

Quality Standards: Acute Care

Authors

Resuscitation Council UK

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Introduction and scope

Healthcare organisations have an obligation to provide a high-quality resuscitation service, and to ensure that staff are trained and updated regularly to a level of proficiency appropriate to each individual's expected role.

This document provides quality standards for cardiopulmonary resuscitation practice and training in the acute care setting. Acute care refers to acute hospitals that provide inpatient and/or day-case medical and/or surgical care to adults, children or both.

Each section of this document contains the quality standards, supporting information and supporting tools for a specific aspect of cardiopulmonary resuscitation in acute care. The appendix provides a list of suggested measures to assess adherence to the standards specified in each section.

The core standards for the provision of cardiopulmonary resuscitation across all healthcare settings are described in the [Introduction and overview](#) page .

Alongside the quality standards, there is an acute care equipment and drug list. Please refer to that by [clicking here](#) .

1. Resuscitation Committee

Standards

1. Healthcare organisations admitting acutely ill patients must have a Resuscitation Committee with clearly defined terms of reference.

2. The organisation must have a board member responsible for resuscitation services. According to Health Services Circular 2000/028, Chief Executives must ensure that 'a non-executive Director of the Trust is given designated responsibility on behalf of the Trust Board to ensure that a resuscitation policy is agreed, implemented, and regularly reviewed within the clinical governance framework.'
3. The Resuscitation Committee must be part of the organisation's management structure (e.g. clinical governance, clinical risk, quality improvement, education committees).
4. The Resuscitation Committee must include representatives from stakeholder groups (e.g. doctors, nurses, resuscitation officers, pharmacists, management, patient/lay representative), and appropriate specialties (e.g. ambulance service, anaesthesia, cardiology, dentistry, emergency medicine, general practice, intensive care medicine, mental health, neonatology, obstetrics, paediatrics). The exact composition of the committee will depend on local needs and arrangements.
5. The chair of the Resuscitation Committee must be a senior clinician with an active and credible involvement in resuscitation. This individual would be expected to have the authority to drive and implement change.
6. The Resuscitation Committee must have administrative support.
7. The Resuscitation Committee is responsible for implementing operational policies governing cardiopulmonary resuscitation, practice and training.
8. In the absence of other organisational arrangements, the Resuscitation Committee must also be responsible for implementing operational policies governing the prevention of cardiac arrest.
9. According to local arrangements, it is recommended that the Resuscitation Committee provides advice to other local healthcare organisations who do not have the necessary expertise in resuscitation issues. In some healthcare communities this is achieved very effectively by having a Resuscitation Committee that spans all the relevant organisations.
10. The Resuscitation Committee must determine the level of resuscitation training required by staff members.
11. At least twice-yearly meetings of the Resuscitation Committee are recommended.
12. Responsibilities of the Resuscitation Committee include:
 - ensuring implementation and adherence to national resuscitation guidelines and standards,
 - defining the role and composition of the resuscitation team,
 - ensuring that resuscitation equipment for clinical use is available and ready for use,

- ensuring that appropriate resuscitation drugs (including those for peri-arrest situations) are available and ready for use,
 - planning adequate provision of training in resuscitation,
 - determining requirements for and choice of resuscitation training equipment,
 - preparing and implementing policies relating to resuscitation and treatment of anaphylaxis,
 - preparing and implementing policies relating to prevention of cardiac arrest,
 - preparing and implementing a policy on resuscitation decisions, (e.g. DNACPR decisions), and advanced care planning (this is usually in collaboration with palliative care teams),
 - quality improvement - action plans based on audits (e.g. review of audit data using National Cardiac Arrest Audit data for benchmarking),
 - recording and reporting of patient safety incidents in relation to resuscitation.
13. The Resuscitation Committee must ensure that there is defined financial support for the resuscitation service.

Supporting information

1. National Cardiac Arrest Audit. <https://ncaa.icnarc.org>
2. NHS Executive. Health Services Circular 2000/028 - Resuscitation Policy. http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Healthservicecirculars/DH_4004244
3. Report a patient safety incident. <http://www.nrls.npsa.nhs.uk/report-a-patient-safety-incident/>

2. Resuscitation Officers

Standards

1. Every organisation must have at least one person, the Resuscitation Officer (RO), resuscitation lead or resuscitation services manager, who is responsible for co-ordinating the teaching and training of staff in resuscitation.
2. This person will have additional important responsibilities (e.g. quality

improvement, incident review).

