Resuscitation Council (UK)

Quality standards for cardiopulmonary resuscitation practice and training

Introduction and overview

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Hyperlinks to other document sections or external websites are shown in blue.

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Royal College of Nursing	Royal College of Nursing	AC
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Royal College of Psychiatrists	RC PSYCH Royal College of Psychiatrists	MH

The organisations listed on the previous page have all contributed to this Introduction and Overview document.

Contributing organisations to the Acute Care standards are indicated on the previous page with the symbol AC

Contributing organisations to the Primary Care standards are indicated on the previous page with the symbol PC

Contributing organisations to the Primary Dental Care standards are indicated on the previous page with the symbol PDC

Contributing organisations to the Community Care standards are indicated on the previous page with the symbol CC

Contributing organisations to the Mental Health standards are indicated on the previous page with the symbol MH

The Resuscitation Council (UK) Patient Advisory Group has advised on this document.

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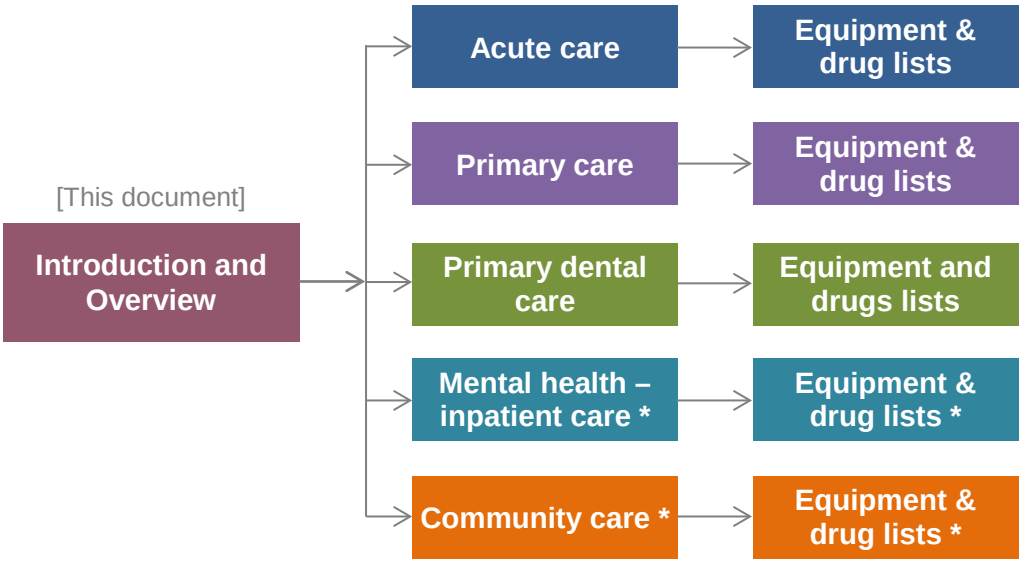
Contents

Other quality standards documents

A roadmap for the other documents which comprise the quality standards for cardiopulmonary resuscitation practice and training is shown below. Also included below are hyperlinks to access the other quality standards documents.



Links to the Quality Standards documents:

- **Acute care**
- **Primary care**
- **Primary dental care**
- **Mental health inpatient care ***
- **Community care ***

** Documents currently in development*

1 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 and with appropriate frequency 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 following settings:

1. Acute care – mainly acute hospitals
2. Primary care – general practice (including out-of-hours services)
3. Primary dental care – excluding conscious sedation for which there are existing standards
4. Community care – * *(Documents currently in development)*
5. Mental health - inpatient care – * *(Documents currently in development).*

The aim of these standards is to:

1. Improve care and outcomes for patients who are deteriorating, or suffer cardiorespiratory arrest in a healthcare setting.
2. Update existing quality standards with a particular emphasis on simplification to improve implementation.
3. Provide new standards for community hospital care and mental health inpatient care.

Whenever possible, reference will be made to existing national guidance.

These standards update and replace:

1. Cardiopulmonary Resuscitation - Standards for clinical practice and training. A joint statement from The Royal College of Anaesthetists, The Royal College of Physicians of London, the Intensive Care Society and the Resuscitation Council (UK). October 2004. Revised June 2008.
2. Cardiopulmonary Resuscitation Guidance for clinical practice and training in Primary Care. Resuscitation Council (UK). July 2001.
3. Medical Emergencies and Resuscitation - Standards for clinical practice and training for dental practitioners and dental care professionals in general dental practice. Resuscitation Council (UK) July 2006. Revised and updated February 2012.

There are numerous types of setting where clinical care is provided. This guidance does not provide standards for every possible setting or scenario. The standards in this document can be used to help guide development of standards in clinical settings that are not included in this document. Guidance relating to other settings may be added in the future.

2 Core standards

The same core standards apply in all settings to ensure that:

1. the deteriorating patient is recognised early and there is an effective system to summon help in order to prevent cardiorespiratory arrest.
2. cardiorespiratory arrest is recognised early and cardiopulmonary resuscitation (CPR) is started immediately.
3. emergency assistance is summoned immediately, as soon as cardiorespiratory arrest is recognised, if help has not been summoned already.
4. defibrillation, if appropriate, is attempted within 3 minutes of identifying cardiorespiratory arrest.*****
5. appropriate post-cardiorespiratory-arrest care is received by those who are resuscitated successfully. This includes safe transfer.
6. implementation of standards is measured continually and processes are in place to deal with any problems identified.
7. staff receive at least annual training and updates in CPR, based on their expected roles.
8. staff have an understanding of decisions relating to CPR.
9. appropriate equipment is available for resuscitation.

