



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



**Ambulance Operations
Procedure
Appropriate Hospital Access for ST Elevation
Myocardial Infarction Patients**

National Ambulance Service (NAS)

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NASCG017 NAS Procedure – Appropriate Hospital Access for ST Elevation Myocardial Infarction Patients Document reference no. NASCG017 Revision no. 0 Approval Date 13th July 2012

Table of Contents:

1.0 Policy	3
2.0 Purpose	3
3.0 Scope	3
4.0 Legislation/other related policies	3
5.0 Glossary of Terms and Definitions	3
6.0 Roles and Responsibilities	4
7.0 Procedure 1	4
8.0 Procedure 2	6
9.0 Implementation Plan	7
10.0 Revision and Audit	7
11.0 References	7
12.0 Appendices	7

NASCG017 NAS Procedure – Appropriate Hospital Access for ST Elevation Myocardial Infarction Patients Document reference no. NASCG017 Revision no. 0 Approval Date 13th July 2012

1.0 POLICY

- 1.1 Patients suffering ST Elevation Myocardial Infarction (STEMI) may benefit from early and direct access to primary percutaneous intervention (PPCI).
- 1.2 Ambulance Control staff have an important role to play in ensuring that such patients are directed to an appropriate facility.
- 1.3 Following direct transfer of the patient with known or suspected STEMI to a hospital capable of delivering PPCI, these patients can be given priority access to optimal reperfusion therapy.

2.0 PURPOSE

- 2.1 The purpose of appropriate hospital access is for the efficient and effective care of the STEMI patient ensuring an optimal reperfusion strategy in their care.
- 2.2 To provide direction to Control Supervisors and Staff on directing crews to the most appropriate facility.
- 2.3 To facilitate an improved clinical care pathway for patients suffering from STEMI.

3.0 SCOPE

- 3.1 This Procedure applies to patients experiencing ST elevation myocardial infarction.
- 3.2 Identification of STEMI patients is based on both clinical and ECG criteria (these are referred to under Section 7.2).
- 3.3 Patients with a suspected acute coronary syndrome that do not meet the criteria in Section 7.2 should be brought to the nearest acute hospital.

4.0 LEGISLATION/OTHER RELATED POLICIES

- A. PHECC Clinical Practice Guidelines (CPGs)

5.0 GLOSSARY OF TERMS AND DEFINITIONS

- 5.1 ST Elevation Myocardial Infarction: ST elevation in two or more contiguous leads (2 mm in leads V2 and V3, or 1 mm in any other leads) or new onset LBBB.

- 5.2 Primary Percutaneous Intervention Centre: a regional centre providing 24/7 access to primary PCI for STEMI patients. These are currently: Mater Misericordiae University Hospital, St James's Hospital, Cork University Hospital, Galway University Hospital, St Vincent's University Hospital. The following hospitals provide PPCI 0900-1700 Monday to Friday: Mid-Western Regional Hospital Limerick, Waterford Regional Hospital.
- 5.3 ECG: electrocardiogram
- 5.4 LBBB: left bundle branch block
- 5.5 Code STEMI: designates a patient with STEMI being prioritised and transported directly to a PPCI centre

6.0 ROLES AND RESPONSIBILITIES

- 6.1 The Control Manager is responsible for dissemination and clarification to all Control Supervisors and Staff
- 6.2 Control Supervisors are responsible for ensuring Control Staff compliance with this Procedure.
- 6.3 The Control Manager is responsible for ensuring Control Supervisor compliance with this Procedure
- 6.4 Education and Competency Assurance Officers and Quality, Safety and Risk Managers, in conjunction with the Area Medical Advisor are responsible for reviewing any related Incident/Near Miss Report.
- 6.5 The Education and Competency Assurance Team are responsible for managing remedial training
- 6.6 Staff involved in the treatment and transport of STEMI patients are responsible for the operation of this Procedure.
- 6.7 It is the responsibility of all staff involved in the care of STEMI patients to provide and maintain care based on the best clinical evidence available.
- 6.8 It is the responsibility of all staff members to work within their own scope of practice.
- 6.9 It is the responsibility of the Paramedic/Advanced Paramedic activating Code STEMI to notify Ambulance Control.
- 6.10 It is the responsibility of Ambulance Control to dynamically deploy available resources to facilitate Code STEMI patients.

7.0 PROCEDURE: STEMI Patient in the Field

7.1 Key Principles

- 7.1.1 The Paramedic/Advanced Paramedic assessing the patient must adhere to the appropriate Clinical Practice Guidelines.

NASCG017 NAS Procedure – Appropriate Hospital Access for ST Elevation Myocardial Infarction Patients Document reference no. NASCG017 Revision no. 0 Approval Date 13th July 2012
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- 7.1.2 In order for Code STEMI to be initiated, Paramedics/Advanced Paramedics must coherently assess the patient and relay pertinent information to the appropriate receiving hospital via direct line (1800 number).
- 7.1.3 The STEMI patient who meets the clinical and ECG criteria outlined in Section 7.2, should be transported directly, subject to Section 3.3, to the nearest appropriate PPCI centre if within 90 minutes transport time. If transport time >90 minutes, proceed to the nearest Emergency Department.
- 7.1.4 Ambulance Control should tag the incident with the code "**Code STEMI**" to facilitate future audit.

7.2 STEMI PPCI Criteria

7.2.1 Clinical Criteria

- A. ST elevation in two or more contiguous leads (2 mm in leads V2 and V3, or 1 mm in any other leads) or new onset LBBB.
- B. Clinical picture consistent with acute coronary syndrome.