3. One whole-time-equivalent RO is recommended for every 750 members of clinical staff - see below for further details. Depending on the size and geographical distribution of the organisation, more than one RO may be needed to fulfil training requirements and additional responsibilities relating to resuscitation.
4. Smaller organisations must appoint a resuscitation lead who may have other roles within their working environment.
5. Resuscitation Officers must possess a current Advanced Life Support (ALS) provider certificate (or equivalent) as a minimum standard; ideally ALS Instructor qualification is recommended. Where appropriate, the organisation must ensure that ROs possess certified resuscitation training certificates in other specialist areas (e.g. paediatrics, the newborn, obstetrics and trauma). For example, ROs in acute settings which treat children must have EPALS/APLS provider status as a minimum. Advice about professional development of ROs can be sought from the Council for Professionals as Resuscitation Officers (CPRO).
6. The RO must have access to a designated training room(s) of adequate size. The room(s) should comfortably accommodate Instructors, trainees and all the training equipment required for any teaching session.
7. The RO must have access to suitable electronic teaching aids and projection facilities. There must be adequate space for storing equipment. It is recommended that separate office space, with a desk, computer facilities, and filing cabinets, is available.
8. The RO must have adequate administrative assistance.
9. Equipment for training will vary according to local needs. Adult, paediatric and newborn manikins, airway management trainers, an ECG monitor and rhythm simulator, and at least one defibrillator dedicated for training, must be available. To ensure appropriate clinical use, equipment for training (especially defibrillators) must be the same model as that used in actual clinical practice.
10. There must be a defined resuscitation budget made available for the RO to maintain, upgrade and purchase new equipment for patient use and for training. Purchasers of health care need to be made aware of this when contracts are negotiated and adequate provision made. Such financial support for resuscitation services must be taken into account during budget planning by the organisation.
11. It is recommended that the RO is responsible for ensuring that there are systems in place for maintaining resuscitation equipment in good working order. This will usually mean delegation of routine checking of equipment to

other members of staff.

12. It is recommended that the RO is involved in data collection and audit of cardiac arrest. It is recommended that this data should be collected as part of the National Cardiac Arrest Audit (NCAA).
13. In order to maintain standards and clinical credibility, it is recommended that responding to and participating in cardiac arrest management is an integral part of the RO's clinical responsibility on a week-to-week basis. ROs with a clinical role must have appropriate clinical supervision and support.
14. The RO has a responsibility to maintain his/her own education in resuscitation. In order to achieve this, teaching on resuscitation courses outside the organisation is recommended. In addition, regular attendance at professional meetings must be supported with a budget for study expenses.
15. ROs must not be expected to generate income to provide for their own salary.
16. If the RO is expected to generate income for the organisation it should be agreed in writing with the relevant manager. Any income must be directed to improving resuscitation services.

Supporting information

1. Resuscitation Council UK. [resus.org.uk](https://www.resus.org.uk)
2. National Cardiac Arrest Audit. <https://www.icnarc.org/Our-Audit/Audits/Ncaa/About>
3. Scottish Resuscitation Group. www.srg.scot.nhs.uk

Supporting tools

This is an example calculation to support the statement that, 'One whole-time-equivalent RO is recommended for every 750 members of clinical staff':

1. 750 staff to be trained equates to 75 per month over a 10-month period. This is based on an RO working for a total of 10 out of every 12 months, allowing for annual leave, study leave, teaching elsewhere, etc.
2. Each training session lasts approximately 2 hours.
3. Each session has 6 attendees.
4. If all 6 people attend, then 12.5 sessions per month are required.
5. If only 4 people attend, then 18.75 sessions per month are required.

6. Therefore, to provide enough sessions over the year allowing for peaks and troughs about 15 sessions per month are required.
7. 15 sessions per month at 2 hours each provides 30 hours of basic training.
8. This is “classroom” time and does not include set up/set down time, preparation, administration etc.
9. The above calculation also does not include accredited courses or other training such as ward-based scenario or other types of sessions.
10. Most ROs spend at least 50% of their time involved in training activities when all the different types of training and preparation are taken into account.
11. The remainder of an RO’s time includes other responsibilities such as audit, governance, DNACPR, clinical commitments, attending cardiac arrest calls, planning, finance, equipment checks, etc.

3. Training of staff

Standards

1. All healthcare staff must undergo resuscitation training at induction and at regular intervals thereafter to maintain knowledge and skills.
2. Training must be to a level appropriate for the individual’s expected clinical responsibilities.
3. Training must include the use of an ‘early warning scoring’ system to identify the deteriorating patient, including the use of an escalation protocol to ensure early and effective treatment of patients in order to prevent cardiac arrest. The scoring and escalation system must be the same as used in actual clinical care. The use of the National Early Warning Score (NEWS) is recommended for these purposes. For children, the use of paediatric early warning scoring systems is recommended.
4. According to NICE Clinical Guideline 50 (2007), staff caring for patients in any acute hospital setting must have competencies in monitoring, measurement, and interpretation of vital signs. They must have the knowledge to recognise deteriorating health and respond effectively to acutely ill patients, appropriate to the level of care they are providing.
5. It is recommended that training enables clinical staff to possess the competencies defined in the Department of Health document ‘Competencies for Recognising and Responding to Acutely Ill Patients in Hospital’ and the National Outreach Forum document ‘Operational

Standards and Competencies for Critical Care Outreach Services’.

6. According to Resuscitation Council UK guidelines, training must be in place to ensure that clinical staff can undertake cardiopulmonary resuscitation. Training and facilities must ensure that, when cardiorespiratory arrest occurs, as a minimum all clinical staff can:
 - recognise cardiorespiratory arrest,
 - summon help,
 - start CPR,
 - attempt defibrillation, if appropriate, within 3 minutes of collapse using an automated external defibrillator or manual defibrillator.
7. Clinical staff should have at least annual updates.
8. Training and updates that include an assessment are recommended for clinical staff.
9. The expectation is that non-clinical staff have the resuscitation skills that would be expected from a lay person. If a lay person calls 999 in an emergency, they receive instructions from an ambulance call handler whilst awaiting trained help to arrive. These instructions include starting chest compressions. Telephone guidance does not happen in hospitals unless staff dial 999; hence the expectation that all staff in an acute setting should have some basic knowledge of resuscitation.