* *Circumstances where this standard may not be achievable are included in the relevant section.*

3 Methods

A working group was set up by the Resuscitation Council (UK). Stakeholder organisations nominated individuals to the working group. Existing standards in each area were identified and, where needed, the existing standards were updated. Updates were based on consensus from working group members.

The evidence for specific aspects of resuscitation practice comes from Resuscitation Council (UK) Guidelines 2010. The process used by the Resuscitation Council (UK) to produce the 2010 Resuscitation Guidelines was accredited by the National Institute for Health and Clinical Excellence (NICE) (http://www.resus.org.uk/pages/guide.htm).

The first draft was sent to organisations for comment and approval. The drafts and final version were also reviewed and commented on by the Resuscitation Council (UK) Patient Advisory Group.

A draft of each standard was posted on the Resuscitation Council (UK) website for at least 4 weeks. Feedback was reviewed by the working group and consensus

reached on responses to any issues raised. Final documents were approved by the working group.

4 Implementation

Where appropriate, each section contains links to implementation tools or examples of good practice. Each section also contains guidance on measures to assess adherence to standards.

Terminology:

1. The term ‘MUST’ has been used when the consensus is that the standard promotes normal practice and is obligatory.
2. The term ‘SHOULD’ has been used when the consensus is that the standard promotes normal practice.
3. The term ‘RECOMMENDS’ is used when the consensus is that the standard promotes best practice.

5 Supporting information

1. Care Quality Commission. http://www.cqc.org.uk
2. European Resuscitation Council Guidelines. http://www.cprguidelines.eu
3. High Quality Care For All. NHS Next Stage Review Final Report. Department of Health. June 2008.
4. International Liaison Committee on Resuscitation. http://www.ilcor.org
5. Nolan J, Soar J, Eikeland H. The chain of survival. Resuscitation. 2006 Dec;71(3):270-1.
6. The NHS Constitution for England (2012 Edition)
7. Resuscitation Council (UK). http://www.resus.org.uk
8. Resuscitation Council (UK) Guidelines. http://www.resus.org.uk/pages/guide.htm

6 APPENDIX: Conflict of interest declaration

Name	Details	COI
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Jamie Fulton	Consultant in Medicine, Derriford Hospital, Plymouth PL6 8DH	IMPACT Curriculum Committee,
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Gary Smith	Consultant in Intensive Care Visiting Professor at Bournemouth University	Wife is a minority shareholder in The Learning Clinic (TLC) Ltd., which is the developer of VitalPAC, a clinical software system for identifying patient deterioration and escalating care. Professor Smith is an unpaid research advisor to TLC and has received reimbursement of travel expenses from TLC for attending symposia in the UK. Co-developer of the Acute Life-Threatening Events – Recognition and Treatment (ALERT) course, which is owned and run by Portsmouth Hospitals NHS Trust (PHT). PHT receives payment for sales of the courses and course materials to other healthcare institutions. Professor Smith was an employee of PHT until 31/03/2011. Past member of Royal College of Physicians of London's National Early Warning Score Development and Implementation Group (NEWSDIG). Past member of the NICE, NPSA and DH committees that set standards for aspects of care related to prevention and response to patient deterioration. Paid external reviewer of Policy on Physiological Early Warning Score (PEWS) to Northern Ireland Northern Healthcare & Social Care Trust, 2010. Co-Director of the annual International Rapid Response Systems conference and organiser of 2013 conference in UK. Member of the Clinical Advisory Board of Cardiocity, an innovations company currently involved with patient monitoring. Co-Director of RedRisk Ltd, a company developing educational materials.
Richard Williams	Professor of Mental Health Strategy, Welsh Institute for Health and Social Care University of Glamorgan Honorary Professor Humanitarian and Conflict Response Institute, Faculty of Humanities, University of Manchester Consultant Child and Adolescent Psychiatrist, Aneurin Bevan Health Board, NHS Wales Cymru, St Cadocs Hospital, Newport NP18 3XQ	Convener Diploma in Medical Care of Catastrophes for the Society of Apothecaries of London (unpaid) Member of the Intercollegiate Board for Training in Pre-Hospital Emergency Medicine (unpaid) Presidential Lead Officer for Disaster Management for the Royal College of Psychiatrists (unpaid)

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March 2015

Contents

1 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 person's expected role.

This document provides quality standards for cardiopulmonary resuscitation practice and training in settings that deliver community hospital care.

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

The core standards for providing cardiopulmonary resuscitation across all healthcare settings are described in the document:

Introduction and overview
to quality standards for cardiopulmonary practice and training

Throughout this document the term **Community Hospitals** - includes inpatients and all services held within those premises (e.g. speech and language therapists, physiotherapists, occupational therapists, podiatrists etc.).

For community hospitals that provide services such as day case surgery with general anaesthesia, standards for Acute Settings may apply.

