

Out of Hospital Cardiac Arrest: Clinical Questionnaire

A. Introduction

What is this study about:

The aim of the study is to investigate variation and remediable factors in the processes of care of patients admitted to hospital following an Out of Hospital Cardiac Arrest (OHCA).

Inclusions

Adult patients (aged 16 and older) that arrive in hospital after suffering an OHCA and achieve subsequent sustained (>20 minutes) return of spontaneous circulation (ROSC). Data was collected for the whole of 2018.

Exclusions

- Cases where the patient's admission to hospital following OHCA and ROSC was due to trauma, drowning, drug overdose or poisoning
- Cardiac arrests which occur during inter-hospital transfers or on acute NHS hospital premises

Who should complete the questionnaire?

The questionnaire should be completed by the consultant responsible for the patient at the time of admission (or in the emergency department if the patient was not admitted).

Questions or help:

Further information regarding this study can be found here: <https://www.ncepod.org.uk/Ohca.html>

If you have any queries about this study or this questionnaire, please contact: ohca@ncepod.org.uk or telephone 020 7251 9060.

CPD accreditation:

Consultants who complete NCEPOD questionnaires make a valuable contribution to the investigation of patient care. Completion of questionnaires also provides an opportunity for consultants to review their clinical management and undertake a period of personal reflection. These activities have a continuing medical and professional development value for individual consultants. Consequently, NCEPOD recommends that consultants who complete NCEPOD questionnaires keep a record of this activity which can be included as evidence of internal/self directed Continuous Professional Development in their appraisal portfolio.

About NCEPOD

The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) reviews healthcare practice by undertaking confidential studies, and makes recommendations to improve the quality of the delivery of care, for healthcare professionals and policymakers to implement. Data to inform the studies are collected from NHS hospitals and Independent sector hospitals across England, Scotland, Wales, Northern Ireland and the Offshore Islands. NCEPOD are supported by a wide range of bodies and the Steering Group consists of members from the Medical Royal Colleges and Specialist Associations, as well as observers from The Coroners Society of England and Wales, and the Healthcare Quality Improvement Partnership (HQIP).

Impact of NCEPOD

Recommendations from NCEPOD reports have had an impact on many areas of healthcare including:

Development of the NICE 'Acutely ill patients in hospital guideline' (CG50) – following publication of the 2005 NCEPOD 'An Acute Problem' report.

Appointment of a National Clinical Director for Trauma Care – following publication of 'Trauma: Who Cares?' 2007.

Development of NICE Clinical Guidelines for Acute Kidney Injury, published 2013 – 'Adding Insult to Injury' 2009.

Development of ICS Standards for the care of adult patients with a temporary Tracheostomy, published 2014 – 'On the right trach?' 2014.

Development of guidelines from the British Society of Gastroenterology: diagnosis and management of acute lower gastrointestinal bleeding, published 2019 – 'Time to Get Control' 2015.

Development of the British Thoracic Society's Quality Standards for NIV, published 2018 – 'Inspiring Change' 2017.

This study was commissioned by The Healthcare Quality Improvement Partnership (HQIP) as part of the Clinical Outcome Review Programme into Medical & Surgical care.

B. Patient Details

1a. Age at presentation to hospital

 years

Unknown

1b. Sex

Male

Female

2a. Had the patient been recently discharged from hospital (within 30 days)?

Yes

No

Unknown

**2b. If answered "Yes" to [2a] then:
What was the reason for the admission?**

3a. Was the patient entered into a clinical trial for their cardiac arrest treatment?

Yes

No

Unknown

**3b. If answered "Yes" to [3a] then:
Which trial?**

C. Details of Initial Cardiac Arrest

1a. Date of cardiac arrest

Unknown

1b. Time of cardiac arrest

Unknown

1c. Where did the cardiac arrest occur?

- Own home
- Residential home
- Transport hub (station/airport etc)
- Nursing home
- Work place
- Public place

If not listed above, please specify here...

2a. Was the cardiac arrest:

- Witnessed (bystander)
- Witnessed (emergency medical service present)
- Unwitnessed
- Unknown

If not listed above, please specify here...

2b. Was CPR given by a bystander?

- Yes
- No
- Unknown

2c. Initial rhythm (pre-hospital)

- Shockable
- Non shockable
- Unknown

If not listed above, please specify here...

3a. Was it documented on the ambulance patient report form (PRF) that there was a delay in commencing CPR?