As a minimum, non-clinical staff should be trained to:

 - recognise cardiorespiratory arrest,
 - summon help,
 - start CPR using chest compressions.
10. All staff must know how to summon help and be aware of the use of a standard telephone number within the organisation. We recommend that this should be a common national number 2222, as recommended by the National Patient Safety Agency.
11. For all staff, a variety of methods to acquire, maintain and assess resuscitation skills and knowledge can be used for annual updates (e.g. life support courses, simulation training, in-house training, mock-drills, ‘rolling refreshers’, e-learning, video-based training/self-instruction). The appropriate methods must be determined locally. For example, training materials such as Lifesaver (www.life-saver.org.uk), developed by Resuscitation Council UK, or very brief videos aimed at the general public may be appropriate for non-clinical staff. ‘Hands-on’ simulation training and assessment is recommended for clinical staff.
12. A system must be in place for identifying resuscitation equipment for which staff require special training, such as defibrillators and emergency suction equipment.

13. All new members of staff must have resuscitation training as part of their induction programme. Even those who have current training require resuscitation training on induction to ensure that they are familiar with local policies and equipment.
14. The RO or resuscitation lead must organise and co-ordinate resuscitation training for staff. However, in order to achieve training targets, the RO may need to delegate some aspects of training.
15. Organisations must recognise and make provision for staff to have enough time to train in resuscitation skills as part of their employment.
16. Specific training for cardiorespiratory arrests in special circumstances (e.g. children, newborn, pregnancy and trauma) must be provided for medical, nursing and other clinical staff in the relevant specialties.
17. All clinical staff must receive training in the recognition, monitoring and management of the deteriorating patient.
18. All training must be recorded (e.g. in the organisation's training database).
19. Members of the resuscitation team with a regular involvement in resuscitation, particularly team leaders, require a level of training beyond that provided by the local RO. These individuals must be encouraged and supported to attend national courses such as the Advanced Life Support (ALS) course, the European Paediatric Advanced Life Support (EPALS) course, the Advanced Paediatric Life Support (APLS) course, the Newborn Life Support (NLS) course, European Trauma Course (ETC), and the Advanced Trauma Life Support (ATLS) course.

Supporting information

1. Competencies for Recognising and Responding to Acutely Ill Patients in Hospital. Department of Health. 2009.
<https://www.norf.org.uk/Resources/Documents/Resources%20documents/competencies%20AIP%20doh.pdf>
2. Establishing a standard crash call telephone number in hospitals. Patient Safety Alert 02. London: National Patient Safety Agency; 2004.
3. The Human Medicines Regulations 2012.
This legislation applies to non-prescribers and allows holders of a current Resuscitation Council UK 'Advanced Life Support' provider certificate to administer adrenaline and amiodarone without prescription to adults in cardiac arrest. <http://www.legislation.gov.uk/uksi/2012/1916/contents/made>
4. National Early Warning Score (NEWS). Standardising the assessment of acute-illness severity in the NHS. Royal College of Physicians. Report of a

working Party. July 2012. <http://www.rcplondon.ac.uk/resources/national-early-warning-score-news>

5. National Institute for Health and Clinical Excellence. Acutely ill patients in hospital: recognition of and response to acute illness in adults in hospital 2007 (NICE Guideline 50).
6. National Outreach Forum (2012). Operational standards and competencies for critical care outreach services. <http://www.norf.org.uk>
7. [Resuscitation Guidelines 2015](#). Resuscitation Council UK.

Supporting tools

1. Lifesaver. An interactive film by Martin Percy with Resuscitation Council UK. 2013. <http://www.life-saver.org.uk>
2. Paediatric Early Warning Scoring (PEWS) charts are available for download at. <https://www.rcn.org.uk/clinical-topics/children-and-young-people/development-of-a-paediatric-early-warning-scoring-system>
3. Resuscitation Training for Anaesthetists in Raising the Standard: A compendium of audit recipes for continuous quality improvement in anaesthesia. https://www.rcoa.ac.uk/sites/default/files/documents/2019-09/CSQ-ARB-2012_0.pdf
4. Subject 11: Resuscitation. UK Core Skills Training Framework. Subject Guide. Skills for Health 2013.
5. User Guide for UK Core Skills Training Framework. Skills for Health. 2013.

4. Prevention of cardiorespiratory arrest

Standards

1. The use of the 'Chain of Prevention' concept as a basis for the structuring of the organisation's responses to patient deterioration and the prevention of cardiorespiratory arrest is recommended.
2. The organisation must have an education programme that is focused on the prevention of patient deterioration, for ward staff and responding clinical personnel. It is recommended that staff attain the competencies identified in the Department of Health document 'Competencies for Recognising and Responding to Acutely Ill Patients in Hospital' (2009), and the National Outreach Forum document 'Operational Standards and Competencies for

Critical Care Outreach Services’.