The Resuscitation Council (UK) recognises that the standards in this document may provide challenges for some community hospitals and the organisations that are responsible for providing them. Intentionally, these standards are aspirational in certain areas. Where appropriate, each section contains links to implementation tools or examples of good practice. Each section also contains guidance on measures to assess adherence to standards.

Terminology:
1. The term 'MUST' has been used when the consensus is that the standard promotes normal practice and is obligatory.
2. The term 'SHOULD' has been used when the consensus is that the standard promotes normal practice.
3. The term 'RECOMMENDS' is used when the consensus is that the standard promotes best practice.

The Resuscitation Council (UK) recommends that each community hospital organisation considers the implications of these standards and makes suitable arrangements to develop the capabilities that are required.

Organisations should consider training some staff selected from within the organisation to a higher standard than is required generally so that they can undertake the actions that are necessary and/or cascade training within their

facilities. Additionally, organisations could establish a suitable service level agreement with: acute healthcare services that are sufficiently close geographically; ambulance services; or external training organisations. Community hospital organisations may require a combination of arrangements.

2 Resuscitation Committee/Service Structure

Many organisations that provide community hospital care do not have a separate Resuscitation Committee within the service. However, they should have a system that incorporates the duties of resuscitation services into their governance and clinical structures. This varies with each organisation and within which jurisdiction patients are cared for and treated in the UK. In addition, the Resuscitation Council (UK) recognises that the structure of the NHS, and community health services within it, is different in England, Northern Ireland, Scotland and Wales. Therefore this document uses the term Resuscitation Service Structure throughout to avoid repeating the Resuscitation Council's recognition of this situation. Readers should translate the standards specified herein into the structural and functional organisational patterns in each of the countries that comprise the UK.

Standards

1. Every community hospital organisation must have an identified Resuscitation Service Structure with clearly defined terms of reference.
2. Every organisation must have an identified executive board member who is responsible for resuscitation services. This was required in England by Health Services Circular 2000/028 which stated that 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 Service Structure must be part of each responsible authority's management structure (e.g. clinical governance, clinical risk, quality improvement, education service structures).
4. The Resuscitation Service Structure must include local resuscitation experts, representatives from stakeholder groups (e.g. doctors, nurses, resuscitation officers, pharmacists, managers, patient/lay representative(s)), and of appropriate specialties (e.g. ambulance service, anaesthesia, cardiology, dentistry, emergency medicine, general practice, mental health, neonatology, obstetrics, paediatrics). The exact composition of the service structure depends on local needs and arrangements.
5. The lead person who is responsible for the Resuscitation Service Structure must have an active and credible involvement in resuscitation. This person must have the authority to drive and implement change to meet the standards in this document.
6. The Resuscitation Service Structure must have administrative support.
7. The Resuscitation Service Structure is responsible for implementing operational policies governing cardiopulmonary resuscitation, practice and training.
8. In the absence of other organisational arrangements, the Resuscitation Service Structure must also be responsible for implementing operational policies governing prevention of cardiac arrest, including recognition of patients who are deteriorating before they arrest.

9. Clear local arrangements should be negotiated and put in place for the Resuscitation Service Structure to provide advice to other local healthcare organisations that do not have the expertise that is necessary in resuscitation policies, training, clinical practice, monitoring and audit.
10. The Resuscitation Service Structure must determine the level of resuscitation training required by staff members.
11. At least twice-yearly meetings of the Resuscitation Service Structure are recommended.
12. Responsibilities of the Resuscitation Service Structure include:
    - ensuring implementation and adherence to national resuscitation guidelines and standards;
    - defining the roles and composition of the resuscitation team (or the summoning of ambulance service) within the organisation;
    - 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 according to local policy, and ready for use;
    - planning adequate provision of training in resuscitation;
    - determining requirements for, and choice of resuscitation training equipment;
    - preparing and implementing all policies relating to resuscitation (this may include managing anaphylaxis);
    - preparing and implementing policies relating to prevention of cardiac arrest and recognising patients who are deteriorating;
    - preparing and implementing a policy on resuscitation decisions (e.g. DNACPR decisions and advanced care planning);
    - quality improvement – action plans should be based on audits;
    - recording and reporting of incidents in relation to resuscitation in which patients' safety may have been at risk.
13. The organisation must ensure that there is defined financial support for the Resuscitation Service Structure.

Supporting information

1. NHS Executive. Health Services Circular 2000/028 – Resuscitation Policy.
2. Report a patient safety incident (England): www.nrls.npsa.nhs.uk/report-a-patient-safety-incident/

