



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive



**Ambulance Operations  
Procedure  
Appropriate Hospital Access for  
Suspected Acute Stroke Patients**

**National Ambulance Service (NAS)**

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## **1.0 POLICY/RATIONALE**

- 1.1 Acute Stroke is a medical emergency and should be given priority in terms of response, evaluation and transportation.
- 1.2 Ambulance Control staff have an important role to play in recognising that a patient may have suffered an acute stroke. This enables activation of rapid ambulance response and expedites prompt access to emergency assessment and treatment including potential thrombolysis therapy if patient can be seen and assessed in the acute hospital within 4 hours of symptom onset.
- 1.3 The use of AMPDS may assist in the early recognition of acute stroke during the initial phone contact interview with a patient or their GP.
- 1.4 Following rapid transfer of the suspected acute stroke patient to a hospital with a designated thrombolysis service, these patients can be given priority access to care, assessment including neuroimaging, and treatment such as thrombolysis to optimise patient outcomes.

## **2.0 PURPOSE**

- 2.1 The purpose of appropriate hospital access is for the efficient and effective care of the suspected acute stroke patient who may require a specialized and/or multidisciplinary approach to care which is not available at the nearest hospital.
- 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 known or suspected acute stroke.

## **3.0 SCOPE**

- 3.1 This Procedure applies to patients who are suspected of having an acute stroke with an acute episode of neurological deficit (without any evidence of trauma) and who can be transported to the relevant Emergency Department within 4.5 hours of symptom onset
- 3.2 **THIS PROCEDURE APPLIES TO THOSE STAFF AND AREAS (INCLUDING HOSPITAL CATCHMENT AREAS) WHO MAY BE IMPACTED BY ARRANGEMENTS AGREED BETWEEN THE NAS AND RELEVANT HOSPITAL EMERGENCY DEPTS-REFER TO LOCAL PROTOCOL**

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## 4.0 LEGISLATION/OTHER RELATED POLICIES

- A. PHECC 3<sup>rd</sup> Edition Clinical Practice Guidelines (CPG)

## 5.0 GLOSSARY OF TERMS AND DEFINITIONS

### 5.1 Terms

- A. **AMPDS** - Advanced Medical Priority Dispatch System.
- B. **FAST** - Face, Arm, Speech Test
- C. **ASHICE** - Age, Sex, History, Injuries sustained, Condition, ETA
- D. **"COLD"** - Normal Traffic Driving
- E. **"HOT"** - Emergency Driving (Blue lights and Sirens)
- F. **PCR** - Patient Care Report
- G. **CPG** - Clinical Practice Guidelines
- H. **CPG - A** - Clinical Practice Guidelines – Advanced
- I. **"ALPHA"** - Sending the closest response "'COLD"
- J. **"BRAVO"** - Sending the closest response "'COLD" or "'HOT"
- K. **"CHARLIE"** - Sending the closest response "'COLD" or "'HOT"
- L. **"DELTA"** - Sending the closest response "'HOT" (Life threatening)
- M. **"ECHO"** - Sending the closest response "'HOT" (Life threatening)

### 5.2 Definitions

- 5.2.1 For the purposes of this Procedure, Suspected Acute Stroke is defined as i) any patient provisionally diagnosed with same by a General Practitioner; ii) any patient provisionally diagnosed by AMPDS as Chief Complaint "28", iii) any patient FAST positive as per PHECC CPG 5/6.4.22
- 5.2.2 AMPDS is a medically approved, unified system used by emergency medical dispatch centres to dispatch appropriate aid to medical emergencies which includes 1. systematised caller interrogation; 2. systematised pre-arrival instructions and 3. Protocols, which match the Dispatcher's evaluation of the injury or illness type and severity with vehicle response mode and configuration.