7.2.2 Criteria for direct transport to PPCI centre

- A. STEMI present
- B. symptom onset of any duration
- C. estimated transport time to PPCI centre <90 minutes

Proceed directly to PPCI centre

7.3 PPCI Direct Access Procedure - CODE STEMI

- 7.3.1 Once STEMI diagnosed and decision by Paramedic/Advanced Paramedic crew that PPCI is indicated (as per sections 7.2.1 and 7.2.2) **immediately initiate transport** to PPCI Centre. Inform Ambulance Control of **CODE STEMI** status
- 7.3.2 If an Advanced Paramedic not present on the call, request AP to intercept vehicle whilst en route to PPCI centre. This should not delay transport to PPCI centre
- 7.3.3 Contact receiving PPCI centre via direct phone line of **CODE STEMI** status, with appropriate patient clinical history. This call is to alert receiving Centre and will not result in crew being diverted to another facility.
- 7.3.4 If requested by PPCI Centre and technically possible, transmit 12 lead ECG. Failure of transmission will not result in crew being diverted to another facility.

7.3.5 PPCI centre will advise crew to transport patient to either:

- A. Cardiac Catheterisation Laboratory (cath lab), or;
- B. Emergency Department

7.3.6 Handover of patient to receiving Cardiology Team at PPCI centre should be completed within 20 minutes of arrival - crew should then immediately return to operational area.

7.3.7 If handover exceeds 20 minutes crew should notify Ambulance Control whom will then contact PPCI Centre to request crew release.

8.0 PROCEDURE: STEMI Patient in an Emergency Department

8.1 Key Principles

8.1.1 Some STEMI patients will present to Emergency Departments by means other than by emergency ambulance. If the ED is not a PPCI centre, the patient will require time critical transport to a PPCI centre

8.1.2 Referral to the PPCI centre will be done by clinical staff in the referring ED.

8.1.3 Clinical staff in the referring ED will contact Ambulance Control requesting time critical transport for a **CODE STEMI** patient.

8.2 Control Procedures: CODE STEMI patient in an ED

8.2.1 On receiving a request for time critical transport for a CODE STEMI patient allocate a dispatch code of 33-C-4 to this call

8.2.2 The nearest available ambulance should be allocated to this call unless an AS1 Call with a higher acuity is holding (i.e. Delta or Echo).

8.2.3 If an Advanced Paramedic crewed transporting vehicle is the nearest available resource, this vehicle should be allocated to the call. If not, a Paramedic crewed vehicle should be allocated to the call. It is not appropriate to allocate an Advanced Paramedic crewed vehicle in preference to a Paramedic crewed vehicle to this call if this will delay the initiation of transport from the ED to the PPCI centre. It may be possible to have an AP intercept the crew whilst en route to the PPCI centre.

8.3 Procedures for Paramedics/Advanced Paramedics: CODE STEMI Patient in an ED

NASCG017 NAS Procedure – Appropriate Hospital Access for ST Elevation Myocardial Infarction Patients Document reference no. NASCG017 Revision no. 0 Approval Date 13th July 2012
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- 8.3.1 In most cases, the referring ED will not be supplying a medical or nursing escort for this patient.
- 8.3.2 The senior referring clinician will determine the need or otherwise for a nursing or medical escort.
- 8.3.3 Care for the patient should be provided as per current PHECC Clinical Practice Guidelines.
- 8.3.4 Patients should be transferred direct to the Cardiac Catheterisation Laboratory in the receiving PPCI Centre

9.0 IMPLEMENTATION PLAN

- 9.1 This Procedure will be circulated electronically to all Managers, all Supervisors and Staff
- 9.2 This Procedure will be available electronically in each Ambulance Station for ease of retrieval and reference
- 9.3 Each Operational Support and Resilience Manager will ensure that the Manager/Supervisor responsible for updating Policies and Procedures will return the Confirmation Form to NAS Headquarters to confirm document circulation to all staff.

10.0 REVISION AND AUDIT

- 10.1 This Procedure will remain under constant review and may be subject to change to facilitate any changes/developments in service requirements.
- 10.2 The Control Manager and relevant medical personnel will monitor compliance on an ongoing and informal basis through regular contact and will meet to identify and implement appropriate amendments or corrective measures where deemed necessary
- 10.3 The Control Manager will monitor the number of direct access journeys and the impact of this Procedure on resource availability
- 10.4 Quality, Safety and Risk Managers in conjunction with the Education and Competency Assurance Officers and Area Medical Advisor will initiate a review any related Incident/Near Miss Report.

11.0 REFERENCES

None

12.0 APPENDICES

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APPENDIX II

NAS STEMI Access Protocol - Summary

1. CODE STEMI Patient in the Field:

- STEMI present
- symptom onset of any duration
- estimated transport time to PPCI centre <90 minutes
- **Proceed directly to PPCI centre**

Once decision made to initiate transport to PPCI centre

- Inform Ambulance Control of **CODE STEMI** status
- Contact receiving PPCI centre via direct phone line of **CODE STEMI** status, with appropriate patient clinical history. This call is to alert receiving Centre and will not result in crew being diverted to another facility
- Request AP if not on the call already
- If requested by PPCI Centre and technically possible, transmit 12 lead ECG. Failure of transmission will not result in crew being diverted to another facility.
- PPCI centre will advise crew to transport patient to either:
 - Cardiac Catheterisation Laboratory (Cath Lab), or;
 - Emergency Department
- Handover of patient to receiving Cardiology Team at PPCI centre should be completed within 20 minutes of arrival - crew should then immediately return to operational area.
- If handover exceeds 20 minutes crew should notify Ambulance Control whom will then contact PPCI Centre to request crew release.

2. CODE STEMI patient in ED

- Ambulance Control to allocate Dispatch Code 33-C-04 and allocate nearest available emergency ambulance
- In most cases, ED will not be providing medical or nursing escort