3 Resuscitation Officers

Standards

1. Every organisation must have at least one person, the resuscitation officer (RO), resuscitation lead, resuscitation services manager, or a person who holds an equivalent role who is responsible for co-ordinating the teaching and training of staff in resuscitation. People in any of these posts are referred to as ROs throughout this document.
2. ROs have additional important responsibilities (e.g. quality improvement, incident review, maintenance of clinical equipment), in conjunction with appropriate clinical governance/risk management structures within the organisation.
3. 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. One whole-time-equivalent RO is required to deliver training for 50% of their working time; this equates to one whole-time RO training no more than 821.5 hours per year – see below for further details. Training may be contracted from outside the organisation, although the organisation holds responsibility for ensuring that training adheres to current RC (UK) standards and guidelines.
5. Smaller organisations must appoint a resuscitation lead who may have other roles as part of their working commitments.
6. ROs or contracted trainers should possess a current Advanced Life Support (ALS) provider certificate (or equivalent) as a minimum standard; ideally, the ALS instructor qualification is recommended. Where appropriate, each organisation must ensure that ROs possess certified resuscitation training certificates in other specialist areas (e.g. paediatrics and trauma).
7. ROs 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.
8. ROs 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 in which there is a desk, computer facilities and filing cabinets, is available.
9. ROs must have adequate access to administrative assistance.
10. The equipment that is required for training varies according to local needs. Adult, paediatric, airway management trainers, an ECG monitor and rhythm simulator, and at least one defibrillator dedicated for training, must be available. The equipment used for training (especially defibrillators) must be the same model as that used in actual clinical practice to ensure appropriate clinical use. All efforts must be made to ensure that duplication of equipment is available to prevent unnecessary moving and handling of equipment, especially if the geographical area covered by an organisation is substantial.
11. There must be a defined capital budget for resuscitation made available for ROs to enable them to maintain, upgrade and purchase new equipment for use with patients and a revenue budget for training. Purchasers and other

funders of health care must be made aware of this when contracts, responsibilities and service agreements are negotiated and adequate provision must be made. The financial support that is necessary for resuscitation services must be taken into account during budget planning by all organisations.

12. ROs must be responsible for ensuring that there are systems in place for maintaining resuscitation equipment in good working order. Often, this requires delegation of routine checking of equipment to other members of staff.
13. ROs must ensure that all cardiorespiratory arrests are documented (by the staff who are involved in the resuscitation attempt) and audited. The results should be sent to the local audit/governance structure.
14. It is recommended that ROs attend cardiorespiratory arrests regularly and/or sustain access to clinical practice in order that they are able to maintain standards and clinical credibility. ROs with a clinical role must have appropriate clinical supervision and support.
15. ROs have a responsibility to maintain their own education in resuscitation. Teaching on resuscitation courses outside the organisation in which they work is recommended in order to achieve this. In addition, attendance at professional meetings must be supported with a budget for study leave and expenses.
16. ROs must not be expected to generate income to provide for their own salaries.
17. If ROs are expected to generate income for the organisation, that commitment should be agreed in writing with the relevant manager. Any income must be directed to improving resuscitation services.

Supporting information

1. Council For Professionals as Resuscitation Officers.
   (contact rocouncil@gmail.com)

Supporting tools

This is an example calculation to support the statement ‘One RO is required to deliver training for 50% of their working time’ (therefore a whole-time-equivalent (37.5 hrs per week) RO can train 821.5 hrs in a year):

	Hours
Whole-time RO = 37.5 hrs per week x 52	1950.00
Less 41 days (7.5 hrs = 307.5) Annual Leave (33) & Bank Holidays (8)	1642.50
Less 50% non- training hours = 821.25	821.25
Total training hours available per RO This is “classroom, mandatory training time” and does not include set up/set down time, preparation, administration, professional updating etc.	**821.25**

The following table is an example of the numbers of whole-time-equivalent (WTE) ROs needed according to number of staff that need training and duration of training sessions.

RO training time = 821.25 hrs (50% of whole time hours)								
Time (hrs) of course	2	3	4	5	2	3	4	5
Number of staff require training	2000	2000	2000	2000	3000	3000	3000	3000
Number per course per RO	6	6	6	6	6	6	6	6
Total Courses required over 12 month period	333.33	333.33	333.33	333.33	500.00	500.00	500.00	500.00
Total RO hrs needed	666.67	1000.00	1333.33	1666.67	1000.00	1500.00	2000.00	2500.00
Number of WTE ROs needed	**0.81**	**1.22**	**1.62**	**2.03**	**1.22**	**1.83**	**2.44**	**3.04**

RO training time = 821.25 hrs (50% of whole time hours)								
Time (hrs) of course	2	3	4	5	2	3	4	5
Number of staff require training	4000	4000	4000	4000	5000	5000	5000	5000
Number per course per RO	6	6	6	6	6	6	6	6
Total Courses required over 12 month period	666.67	666.67	666.67	666.67	833.33	833.33	833.33	833.33
Total RO hrs needed	1333.33	2000.00	2666.67	3333.33	1666.67	2500.00	3333.33	4166.67
Number of WTE ROs needed	**1.62**	**2.44**	**3.25**	**4.06**	**2.03**	**3.04**	**4.06**	**5.07**

1. This is classroom time and does not include set up/set down time, preparation, administration etc.
2. The calculation above also does not include accredited courses (to maintain qualifications) or other training such as ward-based scenario or other types of sessions.
3. 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.
4. The remainder of ROs' time includes other responsibilities such as audit, governance, DNACPR, clinical commitments, attending cardiac arrest calls, planning, finance, equipment checks etc.

