMS obtaining a prehospital ECG, activating the cardiac catheterization laboratory from the field for suspected STEMIs,
  - EMS transporting the patient to the nearest PCI center when possible;
  - Achieving a system goal of FMC-to-device time within 90 minutes.
- **Each 30-minute delay in PCI is associated with an increase in the relative risk of 1-year mortality by 7.5%.**

Next Steps

- Supports Systems of Care initiative
- Promotes Establishes 90-minute FMC to device target
- Class 1 Recommendations
  - 10-minute FMC to EKG target
  - Serial EKGs when initial non-diagnostic
  - Bypass to PCI-capable hospital
  - Prearrival notification and activation of cath lab
  - FMG to device time ≤90-minute goal



Circulation

CLINICAL PRACTICE GUIDELINES

2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

Developed in Collaboration With and Endorsed by the American College of Emergency Physicians, National Association of EMS Physicians, and Society for Cardiovascular Angiography and Interventions

Writing Committee Members*

Sunil V. Rao, MD, FACC, FSCAI, Chair; Michelle L. O'Donoghue, MD, MPH, FACC, FAHA, Vice Chair; Marc Ruel, MD, MPH, FACC, FAHA, Vice Chair; Tanveer Rab, MD, FACC, MSCAI, JC Liaison†; Jaqueline E. Tamis-Holland, MD, FACC, FAHA, FSCAI, JC Liaison†; John H. Alexander, MD, MHS, FACC, FAHA; Usman Baber, MD, MS, FACC, FSCAI; Heather Baker, EdD‡; Mauricio G. Cohen, MD, FACC, FSCAI; Mercedes Cruz-Ruiz, CHWI‡; Leslie L. Davis, PhD, RN, ANP-BC, FACC, FAHA; James A. de Lemos, MD, FACC, FAHA; Tracy A. DeWald, PharmD, MHS, BCPS-AQ Cardiology; Islam Y. Elgendy, MD, FACC, FAHA, FSCAI; Dmitriy N. Feldman, MD, FACC, FSCAI§; Abhinav Goyal, MD, MHS, FACC, FAHA; Ijeoma Isiadinso, MD, MPH, FACC; Venu Menon, MD, FACC, FAHA; David A. Morrow, MD, MPH, FACC, FAHA; Debabrata Mukherjee, MD, MS, FACC, FAHA, MSCAI; Elke Platz, MD, MS, FACEP; Susan B. Promes, MD, MBA, FACEP‖; Sigrid Sandner, MD, MS; Yader Sandoval, MD, FACC, FSCAI; Rachel Schunder, MA¶; Binita Shah, MD, MS; Jason P. Stopyra, MD, MS#; Amy W. Talbot, MPH¶; Pam R. Taub, MD, FACC; Marlene S. Williams, MD, FACC**