3. The organisation must have a clear policy for the monitoring of patients’ vital signs, based on the guidance in the National Institute for Health and Clinical Excellence clinical guideline 50 [Acutely ill patients in hospital: recognition of and response to acute illness in adults in hospital (2007)] and the Royal College of Physicians National Early Warning Score (NEWS) (2012).
4. An early warning scoring system must be in place to identify patients who are critically ill and therefore at risk of cardiorespiratory arrest. The use of the National Early Warning Score (NEWS), or a paediatric early warning score for children is recommended.
5. The organisation must have a patient charting system that facilitates the regular measurement and recording of early warning scores.
6. The organisation must have a clear, universally known and understood, mandated, unambiguous, graded, activation protocol for escalating monitoring or summoning a response to a deteriorating patient. This should be standardised across the organisation.
7. The use of a standardised method for communicating information about a deteriorating patient (e.g. SBAR, RSVP) between staff members is recommended.
8. A designated outreach service or rapid response team (e.g. Medical Emergency Team [MET]), capable of responding to acute clinical crises identified by clinical triggers or other indicators, is recommended. This may include members of the resuscitation team.
9. The organisation must have a clear and specific policy that requires a clinical response to 'calling criteria' or early warning systems ('track and trigger'). This must include the specific responsibilities of senior medical and nursing staff, including consultants and identify the maximum response times. NCEPOD recommends that when patients continue to deteriorate after non-consultant review there should be escalation of patient care to a more senior doctor. If this is not done, the reasons for non-escalation must be documented clearly in the patient’s health record.

Supporting information

1. Competencies for Recognising and Responding to Acutely Ill Patients in Hospital. Department of Health. 2009.
<https://www.norf.org.uk/Resources/Documents/Resources%20documents/competencies%20AIP%20doh.pdf>
2. European Resuscitation Council Guidelines. <http://www.cprguidelines.eu>

3. International Liaison Committee on Resuscitation Consensus on Science with Treatment Recommendations. <http://www.ilcor.org>
4. National Early Warning Score (NEWS). Standardising the assessment of acute-illness severity in the NHS. Royal College of Physicians. Report of a working Party. July 2012. <http://www.rcplondon.ac.uk/resources/national-early-warning-score-news>
5. National Outreach Forum (2012). Operational standards and competencies for critical care outreach services. <http://www.norf.org.uk>
6. NICE clinical guideline 50 Acutely ill patients in hospital: recognition of and response to acute illness in adults in hospital. London: National Institute for Health and Clinical Excellence; 2007.
7. Smith GB. In-hospital cardiac arrest: Is it time for an in-hospital 'chain of prevention'? Resuscitation 2010.
8. [Resuscitation Council UK Guidelines.](#)
9. [Prevention of in-hospital cardiac arrest and decisions about cardiopulmonary resuscitation.](#) Resuscitation Guidelines 2015, Resuscitation Council UK.
10. Time to Intervene? A review of patients who underwent cardiopulmonary resuscitation as a result of an in-hospital cardiorespiratory arrest. A report by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD). 2012. <http://www.ncepod.org.uk>

Supporting tools

1. Prevention of cardiac arrest in Raising the Standard: A compendium of audit recipes for continuous quality improvement in anaesthesia. https://www.rcoa.ac.uk/sites/default/files/documents/2019-09/CSQ-ARB-2012_0.pdf

5. The resuscitation team

Standards

1. The Resuscitation Committee must determine the composition of the resuscitation team.
2. The exact composition of the team will vary between organisations, but overall the team that responds immediately must have the following **minimum skills:**

- basic airway interventions, including the use of a supraglottic airway in adults,
 - intravenous cannulation, and intraosseous access (essential in children),
 - defibrillation (automated external defibrillation and manual defibrillation),
 - drug administration,
 - skills required for immediate post-resuscitation care.
3. NCEPOD recommends that each hospital ensures that there is an agreed plan for airway management during cardiac arrest. This may involve bag-mask ventilation for cardiac arrests of short duration, tracheal intubation if this is within the competence of members of the team responding to the cardiac arrest or use of supraglottic airway devices.
 4. In addition to the resuscitation team, access to individuals with the following skills when needed is recommended:
 - tracheal intubation,
 - cardioversion and external pacing,
 - central venous access,
 - focused ultrasound/echocardiography.
 5. The team should be activated in response to a cardiorespiratory arrest. Certain clinical areas (e.g. emergency departments, intensive care units) have individuals with the necessary resuscitation skills within their own staff and may therefore not always call the hospital resuscitation team.
 6. Activation of the team may also be part of the local escalation plan for the deteriorating patient.
 7. The resuscitation team is responsible for the management of relatives (who may or may not wish to be present at a cardiorespiratory arrest), post-resuscitation transfer, and debriefing.
 8. Consideration must be given to allowing relatives to be present during a resuscitation attempt. An experienced member of staff who can explain what is going on should be delegated to stay with them and liaise with the team on their behalf.
 9. Team members often change daily or more frequently, especially when shift working is used. Members may not know each other or the skill mix of the team members. A Resuscitation Team meeting at the beginning of members' period on duty is recommended to:
 - introduce team members to each other; communication is much easier and more effective if people can be referred to by their name,
 - identify everyone's skills and experience,
 - allocate the team leader role; skill and experience take precedence

over seniority,

- allocate responsibilities; if key skills are lacking (e.g. nobody skilled in tracheal intubation) the team must work out and agree how this deficit can be managed,
- review any patients who have been identified as 'at risk' during the previous duty period.