4 Training staff

Standards

1. All healthcare staff must undergo training in resuscitation at induction and at regular intervals thereafter to maintain their knowledge and skills.
2. Training must be to a level appropriate for each person's expected clinical responsibilities.
3. Training must include using an 'early warning scoring' system to identify patients who are deteriorating, including using 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 that used in actual clinical care. Use of the National Early Warning Score (NEWS) or equivalent (e.g. Modified Early Warning Score (MEWS)) is recommended for these purposes. For children, the use of paediatric early warning scoring systems is recommended.
4. Training must be in place to ensure that clinical staff possess the competencies defined in the Department of Health document 'Competencies for Recognising and Responding to Acutely Ill Patients in Hospital'.
5. 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 three minutes of collapse using an automated external defibrillator.
6. Clinical staff should have at least annual updates.
7. Training and updates that include an assessment are recommended for clinical staff.
8. The expectation is that non-clinical staff have the resuscitation skills that would be expected from a lay person. As a minimum, non-clinical staff must be trained to:
    - recognise cardiorespiratory arrest;
    - summon help;
    - start CPR using chest compressions.
9. All staff must know how to summon help and be aware of the protocol for the settings in which they work. This could be dialling 999 in some community hospital settings. A variety of methods for all staff 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 methods used must be determined locally. For example, training interventions such as Lifesaver (www.life-saver.org.uk) developed by the Resuscitation

Council (UK), or very brief videos aimed at lay persons may be appropriate for non-clinical staff. 'Hands-on' simulation training and assessment is recommended for clinical staff.

10. A system must be in place for identifying resuscitation equipment that requires special training, such as defibrillators and emergency suction equipment.
11. All new members of staff must have training in resuscitation as part of their induction programmes.
12. ROs or resuscitation leads must organise and coordinate resuscitation training for staff. However, ROs may delegate some aspects of training in order to achieve training targets.
13. Organisations must recognise and make provision for staff to have enough time to train in resuscitation skills as part of their employment.
14. Specific training for cardiorespiratory arrests in special circumstances (e.g. children and patients who have suffered blood loss) must be provided for medical, nursing and other clinical staff in the relevant specialties.
15. All clinical staff must receive training in recognising, monitoring and managing patients whose physical conditions are deteriorating.
16. All training must be recorded (e.g. in the organisation's training database).
17. Members of resuscitation teams (if available) who are involved in resuscitation regularly, and particularly team leaders, may require a level of training beyond that provided by local ROs, if not provided by local RO these members of staff should be encouraged and supported to attend national courses such as the Advanced Life Support (ALS) course.

Supporting information

1. 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. www.legislation.gov.uk/uksi/2012/1916/contents/made
2. 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.
   www.rcplondon.ac.uk/resources/national-early-warning-score-news
3. Resuscitation Guidelines 2010. Resuscitation Council (UK).
   www.resus.org.uk/pages/guide.htm
4. Soar J, Monsieurs KG, Ballance JH, Barelli A, Biarent D, Greif R, Handley AJ, Lockey AS, Richmond S, Ringsted C, Wyllie JP, Nolan JP, Perkins GD. European Resuscitation Council Guidelines for Resuscitation 2010. Section 9. Principles of education in resuscitation. Resuscitation. 2010: 81: 1434-44.
5. Soar J, Mancini ME, Bhanji F, Billi JE, Dennett J, Finn J, Ma MH, Perkins GD, Rodgers DL, Hazinski MF, Jacobs I, Morley PT; Education, Implementation, and Teams Chapter Collaborators. Part 12: Education, implementation, and teams: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Resuscitation. 2010 Oct;81 Suppl 1:e288-330.

Supporting tools

1. Lifesaver. An interactive film by Martin Percy. 2013.
   Mobile app:
   https://itunes.apple.com/gb/app/lifesaver-mobile/id633999639?ls=1&mt=8
   https://play.google.com/store/apps/details?id=air.com.unit9.lifesaver.android.mobile
   Tablet app:
   https://itunes.apple.com/gb/app/lifesaver-for-ipad/id633568035?ls=1&mt=8
   https://play.google.com/store/apps/details?id=air.com.unit9.lifesaver.android.tablet
2. Paediatric Early Warning Scoring (PEWS) charts are available for download at:
   www.institute.nhs.uk/safer_care/paediatric_safer_care/pews_charts.html
3. Resuscitation Training for Anaesthetists in Raising the Standard: A compendium of audit recipes for continuous quality improvement in anaesthesia.
   www.rcoa.ac.uk/news-and-bulletin/rcoa-news-and-statements/the-audit-recipe-book-3rd-edition-2012
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.

5 Prevention of cardiorespiratory arrest

Standards

1. The use of the 'Chain of Prevention' concept is recommended as a basis for structuring each organisation's responses to situations when patients deteriorate and preventing cardiorespiratory arrest.
2. Every community hospital organisation must have an education programme that is focused on preventing patients' deterioration that is provided for ward staff and clinical personnel who respond to patients' needs. It is recommended that staff attain the necessary competences identified in the Department of Health document 'Competencies for Recognising and Responding to Acutely Ill Patients in Hospital' (2009).
3. Every organisation must have a clear policy for monitoring 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)], National Institute for Health and Clinical Excellence Clinical Guideline 25 (2007), NPSA Rapid Response Report (2008/RRR010) and the Royal College of Physicians National Early Warning Score (NEWS) (2012).
4. An early warning scoring system (MEWS, Track & Trigger, RAG etc.) must be in place to identify patients who are critically ill and who are, therefore, at risk of cardiorespiratory arrest. The use of the National Early Warning Score (NEWS) or equivalent, or a paediatric early warning score for children is recommended.
5. Every organisation must have a patient charting system that facilitates regular measurement and recording of early warning scores.
6. Every organisation must have a clear, universally known and understood, mandated, unambiguous, graded activation protocol for escalating monitoring or summoning responses to deteriorating patients. Its use should be standardised across each organisation.
7. The use of a standardised method for communicating information about deteriorating patients (e.g. SBAR, RSVP) between staff members is essential.
8. When acute clinical crises are identified by clinical triggers or other indicators, a 999 ambulance must be called if there is no designated resuscitation team.
9. Every 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 onsite/on call doctors and nursing staff, and include when and how to call for an out of hours or ambulance service. The reasons for non-escalation must be documented clearly in the case notes if this practice is not followed.