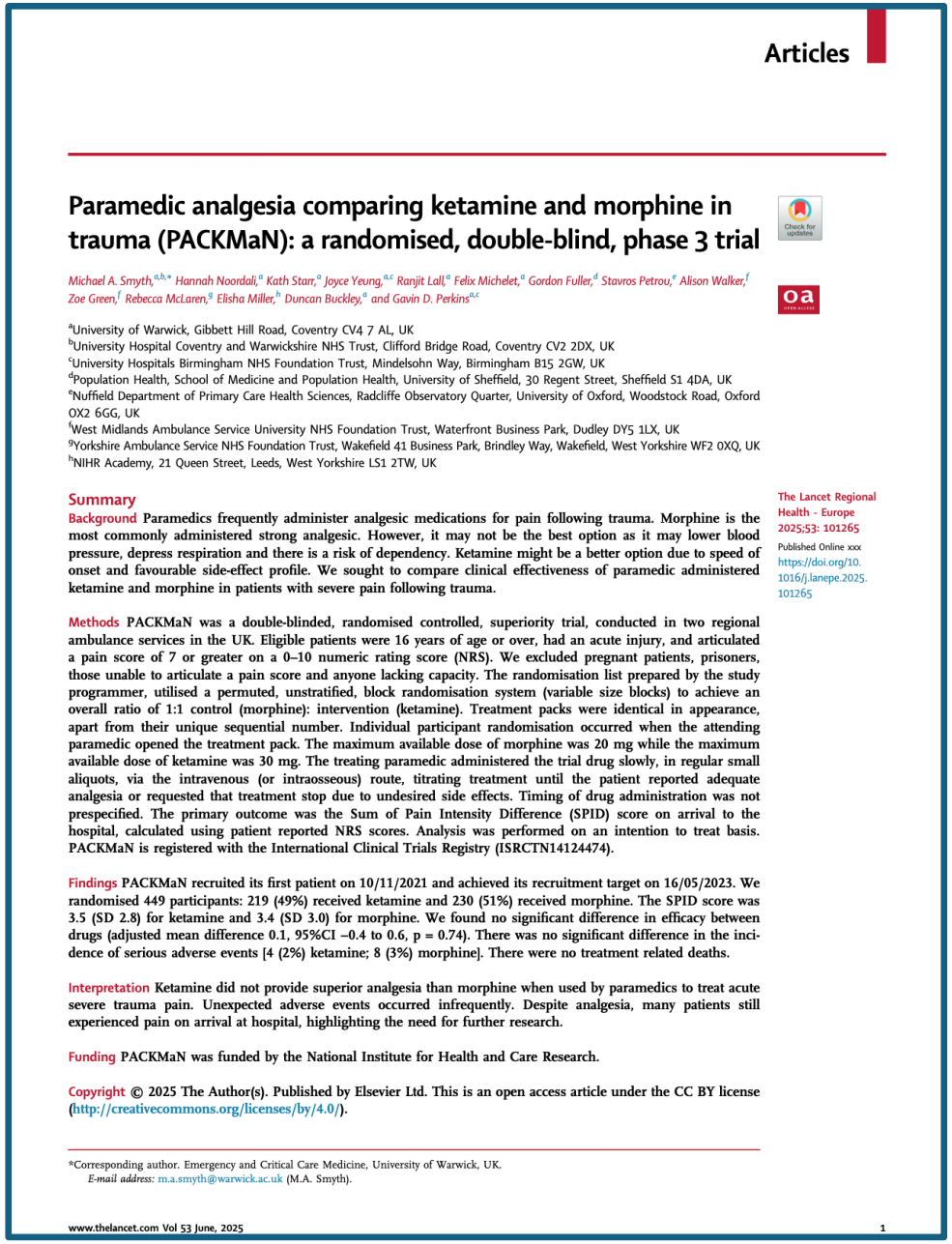
Aim: The "2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes" incorporates new evidence since the "2013 ACCF/AHA Guideline for the Management of ST-Elevation Myocardial Infarction" and the corresponding "2014 AHA/ACC Guideline for the Management of Patients With Non–ST-Elevation Acute Coronary Syndromes" and the "2015 ACC/AHA/SCAI Focused Update on Primary Percutaneous Coronary Intervention for Patients With ST-Elevation Myocardial Infarction." The "2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes" and the "2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization" retire and replace, respectively, the "2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease."

"Writing committee members are required to recuse themselves from voting on sections to which their specific relationships with industry may apply; see Appendix 1 for detailed information. †ACC/AHA Joint Committee on Clinical Practice Guidelines liaison. ‡Lay stakeholder/patient representative. §Society for Cardiovascular Angiography and Interventions representative. ‖American College of Emergency Physicians representative. ¶ACC/AHA joint staff representative. #National Association of EMS Physicians representative. **ACC/AHA Joint Committee on Performance Measures representative.
Peer Review Committee Members and AHA/ACC Joint Committee on Clinical Practice Guidelines Members, see page e833.
The American Heart Association requests that this document be cited as follows: Rao SV, O'Donoghue ML, Ruel M, Rab T, Tamis-Holland JE, Alexander JH, Morrow DA, Baber U, Mukherjee D, Baker H, Platz E, Cohen MG, MD, Promes SB, Cruz-Ruiz M, Sandner S, Davis LL, Sandoval Y, de Lemos JA, Schunder R, DeWald TA, Binita Shah B, Elgendy IY, Stopyra JP, Feldman DN, Talbot AW, Goyal A, Taub PR, Isiadinso I, Williams MS, Menon V. 2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the management of patients with acute coronary syndromes: a report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *Circulation*. 2025;151:e771–e862. doi: 10.1161/CIR.0000000000001309