10. Team debriefings involving resuscitation team members are recommended - the exact mechanism (e.g. end of each event, end of each shift, weekly) must be determined locally.
11. The resuscitation team must be summoned to all cardiorespiratory arrests by the use of a common telephone number. The National Patient Safety Agency has recommended that this number should be 2222.
12. The organisation must ensure that the resuscitation team is activated within 30 seconds of the call for help. This system must be tested daily. Responses to test calls must be monitored and where there is a failure to respond this must be followed up and remedied immediately.
13. The organisation must have a policy for staff and telephone operators for dealing with cardiac arrest calls from remote parts of a hospital site (e.g. car parks, office buildings). In some settings this may include calling an ambulance in addition to the resuscitation team.
14. The role of team leader in a resuscitation team must be undertaken by an individual who is a current Advanced Life Support Provider or has equivalent training. If the patient is a child, the team leader must have equivalent paediatric life support qualifications. Although the team leader at a resuscitation attempt will usually be a doctor on the resuscitation team, the role must be allocated at each individual event, based on clinical knowledge, skills and experience.
15. The team leader is responsible for:
 - directing and co-ordinating the resuscitation attempt,
 - ensuring that current guidelines are followed,
 - ensuring the safety of those present,
 - ending the resuscitation attempt when indicated,
 - documentation (including audit forms),
 - communication with relatives,
 - handover of care to other clinical teams,
 - diagnosis and documentation of death if appropriate.
16. The organisation must ensure that a complete and detailed record of the cardiorespiratory arrest is retained within the patient's clinical record. Collection of data for audit at the time of arrest is recommended.

Supporting information

1. [Resuscitation Council UK Guidelines](#).
2. Edelson DP, Litzinger B, Arora V, et al. Improving in-hospital cardiac arrest process and outcomes with performance debriefing. Arch Intern Med 2008;168:1063-9.
3. Establishing a standard crash call telephone number in hospitals. Patient Safety Alert 02. London: National Patient Safety Agency; 2004.
4. Guidance for Anaesthetists on cardiac arrest teams. Royal College of Anaesthetists. November 2010.
https://www.rcoa.ac.uk/sites/default/files/documents/2019-09/CSQ-ARB-2012_0.pdf
5. Time to Intervene? A review of patients who underwent cardiopulmonary resuscitation as a result of an in-hospital cardiorespiratory arrest. A report by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD). 2012. <http://www.ncepod.org.uk>

6. Resuscitation of children and the newborn

Standards

1. Most paediatric cardiac arrests are secondary events. Therefore, specific paediatric early warning scoring systems with a 'Track and Trigger' should be used to prevent cardiac arrest.
2. Timely review by appropriately trained clinicians in response to clinical triggers or other indicators reduces mortality in children. It is recommended that a formal provision be made to provide this response. This may be realised by members of an outreach service, rapid response team or similar service. The nature of this team will vary according to local need and resources and should be determined locally.
3. When attempting the resuscitation of a child in cardiorespiratory arrest, as a minimum the team leader must be someone with expertise and training in the resuscitation of children and the newborn. Special knowledge of the equipment, techniques and doses of drugs required for children and the newborn, together with an understanding of the differences in causes and treatment of cardiorespiratory arrest, are essential.
4. Familiarity with their expected roles and experience in the resuscitation of

children is recommended for all team members.

5. Ideally, organisations should have a separate paediatric resuscitation team. At least one member of a resuscitation team that may be expected to resuscitate children must have completed a national paediatric resuscitation course (EPALS/APLS) successfully. In addition, all staff with regular involvement in paediatric resuscitation must be encouraged to attend national paediatric resuscitation courses (e.g. EPALS, APLS, NLS).
6. When resuscitating a child, particular consideration must be given to allowing the presence of relatives during the resuscitation attempt. An experienced member of staff who can explain what is going on should be delegated to stay with them and liaise with the team on their behalf.
7. The use of paediatric resuscitation charts and drug dosing aides is essential. In circumstances where the weight is not known (such as in the emergency department) a method of calculating drug dosages from length or age is useful.
8. Where appropriate, a separate DNACPR form and/or Emergency Healthcare Plan (EHP) is recommended for children.
9. The British Association of Perinatal Medicine (www.bapm.org) provides standards for hospitals providing neonatal care.