Supporting information

1. Competencies for Recognising and Responding to Acutely Ill Patients in Hospital. Department of Health. 2009.
   www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_096989

2. 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.
www.rcplondon.ac.uk/resources/national-early-warning-score-news
3. National Outreach Forum (2012). Operational standards and competencies for critical care outreach services. www.norf.org.uk
4. 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.
5. Smith GB. In-hospital cardiac arrest: Is it time for an in-hospital 'chain of prevention'? Resuscitation 2010.
6. Soar, J. Smith GB. Prevention of in-hospital cardiac arrest and 42 decisions about cardiopulmonary resuscitation. Resuscitation Guidelines 2010. Resuscitation Council (UK). www.resus.org.uk/pages/poihca.pdf
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. 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.
www.rcoa.ac.uk/news-and-bulletin/rcoa-news-and-statements/the-audit-recipe-book-3rd-edition-2012

6 The resuscitation team and/or responding personnel

Standards

1. Unless the organisation that delivers community hospital care is situated on the same site as an acute hospital, which provides a resuscitation team, that is specifically contracted to deliver an on call service, a 999 ambulance should be called immediately for any patient who collapses. In the interval before an ambulance arrives, staff should be capable of deploying the skills that are identified in paragraph 4 below.
2. The Resuscitation Service Structure must determine the composition of the resuscitation team/responding personnel. This is likely to vary depending on location and clinical need. All clinical facilities must have access to an outside telephone line to summon the 999 ambulance service. A 999 ambulance must be called for any cardiorespiratory arrest unless there is a local resuscitation team available.
3. The RO must be informed of all cardiorespiratory arrests.
4. The staff who respond immediately must have the following **minimum skills**:
    - CPR;
    - defibrillation (automated external defibrillation);
    - basic airway interventions including bag-mask ventilation and, or supraglottic airway;
    - skills required for immediate post- resuscitation care.

    The following skills are strongly recommended and their need should be determined locally:

    - intravenous cannulation;
    - intraosseous access;
    - drug administration.
5. The designated responding personnel must be summoned in response to every cardiorespiratory arrest or when patients collapse.
6. Activation of the designated responding personnel must also be part of the local escalation plan for patients whose conditions deteriorate.
7. Each community hospital organisation must ensure that the designated responding personnel are activated within 30 seconds of the call for help.
8. The team leader is responsible for:
    - directing and co-ordinating each resuscitation attempt;
    - ensuring that current guidelines are followed;
    - ensuring the safety of those present;
    - ending resuscitation attempts when indicated (if applicable to the individuals clinical role and training);
    - documenting each attempt to resuscitate (including ensuring that audit and incident report are completed in a timely way and submitted);

- communication with relatives;
- handover of care to other clinical teams;
- diagnosis and documentation of death if appropriate.

9. Some of these responsibilities may require delegation to other team members (e.g. death certification by a registered doctor).
10. Each organisation should have a policy on providing support for relatives during resuscitation attempts. The designated responding personnel are responsible for ensuring compliance with that policy.
11. The designated responding personnel should arrange patients' transfer after their resuscitation.
12. Team debriefings of designated personnel are recommended. The exact mechanism (e.g. end of each event, end of each shift, weekly) must be determined locally.
13. Every organisation that delivers community hospital care must ensure that a complete and detailed record of each cardiorespiratory arrest is retained within relevant patient's clinical records. Collection of data at the time of arrest is recommended for audit.

Supporting information

1. Deakin CD, Nolan JP, Soar J, Sunde K, Koster RW, Smith GB, Perkins GD. European Resuscitation Council Guidelines for Resuscitation 2010 Section 4. Adult advanced life support. Resuscitation. 2010 Oct;81(10):1305-52.
2. 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. www.ncepod.org.uk

7 Resuscitation of children

Standards

1. Unless organisations that deliver community hospital care are situated on the same site as an acute hospital, a 999 ambulance should be called immediately to each child who collapses or deteriorates (see section on the resuscitation of children in standards for acute care).
2. Organisations have a duty to ensure that staff who work with children are trained accordingly.
3. The designated responding personnel must have knowledge about the equipment and doses of drugs (the availability of which should be determined by local policy) that children require. They must understand the differences in causes of, and treatment required by cardiorespiratory arrest in children as compared with adults.
4. The designated responding personnel must be familiar with their expected roles and should be trained specifically in paediatric resuscitation.
5. When resuscitating children, particular consideration must be given to allowing relatives or caretakers to be present during resuscitation attempts. 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.
6. 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.
7. Where appropriate, a separate DNACPR form and/or Emergency Healthcare Plan (EHP) is recommended for children.