## **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 The lead Manager for Risk Management is responsible for reviewing any related Incident/Near Miss Report.
- 6.5 The responsibility for managing remedial training lies with the Education and Competency Assurance Team
- 6.6 Staff involved in the treatment and transport of suspected acute stroke patients are responsible for the operation of this Procedure.
- 6.7 It is the responsibility of all staff involved in the care of suspected acute stroke 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 "Appropriate Hospital Access" to notify Ambulance Control.
- 6.10 It is the responsibility of Ambulance Control to dynamically deploy available resources to facilitate "Appropriate Hospital Access"

## **7.0 PROCEDURE**

### **7.1 Key Principles**

- 7.1.1 The Paramedic/Advanced Paramedic assessing the patient must adhere to the appropriate Clinical Practice Guidelines, in particular CPG 5/6.4.22 "Stroke".
- 7.1.2 In order for appropriate hospital access to be initiated, Paramedics/Advanced Paramedics must coherently assess the patient and relay pertinent information to the appropriate receiving hospital via Ambulance Control.
- 7.1.3 Ambulance Control should establish and record the reason for initiating "Appropriate Hospital Access" in the Incident Note Pad.
- 7.1.4 Ambulance Control should tag the incident with the code "**AHA**" to facilitate future audit.

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## **7.2 AS1 - 999 Emergency Calls**

- 7.2.1 999 calls prioritised as 28 "Bravo" or "Charlie" by AMPDS (will flag as Red), should be dispatched immediately on a "Delta" Response.
- 7.2.2 999 calls prioritised as 28 "Alpha" by AMPDS (will flag as Yellow), should be dispatched immediately on a "COLD" Response.
- 7.2.3 Attempt to establish time of onset of symptoms and advise responding crew accordingly.
- 7.2.4 Where responding crew confirm via radio report that patient is FAST Positive, pre-alert destination Emergency Dept. and advise that patient is FAST Positive with time of onset of symptoms (where known), in addition to normal ASHICE Report.

## **7.3 AS2 — GP Urgent Call; AS3-Emergency Interhospital Transfers**

- 7.3.1 GP Urgent calls prioritised as "Suspected Stroke" by a GP should be dispatched immediately on a "Delta" Response.
- 7.3.2 Where responding crew confirm via radio report that patient is FAST Positive, pre-alert destination Emergency Dept. and advise that patient is FAST Positive with time of onset of symptoms (where known), in addition to ASHICE Report.
- 7.3.3 Suspected stroke patients may self present to Emergency Departments at a time when stroke thrombolysis treatment is not available in that hospital. They may thus, if considered appropriate clinically and within the time window, need to be transferred urgently to a thrombolysis capable facility. These calls should be dispatched immediately on a "Delta" response.
- 7.3.4 On occasion, an existing hospital in-patient may sustain a stroke at a time when stroke thrombolysis is not available in that hospital. They may thus, if considered appropriate clinically and within the time window, need to be transferred urgently to a thrombolysis capable facility. These calls should be dispatched immediately on a 'Delta' response.

## **7.4 Assessment**

- 7.4.1 Perform if the patient has any TIME CRITICAL features.

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7.4.2 TIME CRITICAL features include any major ABC problem or deeply unconscious patients-GCS <8.

7.4.3 If any of these features are present, correct as per appropriate CPG and transport to the nearest Emergency Department.

7.4.4 If there are no TIME CRITICAL features perform FAST Test

<p><b>F – facial weakness</b> Can the patient smile?, Has their mouth or eye drooped? Which side?</p> <p><b>A – arm weakness</b> Can the patient raise both arms and maintain for 5 seconds?</p> <p><b>S – speech problems</b> Can the patient speak clearly and understand what you say?</p> <p><b>T – time to transport now if positive FAST</b></p>
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7.4.5 Helpful statement to have patient repeat to assess speech:  
"You can't teach an old dog new tricks"

7.4.6 FAST POSITIVE is defined as positive on any one or more of the above (see box)

7.4.7 If the findings of the FAST Test are positive, attempt to establish time of onset of symptoms by asking the following:

- A. To patient - "When was the last time you remember before you became weak, paralyzed, or unable to speak clearly?"
- B. To family or bystander - "When was the last time you remember before the patient became weak, paralyzed, or unable to speak clearly?"
- C. In particular, enquire if the symptoms and signs were of sudden onset, as acute onset is the hallmark of acute stroke.