Supporting information

1. [Resuscitation Council UK Guidelines](#).
2. Bradman K, Maconochie I. Can paediatric early warning score be used as a triage tool in paediatric accident and emergency? Eur J Emerg Med.2008;15:359-60
<https://pubmed.ncbi.nlm.nih.gov/19078844/>
3. British Association of Perinatal Medicine. Service Standards for Hospitals Providing Neonatal Care. Third Edition. August 2010.
<https://www.bapm.org/resources/32-service-standards-for-hospitals-providing-neonatal-care-3rd-edition-2010>
4. Intercollegiate Committee for Standards for Children and Young People in Emergency Care Settings. Standards for Children and Young People in Emergency Care Settings. 2012. <http://www.rcpch.ac.uk/emergencycare>
5. Development of PEWS: <https://www.rcn.org.uk/clinical-topics/children-and-young-people/development-of-a-paediatric-early-warning-scoring-system>
6. Parshuram CS, Duncan HP, Joffe AR et al. Multicentre validation of the bedside paediatric early warning system score: a severity of illness score to detect evolving critical illness in hospitalised children. Crit Care

2011;15:R184

7. The Royal College of Paediatrics and Child Health. Withholding and Withdrawing Life Sustaining Treatment in Children: A Framework for Practice, 2nd edn. London: RCPCH, 2004:
8. Tibballs J, Kinney S. Reduction of hospital mortality and of preventable cardiac arrest and death on introduction of a pediatric medical emergency team. *Pediatr Crit Care Med* 2009;10:306-12.

Supporting tools

1. Development of PEWS: <https://www.rcn.org.uk/clinical-topics/children-and-young-people/development-of-a-paediatric-early-warning-scoring-system>
2. Paediatric resuscitation in Raising the Standard: A compendium of audit recipes for continuous quality improvement in anaesthesia. https://www.rcoa.ac.uk/sites/default/files/documents/2019-09/CSQ-ARB-2012_0.pdf

7. Resuscitation in special circumstances

Standards

1. Organisations must have policies and procedures in place for resuscitation in special circumstances (e.g. trauma, obstetrics, patients with tracheostomies).

Supporting information

1. Maternal Collapse in Pregnancy and the Puerperium (Green-top 56). Royal College of Obstetricians and Gynaecologists. 2011.
2. National Tracheostomy Safety Project. <http://www.tracheostomy.org.uk>
3. Regional Networks for Major Trauma NHS Clinical Advisory Groups Report. September 2010
4. Truhlář A, Deakin CD, Soar J et al. European Resuscitation Council Guidelines for Resuscitation 2015: Section 4. Cardiac arrest in special circumstances. Resuscitation.

8. Patient transfer

After successful resuscitation, patients may need transfer to another part of the hospital (e.g. cardiac/coronary care unit, intensive care unit, catheter laboratory, theatres) or to another hospital.

Standards

1. Standards for patient transfer must be based on guidance from the Association of Anaesthetists of Great Britain and Ireland, the Intensive Care Society and the Paediatric Intensive Care Society.

Supporting information

1. Association of Anaesthetists of Great Britain and Ireland (AAGBI) Safety Guideline - Interhospital Transfer. 2009. <http://www.aagbi.org/>
2. Intensive Care Society. Guidelines for the transport of the critically ill adult (3rd Edition 2011). <http://www.ics.ac.uk/>
3. Quality Standards for the Care of the Critically Ill Child. Paediatric Intensive Care Society. <http://picsociety.uk>

9. Post-cardiac-arrest care

Standards

1. It is recommended that hospitals use a local protocol for post-cardiac-arrest care that includes the use of targeted temperature control. This should be based on current guidelines.
2. Guidance on the post-cardiac-arrest care of children and babies can be found in the European Paediatric Life Support / Advanced Paediatric Life Support and Newborn Life Support manuals.
3. Patients may require transport to other units. See Section 8 for Patient Transfer standards.

Supporting information

1. [Resuscitation Council UK Guidelines](#).
2. Resuscitation Council UK. European Paediatric Advanced Life Support. Fourth Edition, 2016.
3. Advanced Life Support Group, Advanced Paediatric Life Support, 6th Edition, 2016, Wiley-Blackwell.

10. Resuscitation equipment

Standards

[Click here](#) to look at the equipment and drug list for an acute care setting.

Supporting tools

1. Resuscitation equipment checks in Raising the Standard: A compendium of audit recipes for continuous quality improvement in anaesthesia.
https://www.rcoa.ac.uk/sites/default/files/documents/2019-09/CSQ-ARB-2012_0.pdf

11. Decisions relating to cardiopulmonary resuscitation

Standards

1. Healthcare professionals must be familiar with and follow published guidance, including in particular 'Decisions relating to Cardiopulmonary Resuscitation, a joint statement by the British Medical Association, the Resuscitation Council UK, and the Royal College of Nursing' and the General Medical Council's current guidance on 'Treatment and care towards the end of life: good practice in decision making'.
2. Healthcare professionals must be familiar with and must comply with the

law as it applies to decisions about CPR. There are some differences in the law among countries of the United Kingdom. Healthcare provider organisations must ensure that their staff receive appropriate information and training regarding these laws.