- Yes
- No
- Not applicable
- Unknown

**3b. If answered "Yes" to [3a] then:
How long was the delay?**

 minutes

Unknown

4a. Best post-arrest conscious level pre-hospital: (highest ACVPU):

- Alert
- Pain
- Unknown
- Confusion
- Unresponsive
- Verbal
- Not applicable GCS recorded

4b. Best post-arrest conscious level pre-hospital: (highest GCS):

- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- Not applicable ACVPU recorded
- Unknown

5a. Was the patient transported:

- In cardiac arrest With ROSC ROSC achieved in transit
 Unknown

If not listed above, please specify here...

5b. Time sustained ROSC (> 20 minutes) achieved

Unknown

5c. Initial rhythm on sustained ROSC:

- Sinus Atrial fibrillation Heart block
 Bradycardia Narrow complex tachycardia Broad complex tachycardia
 Unknown

If not listed above, please specify here...

1. Where was the patient first received in hospital?

- Emergency Department
 Direct to PCI service (cardiac catheterisation lab)
 Unknown

If not listed above, please specify here...

2a. Date of arrival to ED or other first hospital location

 Unknown
2b. Time of arrival to ED or other first hospital location

 Unknown
2c. Was a pre-alert system used?

- Yes No Unknown

2d. Was there a co-ordinated team response on arrival?

- Yes No Unknown

2e. Who saw the patient on arrival?

Please indicate speciality and grade of each person

3a. To which ward was the patient first admitted post ED and/or PCI service?

- | | |
|--|---|
| <input type="radio"/> General/acute medical ward (level 0/1) | <input type="radio"/> Cardiology ward (level 0/1) |
| <input type="radio"/> General Critical Care (level 3) | <input type="radio"/> General Critical Care (mixed level 2/3) |
| <input type="radio"/> General Critical Care (level 2) | <input type="radio"/> Cardiac Critical Care (level 3) |
| <input type="radio"/> Cardiac Critical Care (level 2) | <input type="radio"/> Coronary care unit (level 2) |
| <input type="radio"/> Unknown | <input type="radio"/> NA patient died in ED or PCI service |

If not listed above, please specify here...

**3b. If answered "General/acute medical ward (level 0/1)", "Cardiology ward (level 0/1)", "General Critical Care (level 3)", "General Critical Care (mixed level 2/3)", "General Critical Care (level 2)", "Cardiac Critical Care (level 3)", "Cardiac Critical Care (level 2)", "Coronary care unit (level 2)" or "Unknown" to [3a] then:
Was the patient admitted to a level 2/3 ward at any point during this admission?**

- Yes No Unknown

4. Did the patient have a DNACPR order at any stage?

- Yes prior to admission
- No

- Yes made during this admission
- Unknown

If not listed above, please specify here...

5. After initial sustained ROSC (>20 minutes) was achieved, did the patient receive further CPR in hospital?

- Yes
- No
- Unknown

1a. Was the patient discussed with a cardiologist?

- Yes No Unknown

1b. Was the patient reviewed by a cardiologist?

- Yes No Unknown

1c. If answered "Yes" to [1b] then:

What was the grade of the most senior cardiologist that reviewed the patient?

- Consultant or equivalent ST3 or above ST2 or below
 Unknown

If not listed above, please specify here...

2a. Was the patient taken to the cath lab at any point during this hospital attendance/admission?

- Yes No Unknown

2b. If answered "Yes" to [2a] then:

Was coronary revascularization indicated?

- Yes No Unknown

2c. If answered "Yes" to [2a] and "Yes" to [2b] then:

Was coronary revascularization attempted?

- Yes No Unknown

2d. If answered "Yes" to [2a] and "Yes" to [2b] and "Yes" to [2c] then:

Was coronary revascularization successful?

- Yes No Unknown

3a. If answered "Yes" to [2a] then:

In your opinion was there a delay in going to the cath lab?

- Yes No Unknown

3b. If answered "Yes" to [2a] and "Yes" to [3a] then:

Was this delay (cath lab new)

- Clinical Non-clinical Clinical and non-clinical
 Unknown

If not listed above, please specify here...

3c. If answered "Yes" to [2a] and "Yes" to [3a] and "Clinical", "Non-clinical" or "Clinical and non-clinical" to [3b] then:

Please expand on your answer (cath lab delay)

4a. In your opinion was there room for improvement in the cardiac management of this patient?

Eg cardiology review, revascularisation. Please answer this question even if the patient did not go to the cath lab.

Yes

No

Unknown

4b. If answered "Yes" to [4a] then:

Please expand on your answer (cardiac care)

F. Targeted Temperature Management

1a. Does your hospital have a local policy/procedure that includes targeted temperature management (TTM) post ROSC?

- Yes No Unknown

1b. Was targeted temperature management (TTM) used?