Supporting information

1. Biarent D, Bingham R, Eich C, López-Herce J, Maconochie I, Rodríguez-Núñez A, Rajka T, Zideman D. European Resuscitation Council Guidelines for Resuscitation 2010 Section 6. Paediatric life support. Resuscitation. 2010 Oct;81(10):1364-88.
2. de Caen AR, Kleinman ME, Chameides L, Atkins DL, Berg RA, Berg MD, Bhanji F, Biarent D, Bingham R, Coovadia AH, Hazinski MF, Hickey RW, Nadkarni VM, Reis AG, Rodriguez-Nunez A, Tibballs J, Zaritsky AL, Zideman D; Paediatric Basic and Advanced Life Support Chapter Collaborators. Part 10: Paediatric basic and advanced life support: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Resuscitation. 2010 Oct;81 Suppl 1:e213-59.
3. 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:

Supporting tools

1. Biarent D, Bingham R, Eich C, López-Herce J, Maconochie I, Rodríguez-Núñez A, Rajka T, Zideman D. European Resuscitation Council Guidelines for Resuscitation 2010 Section 6. Paediatric life support. Resuscitation. 2010 Oct;81(10):1364-88.
2. de Caen AR, Kleinman ME, Chameides L, Atkins DL, Berg RA, Berg MD, Bhanji F, Biarent D, Bingham R, Coovadia AH, Hazinski MF, Hickey RW, Nadkarni VM, Reis AG, Rodriguez-Nunez A, Tibballs J, Zaritsky AL, Zideman D; Paediatric Basic and Advanced Life Support Chapter Collaborators. Part 10: Paediatric basic and advanced life support: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Resuscitation. 2010 Oct;81 Suppl 1:e213-59.
3. Paediatric resuscitation in Raising the Standard: A compendium of audit recipes for continuous quality improvement in anaesthesia. www.rcoa.ac.uk/news-and-bulletin/rcoa-news-and-statements/the-audit-recipe-book-3rd-edition-2012
4. Paediatric Early Warning Scoring (PEWS) charts are available for download at: www.institute.nhs.uk/safer_care/paediatric_safer_care/pews_charts.html
5. 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 Resuscitation in special circumstances

Standards

1. Organisations that deliver community hospital care must have policies and procedures in place for resuscitation in special circumstances such as care of the patient who is pregnant.

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. www.tracheostomy.org.uk
3. Regional Networks for Major Trauma NHS Clinical Advisory Groups Report. September 2010.
4. Soar J, Perkins GD, Abbas G, Alfonzo A, Barelli A, Bierens JJ, Brugger H, Deakin CD, Dunning J, Georgiou M, Handley AJ, Lockey DJ, Paal P, Sandroni C, Thies KC, Zideman DA, Nolan JP. European Resuscitation Council Guidelines for Resuscitation 2010: Section 8. Cardiac arrest in special circumstances: Electrolyte abnormalities, poisoning, drowning, accidental hypothermia, hyperthermia, asthma, anaphylaxis, cardiac surgery, trauma, pregnancy, electrocution. Resuscitation. 2010; 81: 1400-33.

9 Transferring patients

After successful resuscitation patients must be transferred to acute hospitals for more specialised care. Transfers must be carried out by the 999 ambulance service, a retrieval team, or by local arrangements. All transfers should follow the appropriate national guidance.

In all cases, organisations should have systems in place to ensure handover of care and safe transfer.

Supporting information

1. Association of Anaesthetists of Great Britain and Ireland (AABBI) Safety Guideline – Interhospital Transfer. 2009. www.aagbi.org/
2. Intensive Care Society. Guidelines for the transport of the critically ill adult (3rd Edition 2011). www.ics.ac.uk/
3. Paediatric Intensive Care Society. Standards for the care of critically ill children. 4th Edition, version 2. June 2010. www.ukpics.org.uk/documents/PICS_standards.pdf

10 Post-cardiac-arrest care

Community hospital organisations must transfer to acute inpatient units all patients who have been resuscitated after a cardiorespiratory arrest for further post resuscitation care. Post cardiac arrest care must be based upon the current standards produced by the Intensive Care Society.

Supporting information

1. Intensive Care Society. Standards for the management of patients after cardiac arrest. October 2008.
   www.ficm.ac.uk/news-events/guidelines-provision-intensive-care-services-gpics-consultation

11 Resuscitation equipment

Standards

Equipment lists for specific healthcare settings are contained in the separate document section:

Minimum equipment and drug lists for cardiopulmonary resuscitation

Supporting tools

1. Resuscitation equipment checks in Raising the Standard: A compendium of audit recipes for continuous quality improvement in anaesthesia.
   www.rcoa.ac.uk/news-and-bulletin/rcoa-news-and-statements/the-audit-recipe-book-3rd-edition-2012

12 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 (determined by local policy) and competency in so doing, and similarly those who undertake the sensitive discussions with patients and staff who are 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. The 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. This must include the ambulance service, in particular, 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 staff who are 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 people 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 people who are close to them, but should not be used as an attempted substitute for sensitive, face-to-face discussions with suitably trained and competent healthcare professionals.