7.4.8 If the patient is FAST positive, does not have any time critical features, and onset of acute stroke was at a time which will allow arrival at the receiving Emergency Department within 4 hours of symptom onset then, initiate transport to the designated local stroke receiving Emergency Department (REFER TO LOCAL PROTOCOL).The receiving ED should be pre-alerted with an ASHICE report as well as notification that the patient is FAST positive.

## 7.5 Caution

7.5.1 Consider other causes of altered mental status (Stroke "mimics"), i.e. hypoxia, hypoperfusion, hypoglycaemia or overdose

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- 7.5.2 May have airway and breathing problems if deeply comatose
- 7.5.3 Level of consciousness may vary from alert to unresponsive
- 7.5.4 Assess blood glucose level. Always check if the patient is diabetic, as the symptoms and signs of hypoglycaemia may present as an acute stroke.

## **8.0 IMPLEMENTATION PLAN**

- 8.1 This Procedure will be circulated electronically to all Officers, all Supervisors and Staff
- 8.2 This Procedure will be available electronically in each Ambulance Station for ease of retrieval and reference
- 8.3 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.

## **9.0 REVISION AND AUDIT**

- 9.1 This Procedure will remain under constant review and may be subject to change to facilitate any changes/developments in service requirements.
- 9.2 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.
- 9.3 The Control Manager will monitor the number of direct access journeys and the impact of this Procedure on resource availability.
- 9.4 The Manager with lead responsibility for Risk Management will initiate a review any related Incident/Near Miss Report.

## **10.0 REFERENCES**

- Porteous GH, Corry MD et al. Emergency medical services dispatcher identification of stroke and transient ischemic attack. Prehosp Emerg Care, 1999; 3(3):211-6.
- ACT NOW EXPERT REPORT 2004 - Improving patient management and outcomes in acute stroke: a coordinated approach
- Thrombolysis with alteplase 3-4.5 hours after acute ischaemic stroke (SITS-ISTR): an observational study Nils Wahlgren, Niaz Ahmed, Antoni Davalos, Werner Hacke, Monica Millan,

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Keith Muir, Risto O Roine, Danilo Toni, Kennedy R Lees, for  
the SITS investigators

## **11.0 APPENDICES**

**Appendix I** - Procedure Acknowledgement Form

**Appendix II** -Protocol Summary Paramedics & Advanced  
Paramedics

**Appendix III** -Protocol Summary Emergency Medical Controllers

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### Appropriate Hospital Access for Stroke Patients: Summary For Paramedics and Advanced Paramedics

Suspected acute stroke patients are defined as those patients that are FAST positive (reference PHECC CPG 5/6.4.22)

<p><b>F – facial weakness</b> Can the patient smile?, Has their mouth or eye drooped? Which side?</p> <p><b>A – arm weakness</b> Can the patient raise both arms and maintain for 5 seconds?</p> <p><b>S – speech problems</b> Can the patient speak clearly and understand what you say?</p> <p><b>T – time to transport now if positive FAST</b></p>
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Patients that satisfy the following three criteria are eligible for appropriate hospital access:

- FAST positive;
- stroke onset within 4 hours of anticipated arrival by transporting crew at designated receiving Emergency Department;
- absence of time critical features (significant airway, breathing or circulation problem or GCS <8).

If patients satisfy these three criteria they should be transported to the receiving hospital designated in the Local Arrangements annexe to this SOP.

**\*\*FAST Positive/4 Hours/No Time Critical Features\*\***

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## Appropriate Hospital Access for Stroke Patients: Summary For Emergency Medical Controllers

### AS1 Calls

999 calls prioritised as 28 "Bravo" or "Charlie" by AMPDS (will flag as Red), should be dispatched immediately on a "Delta" Response.

999 calls prioritised as 28 "Alpha" by AMPDS (will flag as Yellow), should be dispatched immediately on a "COLD" Response.

### AS 2/3 Calls

GP Urgent calls prioritised as "Suspected Stroke" by a GP, or interhospital transfers for emergency thrombolysis should be dispatched immediately on a "Delta" Response.

### All Calls

Attempt to establish time of onset of symptoms and advise responding crew accordingly.

Where responding crew confirm via radio report that patient is FAST Positive, pre-alert destination Emergency Dept. and advise that patient is FAST Positive with time of onset of symptoms (where known), in addition to normal ASHICE Report.

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