- Yes No Unknown

**1c. If answered "Yes" to [1a] and "Yes" to [1b] then:
Was the local policy/procedure followed?**

- Yes No Unknown

**1d. If answered "Yes" to [1b] and "Yes" to [1a] and "No" to [1c] then:
If the local policy/procedure was not followed why was this (TTM)?**

**2a. If answered "Yes" to [1b] then:
How was TTM delivered?**

- Ice packs Cold intravenous fluids External cooling device
 Intravascular device Unknown

Please specify any additional options here...

**2b. If answered "Yes" to [1b] then:
Was the TTM device controlled using feedback of temperature measurement?**

- Yes No Unknown

**2c. If answered "Yes" to [1b] then:
Was TTM discontinued earlier than planned?**

- Yes No Unknown

3a. In your opinion was there room for improvement in the TTM management of this patient?

Please answer this question even if TTM was not undertaken

- Yes No Unknown

**3b. If answered "Yes" to [3a] then:
Please expand on your answer (TTM)?**

1a. Highest GCS within 24 hours of ROSC?

- | | | | |
|--------------------------|-------------------------------|--------------------------|--------------------------|
| <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 |
| <input type="radio"/> 7 | <input type="radio"/> 8 | <input type="radio"/> 9 | <input type="radio"/> 10 |
| <input type="radio"/> 11 | <input type="radio"/> 12 | <input type="radio"/> 13 | <input type="radio"/> 14 |
| <input type="radio"/> 15 | <input type="radio"/> Unknown | | |

1b. Highest GCS during admission?

- | | | | |
|--------------------------|-------------------------------|--------------------------|--------------------------|
| <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 |
| <input type="radio"/> 7 | <input type="radio"/> 8 | <input type="radio"/> 9 | <input type="radio"/> 10 |
| <input type="radio"/> 11 | <input type="radio"/> 12 | <input type="radio"/> 13 | <input type="radio"/> 14 |
| <input type="radio"/> 15 | <input type="radio"/> Unknown | | |

2. Was continuous EEG monitoring used?

- Yes No Unknown

3. Was the patient able to obey commands at any stage of the admission?

- Yes No Unknown

4a. Was any seizure activity noted?

- Yes No Unknown

**4b. If answered "Yes" to [4a] then:
When was seizure activity noted?**

- < 24h 24-48h > 48h Time unknown

Please specify any additional options here...

**4c. If answered "Yes" to [4a] then:
What type of seizure?**

- | | |
|--|---|
| <input type="checkbox"/> Focal/partial | <input type="checkbox"/> Generalised |
| <input type="checkbox"/> Myoclonic | <input type="checkbox"/> Non-convulsive (EEG diagnosed) |
| <input type="checkbox"/> Unknown | |

Please specify any additional options here...

4d. Were anti-epileptic drugs started?

- Yes No Unknown

5a. In your opinion was there room for improvement in the neurological management of this patient?

- Yes No Unknown

**5b. If answered "Yes" to [5a] then:
Please expand on your answer (neurological)**

1a. Does your hospital have a local policy/procedure that includes neurological prognostication post ROSC?

- Yes No Unknown

1b. Was neurological prognostication undertaken?

- Yes No Unknown

**1c. If answered "Yes" to [1a] and "Yes" to [1b] then:
Was the local policy/procedure followed (neuro prog)?**

- Yes No Unknown

**1d. If answered "Yes" to [1a] and "Yes" to [1b] and "No" to [1c] then:
If the local policy/procedure was not followed why was this (NP)?**

**1e. If answered "Yes" to [1b] then:
Which of the following were used:**

- Clinical prognostication Imaging
 Electrophysiology Biomarkers of neurological injury

Please specify any additional options here...

**1f. If answered "Clinical prognostication" to [1e] then:
Clinical prognostication:**

- Pupillary light reflexed Corneal reflexes Motor response to pain

Please specify any additional options here...

**1g. If answered "Imaging" to [1e] then:
Imaging:**

- CT Brain /cerebral CTA MRI Brain /Diffusion Weighted Imaging
 4 vessel cerebral catheter angiography

Please specify any additional options here...

**1h. If answered "Electrophysiology" to [1e] then:
Electrophysiology:**

- EEG intermittent
 EEG continuous
 EEG with Bispectral (BIS) monitoring
 SSEPs (short-latency somatosensory evoked potentials)

Please specify any additional options here...

**1i. If answered "Biomarkers of neurological injury" to [1e] then:
Biomarkers of neurological injury:**

- Neuron-specific enolase (NSE) S-100B

Please specify any additional options here...