Circulation is available at www.ahajournals.org/journal/circ

Ketamine vs Morphine for Pain - PACKMaN Study

- UK randomized, double blinded EMS trial – Ketamine (30 mg max) vs Morphine (20 mg max)
- Pain Score ≥7
- Goal: Show Ketamine was superior
- Randomized 449 patients



Paramedic analgesia comparing ketamine and morphine in trauma (PACKMaN): a randomised, double-blind, phase 3 trial

Michael A. Smyth,[a,b,*] Hannah Noordali,[a] Kath Starr,[a] Joyce Yeung,[a,c] Ranjit Lall,[a] Felix Michelet,[a] Gordon Fuller,[d] Stavros Petrou,[e] Alison Walker,[f] Zoe Green,[f] Rebecca McLaren,[g] Elisha Miller,[h] Duncan Buckley,[a] and Gavin D. Perkins[a,c]

[a]University of Warwick, Gibbett Hill Road, Coventry CV4 7 AL, UK
[b]University Hospital Coventry and Warwickshire NHS Trust, Clifford Bridge Road, Coventry CV2 2DX, UK
[c]University Hospitals Birmingham NHS Foundation Trust, Mindelsohn Way, Birmingham B15 2GW, UK
[d]Population Health, School of Medicine and Population Health, University of Sheffield, 30 Regent Street, Sheffield S1 4DA, UK
[e]Nuffield Department of Primary Care Health Sciences, Radcliffe Observatory Quarter, University of Oxford, Woodstock Road, Oxford OX2 6GG, UK
[f]West Midlands Ambulance Service University NHS Foundation Trust, Waterfront Business Park, Dudley DY5 1LX, UK
[g]Yorkshire Ambulance Service NHS Foundation Trust, Wakefield 41 Business Park, Brindley Way, Wakefield, West Yorkshire WF2 0XQ, UK
[h]NIHR Academy, 21 Queen Street, Leeds, West Yorkshire LS1 2TW, UK

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Summary

Background Paramedics frequently administer analgesic medications for pain following trauma. Morphine is the most commonly administered strong analgesic. However, it may not be the best option as it may lower blood pressure, depress respiration and there is a risk of dependency. Ketamine might be a better option due to speed of onset and favourable side-effect profile. We sought to compare clinical effectiveness of paramedic administered ketamine and morphine in patients with severe pain following trauma.

Methods PACKMaN was a double-blinded, randomised controlled, superiority trial, conducted in two regional ambulance services in the UK. Eligible patients were 16 years of age or over, had an acute injury, and articulated a pain score of 7 or greater on a 0–10 numeric rating score (NRS). We excluded pregnant patients, prisoners, those unable to articulate a pain score and anyone lacking capacity. The randomisation list prepared by the study programmer, utilised a permuted, unstratified, block randomisation system (variable size blocks) to achieve an overall ratio of 1:1 control (morphine): intervention (ketamine). Treatment packs were identical in appearance, apart from their unique sequential number. Individual participant randomisation occurred when the attending paramedic opened the treatment pack. The maximum available dose of morphine was 20 mg while the maximum available dose of ketamine was 30 mg. The treating paramedic administered the trial drug slowly, in regular small aliquots, via the intravenous (or intraosseous) route, titrating treatment until the patient reported adequate analgesia or requested that treatment stop due to undesired side effects. Timing of drug administration was not prespecified. The primary outcome was the Sum of Pain Intensity Difference (SPID) score on arrival to the hospital, calculated using patient reported NRS scores. Analysis was performed on an intention to treat basis. PACKMaN is registered with the International Clinical Trials Registry (ISRCTN14124474).

Findings PACKMaN recruited its first patient on 10/11/2021 and achieved its recruitment target on 16/05/2023. We randomised 449 participants: 219 (49%) received ketamine and 230 (51%) received morphine. The SPID score was 3.5 (SD 2.8) for ketamine and 3.4 (SD 3.0) for morphine. We found no significant difference in efficacy between drugs (adjusted mean difference 0.1, 95%CI −0.4 to 0.6, p = 0.74). There was no significant difference in the incidence of serious adverse events [4 (2%) ketamine; 8 (3%) morphine]. There were no treatment related deaths.

Interpretation Ketamine did not provide superior analgesia than morphine when used by paramedics to treat acute severe trauma pain. Unexpected adverse events occurred infrequently. Despite analgesia, many patients still experienced pain on arrival at hospital, highlighting the need for further research.