3. Healthcare professionals involved in making decisions about CPR must have appropriate training and competency in so doing, and similarly those who undertake the sensitive discussions with patients and those close to patients must have appropriate training and competency in so doing. Healthcare provider organisations must ensure that they have sufficient staff trained and competent in performing these functions, and that staff have adequate time and facilities to perform them properly.
4. Resuscitation Council UK has defined standards for recording decisions about CPR. It is recommended that decisions about CPR are recorded on a form that is easily recognised and has a standard content and format, to allow healthcare professionals to recognise it and assess its content and validity immediately.
5. Healthcare organisations must have policies about CPR decisions and documents that are recognised by the other organisations so that decisions about CPR continue across organisational and geographic boundaries when patients are transferred from one setting to another. In particular this should include the ambulance service, so that these decisions are respected during transfer.
6. Healthcare organisations must ensure that healthcare staff have access to appropriate stationery or electronic media for recording, accessing and reviewing decisions about CPR.
7. Healthcare organisations must ensure that patients and those close to patients have ample opportunities to discuss resuscitation and decisions about CPR should they wish to, but that such discussions are not forced upon those who do not want them. Written information about resuscitation decisions, or information in other media (e.g. DVD or podcast) should be made readily available for patients and those close to them but should not be used as an attempted substitute for sensitive, face-to-face discussion with a suitably trained and competent healthcare professional.

Supporting information

1. Adults with incapacity (Scotland) Act 2000 Part 5 Code of Practice.
<https://www.gov.scot/publications/adults-incapacity-scotland-act-2000-code-practice-third-edition-practitioners-authorized-carry-out-medical-treatment->

[research-under-part-5-act/](#)

2. [Guidance from the British Medical Association, Resuscitation Council UK, and the Royal College of Nursing, 2014.](#)
3. Do not attempt resuscitation (DNAR) decisions in the perioperative period, Association of Anaesthetists of Great Britain and Ireland, May 2009. <https://anaesthetists.org/Home/Resources-publications/Guidelines/DNAR-decisions-in-the-perioperative-period>
4. Mental Capacity Act 2005 (England and Wales). <http://www.legislation.gov.uk/ukpga/2005/9/contents>
5. NHS Executive. Health Services Circular 2000/028 - Resuscitation Policy
6. Recommended guidance for recording decisions about cardiopulmonary resuscitation. Resuscitation Council UK. Revised 2015.
7. Time to Intervene? A review of patients who underwent cardiopulmonary resuscitation as a result of an in-hospital cardiorespiratory arrest. A report by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD). 2012. <http://www.ncepod.org.uk>
8. Treatment and care towards the end of life: decision making, General Medical Council. http://www.gmc-uk.org/guidance/ethical_guidance/end_of_life_care.asp
9. The Confidential Inquiry into premature deaths of people with learning difficulties (CIPOLD) 2013. <http://www.bris.ac.uk/cipold/fullfinalreport.pdf>

Supporting tools

1. Resuscitation Council UK has previously provided model DNACPR forms for use in adults and children respectively.
2. Inappropriate cardiac arrest calls in Raising the Standard: A compendium of audit recipes for continuous quality improvement in anaesthesia. https://www.rcoa.ac.uk/sites/default/files/documents/2019-09/CSQ-ARB-2012_0.pdf
3. Scotland has a single DNACPR policy. For more information including supporting tools see: <http://www.scotland.gov.uk/Topics/Health/Quality-Improvement-Performance/Living-Dying-Well/DNACPR>
4. [Recommended Summary Plan for Emergency Care and Treatment.](#)

12. Audit and reporting

Standards

1. NCEPOD recommends that every CPR attempt is reported through the organisation's patient safety incident reporting system. This information must be reported to the organisation's Board on a regular basis.
2. All CPR attempts must be reviewed. When appropriate, a root cause analysis must be undertaken, and the action plan implemented (a suggested guide for reviewing cardiac arrests is available in the appendix).
3. Taking part in the National Cardiac Arrest Audit (NCAA) is recommended. NCAA is included in the Department of Health's Quality Accounts as a recognised national audit.
4. Audit of DNACPR policies is mandatory (Health Services Circular 2000/028).
5. Organisations must review local audit data regularly against published standards. Where audit identifies deficiencies or unexpected poor performance, a review at a senior organisational level must be undertaken. The Resuscitation Committee must receive appropriate support to achieve this.

Supporting information

1. The Mid Staffordshire NHS Foundation Trust Public Inquiry - Chaired by Robert Francis QC. <http://www.midstaffspublicinquiry.com>
2. National Cardiac Arrest Audit. <https://www.icnarc.org/Our-Audit/Audits/Ncaa/About>
3. NHS Executive. Health Services Circular 2000/028 - Resuscitation Policy http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Healthservicecirculars/DH_4004244
4. Raising the Standard: A compendium of audit recipes for continuous quality improvement in anaesthesia. https://www.rcoa.ac.uk/sites/default/files/documents/2019-09/CSQ-ARB-2012_0.pdf
5. Report a patient safety incident. <http://www.nrls.npsa.nhs.uk/report-a-patient-safety-incident/>
6. Time to Intervene? A review of patients who underwent cardiopulmonary resuscitation as a result of an in-hospital cardiorespiratory arrest. A report

by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD). 2012. <http://www.ncepod.org.uk>

Supporting tools

Example guide* to reviewing cardiac arrests:

Answer the following questions:

1. Was there a clearly documented physiological monitoring plan stating type and frequency of observations in the 24 hours preceding the arrest (as per NICE, RCP and NCEPOD Guidance) and were these undertaken as per request?
2. What were the patient's Early Warning Scores in the 12 hours preceding the arrest?
3. If the patient's scores at any time in that 12-hour period were elevated to 'trigger level', as per the local escalation policy, was the correct escalation undertaken?
4. Were there other reasons for escalating care (e.g. symptoms [chest pain], signs [clammy], laboratory results, or staff or patient/relative concern)?
5. If there were other reasons for escalating care was the correct escalation undertaken?
6. Did the patient receive appropriate assessment and/or treatment in response to a clearly identified reason for escalation?
7. If the patient received treatment, did his/her condition improve in response to that treatment?
8. If the patient did not improve, was the patient escalated to a more senior level in a timely manner?
9. Did the patient have documented and discussed ceilings of care, including resuscitation status?
10. Has the review identified any other deficiencies (e.g. missing equipment or drugs, equipment failures, problems with team performance or communication)?

If the answer to any of the above questions raises concern, proceed to root cause analysis and action plan.

*

Modified from original checklist developed by Kate Beaumont, Nursing Direct

13. Research

Standards

1. Research must be conducted in accordance with the NHS Research Governance Framework. Research involving human participants, their organs, tissue or data require NHS Research and Development approval. Such research may also require approval from a Research Ethics Committee. If in doubt advice should be sought from the local Research and Development Office in the first instance or NHS Research Ethics Advice Service.
2. Research involving patients who lack capacity must also comply with relevant legislation (e.g. UK Medicines for Human Use [Clinical Trials] Regulations 2004; Mental Capacity Act 2005 [England and Wales]; Adults with Incapacity [Scotland] Act 2000).
3. The organisation's Resuscitation Committee can be a valuable source of advice for those contemplating undertaking clinical research in resuscitation.

Supporting information

1. National Research Ethics Service. <https://www.hra.nhs.uk/about-us/committees-and-services/res-and-recs/research-ethics-service/>
2. National Research Ethics Service Does my project require review by a Research Ethics Committee?
https://www.rcoa.ac.uk/sites/default/files/documents/2019-09/CSQ-ARB-2012_0.pdf
3. NHS Constitution. <https://www.gov.uk/government/publications/the-nhs-constitution-for-england>

14. APPENDIX

Suggested measures to assess adherence to standards

The numbers listed in the first column correspond to the standards referred to in the corresponding chapter of this document.

Aspect of cardiopulmonary resuscitation in acute care	Example measures
Resuscitation Committee standard	
1, 2, 3, 4, 5, 6, 7	Check list and Terms of reference
8, 9	Resuscitation Policy and minutes of meetings
10	Training Policy
11	Minutes of meetings
12	Terms of reference, Annual report
13	Audit of accounts
Resuscitation Officers standards	
1	Staffing records
2, 3, 4	RO job description or person specification
5	Evidence from RO appraisal
6, 7	Inspection
8, 10, 15, 16	Accounts
9	Evidence of equipment checklists, action plans and Equipment policy
10	Audit reports
11, 12, 13, 14	RO appraisal

Aspect of cardiopulmonary resuscitation in acute care	Example measures
Training of staff standards	
1, 2	Resuscitation Policy, Induction programme; training records; training matrix
3	Course content, lesson plans
4, 5, 6, 7, 8, 9, 10, 11, 12	Training records, course content, lesson plans, competency documents, audit of individual cardiac arrests
13, 14, 15, 16, 17	Staff training records
Prevention of cardiorespiratory arrest standard	
1, 2, 3	Copy of policy
4, 5, 6	Copy of policy, patient observation chart and escalation plan
7	Review of training materials, and clinical practice
8, 9	Copy of policy, audit of individual cases
The resuscitation team standard	
1, 3, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15	Copy of policy, minutes of meetings, audit of individual cardiac arrests
2, 4	Copy of policy, training records, review of team certificates, assessment of team competencies, of individual cardiac arrests

Aspect of cardiopulmonary resuscitation in acute care	Example measures
11	Copy of policy, and switchboard records
16	Documentation and audit reports
Resuscitation of children standard	
1, 2	Copy of policy, audit of individual cardiac arrests
3, 4, 5	Policy, and training records, review of team certificates, assessment of team competencies, audit of individual cardiac arrests
6	Copy of policy, audit of individual cardiac arrests
7, 8, 9	Copy of policy, forms, implementation
Resuscitation in special circumstances standard	
1	Policy
Patient transfer standard	
1	Policy
Post cardiac arrest care standard	
1, 2, 3	Policy, Care Pathway, Care Bundles for use on cardiac care units

Aspect of cardiopulmonary resuscitation in acute care	Example measures
Decisions relating to cardiopulmonary resuscitation standard	
1, 2, 3, 4, 5, 6, 7	Policy, audit of adherence to policy
Audit and reporting standard	
1	Policy, minutes of Board meetings, audit
2, 4	Documentation
3	Registration with NCAA, and NCAA reports
5	Minutes of meetings
Research standards	
1, 2, 3	Policy; Ethics Committee minutes and records