2a. If answered "Yes" to [1b] then:

In your opinion was the timing of neurological prognostication appropriate?

- Yes No Unknown

2b. If answered "Yes" to [1b] and "No" to [2a] then:

Please expand on your answer (timing of prognostication)

3a. In your opinion was there room for improvement in the neurological prognostication of this patient?

- Yes No Unknown

3b. If answered "Yes" to [3a] then:

Please expand (process prognostication)

1a. Outcome from this hospital admission:

- Died
- Discharged alive
- Transferred to another hospital for medical management
- Transferred to a rehabilitation unit

If not listed above, please specify here...

1b. What was the date of discharge or death?

Unknown

1c. What was the time of discharge or death?

Unknown

**1d. If answered "Discharged alive" to [1a] then:
What was the discharge location?**

- Usual place of residence
- Residential home
- Other residence (e.g. family member)
- Nursing home

If not listed above, please specify here...

**1e. If answered "Discharged alive", "Transferred to another hospital for medical management" or "Transferred to a rehabilitation unit" to [1a] then:
Outcome 6 months post discharge:**

- Alive
- Died
- Unknown

**2a. If answered "Discharged alive" to [1a] then:
Was the patient assessed by a heart rhythm specialist prior to discharge?**

- Yes
- No
- Unknown

**2b. If answered "Discharged alive" to [1a] and "Yes" to [2a] then:
What was the outcome of the assessment?**

**3a. If answered "Discharged alive" to [1a] then:
Was the patient assessed for physical rehabilitation?**

- Yes
- No
- Unknown

**3b. If answered "Discharged alive" to [1a] and "Yes" to [3a] then:
Did the patient require physical rehabilitation?**

- Yes
- No
- Unknown

**3c. If answered "Discharged alive" to [1a] and "Yes" to [3a] and "Yes" to [3b] then:
Did the patient receive physical rehabilitation?**

- Yes
- No
- Unknown

**4a. If answered "Discharged alive" to [1a] then:
Was the patient assessed for neurological rehabilitation?**

- Yes
- No
- Unknown

**4b. If answered "Discharged alive" to [1a] and "Yes" to [4a] then:
Did the patient require neurological rehabilitation?**

- Yes
- No
- Unknown

**4c. If answered "Discharged alive" to [1a] and "Yes" to [4a] and "Yes" to [4b] then:
Did the patient receive neurological rehabilitation?**

- Yes No Unknown
-

**5a. If answered "Discharged alive" to [1a] then:
In your opinion was there room for improvement in the inpatient rehabilitation (physical, cardiac and neurological) of this patient prior to discharge?**

- Yes No Unknown

**5b. If answered "Yes" to [5a] and "Discharged alive" to [1a] then:
Please expand (rehab)**

**6a. If answered "Discharged alive" to [1a] then:
Was any scale of functional outcome recorded in the notes prior to hospital discharge?**

- Yes No Not applicable

**6b. If answered "Discharged alive" to [1a] and "Yes" to [6a] then:
Cerebral Performance Categories Scale if documented**

- CPC 1 Good Cerebral Performance (Normal Life)
 CPC 2 Moderate Cerebral Disability (Disabled but Independent)
 CPC 3 Severe Cerebral Disability (Conscious but Disabled and Dependent)
 CPC 4 Coma/Vegetative State (Unconscious)
 CPC 5 Brain Death
 Other scale used
-

**7a. If answered "Discharged alive" to [1a] then:
Was cardiac rehabilitation offered within the first three months from discharge?**

- Yes No Not applicable Unknown

**7b. If answered "Discharged alive" to [1a] then:
Was psychological review offered within the first six months from discharge?**

- Yes No Not applicable Unknown
-

**8a. If answered "Died" to [1a] then:
What was the cause of death as it appeared on death certificate?**

**8b. If answered "Died" to [1a] then:
Was organ donation considered?**

Yes No Unknown

**8c. If answered "Died" to [1a] then:
Was a specialist nurse for organ donation (SNOD) involved?**

Yes No Unknown

**8d. If answered "Died" to [1a] and "Yes" to [8b] then:
Did organ donation occur?**

Yes No Unknown

**8e. If answered "Died" to [1a] then:
Was the patients case discussed at a morbidity and mortality meeting?**

Yes No Unknown

**8f. If answered "Died" to [1a] and "Yes" to [8e] then:
Were remediable factors in the care of this patient identified?**

Yes No

**8g. If answered "Died" to [1a] and "Yes" to [8e] and "Yes" to [8f] then:
What were the remediable factors and what action was taken?**

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE

By doing so you have contributed to the dataset that will form the report and recommendations due for release in July 2020