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E-mail address: m.a.smyth@warwick.ac.uk (M.A. Smyth).

Source:https://www.thelancet.com/action/showPdf?pii=S2666-7762%2825%2900057-2

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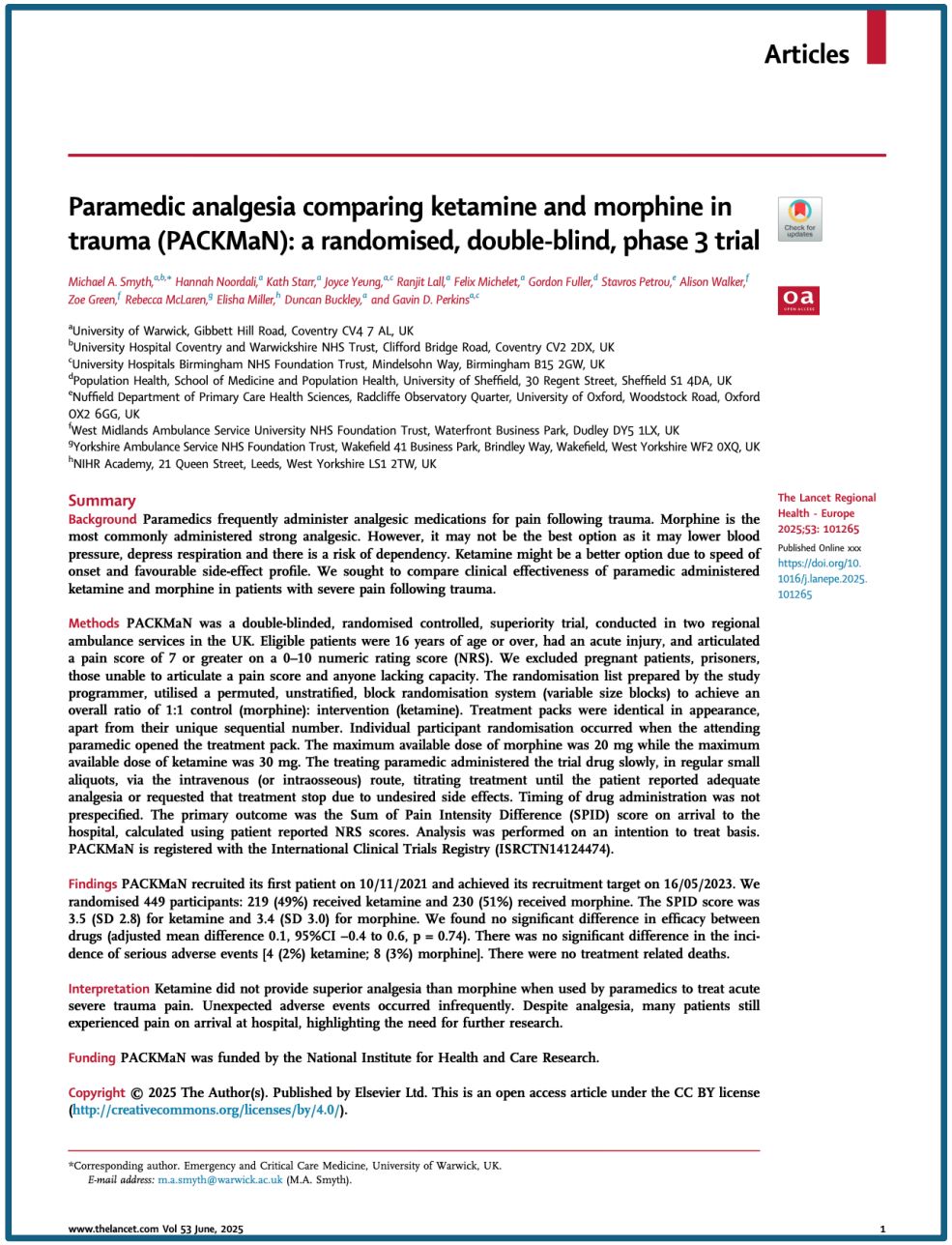
- Ketamine had more rapid onset of action
- Morphine had increased hypoxia



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Thanks – Happy EMS Week

falesw@Michigan.gov