Supporting information

1. Adults with incapacity (Scotland) Act 2000 Part 5 Code of Practice. www.scotland.gov.uk/Publications/2008/06/13114117/0
2. Guidance from the British Medical Association, the Resuscitation Council (UK), and the Royal College of Nursing. 2014. www.resus.org.uk/pages/DNAR.htm
3. Mental Capacity Act 2005 (England and Wales). www.legislation.gov.uk/ukpga/2005/9/contents
4. NHS Executive. Health Services Circular 2000/028 – Resuscitation Policy.
5. Recommended standards for recording decisions about cardiopulmonary resuscitation. Resuscitation Council (UK). Revised 2015. www.resus.org.uk/pages/DNARrstd.htm
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. www.ncepod.org.uk
7. Treatment and care towards the end of life: good practice in decision making, General Medical Council. May 2010. www.gmc-uk.org/guidance/news_consultation/7046.asp

Supporting tools

1. The National End of Life Care Programme provides a DNACPR web resource: www.endoflifecare.nhs.uk/search-resources/dnacpr-web-resource.aspx
2. The Resuscitation Council (UK) provides model DNACPR forms for use in adults and children respectively. www.resus.org.uk/pages/dnarrstd.htm
3. Scotland has a single DNACPR policy. For more information including supporting tools see: www.scotland.gov.uk/Topics/Health/Quality-Improvement-Performance/Living-Dying-Well/DNACPR

13 Audit and reporting

Standards

1. NCEPOD recommends that every CPR attempt is reported through healthcare organisations' patient safety incident reporting systems. 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 supporting tools below.
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 (This is only appropriate if a community hospital organisation has access to a resuscitation team summoned by the use of 2222).
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 an appropriate level must be undertaken. The Resuscitation Service Structure must receive appropriate support to achieve this.

Supporting information

1. The Mid Staffordshire NHS Foundation Trust Public Inquiry - Chaired by Robert Francis QC.
   www.midstaffspublicinquiry.com
2. National Cardiac Arrest Audit. www.resus.org.uk/pages/ncaa.htm
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.
   www.rcoa.ac.uk/news-and-bulletin/rcoa-news-and-statements/the-audit-recipe-book-3rd-edition-2012
5. Report a patient safety incident.
   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. 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 12 hours preceding the arrest 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 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/DNACPR status?
10. Has the review identified any other issues (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 Director, The Learning Clinic*

14 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 Service Structure can be a valuable source of advice for staff who are contemplating undertaking clinical research in resuscitation.

Supporting information

1. National Research Ethics Service.
   www.nres.nhs.uk/EasysiteWeb/getresource.axd?AssetID=355&type=full&servicetype=Attachment
2. National Research Ethics Service Does my project require review by a Research Ethics Service Structure?
   www.nres.nhs.uk/EasySiteWeb/GatewayLink.aspx?alId=134016
3. NHS Constitution 2010.
   www.nhs.uk/choiceintheNHS/Rightsandpledges/NHSConstitution/Documents/nhs-constitution-interactive-version-march-2010.pdf

12 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 Service Structure standards	
1, 2, 3, 4, 5, 6	Check list
7, 8	Resuscitation Policy and minutes of meetings
10	Trust Training Policy
11	Minutes of meetings
12	Terms of reference, Annual report
13	Audit of accounts
Resuscitation Officers standards	
1	Staffing records
2	RO job description or person specification
5	Evidence from RO appraisal
6, 7	Inspection
8	Accounts
9	Evidence of equipment checklists, action plans and Equipment policy
10	Audit reports
11, 12	RO appraisal
Training of staff standards	
1, 2	Resuscitation Policy, Induction programme; training records; training matrix
3	Course content, lesson plans
4	Training records
5	Records of training sessions, competency documents
6, 7, 8, 9	Training records, Audit of individual cardiac arrests

10	Minutes of resuscitation Service Structure meetings; medical devices Service Structure records
11	Induction programme and records
13, 14, 15, 16, 17	Staff training records
Prevention of cardiorespiratory arrest standards	
1, 2	Copy of policy
3	Copy of policy
3, 4, 5, 6	Copy of policy, patient observation chart and escalation plan
7	Documentation and evidence of training
8, 9	Copy of policy
Supporting information	Patient observation chart and escalation plan
The resuscitation team standards	
1	Copy of policy and minutes of meetings
2, 3, 4, 5, 6, 7, 8	Copy of policy
9	Policy and documentation
10	Copy of policy, and switchboard records
11	Switchboard test log
12	Policy, training records and certificates
13	Copy of policy, debriefings
14	Documentation and audit reports
Resuscitation of children standards	
1,4, 5, 6	Copy of policy
2	Policy and training records
3	Training records and certificates
Resuscitation in special circumstances standards	
1	Policy
Patient transfer standards	Policy

Post cardiac arrest care standards	Policy, Care Pathway, Care Bundles for use on critical care units
Decisions relating to cardiopulmonary resuscitation standards	Policy
Audit and reporting standards	
1	Policy, minutes of Trust Board meetings, audit
2, 4	Documentation
3	Registration with NCAA, and NCAA reports
5	Minutes of meetings
Research standards	
1, 2, 3	Policy; Ethics Service Structure minutes and records

Resuscitation Council (UK)

Minimum equipment and drug lists for cardiopulmonary resuscitation

Community Hospitals

Resuscitation Council (UK)
5th Floor
Tavistock House North
Tavistock Square
London
WC1H 9HR

Tel: 020 7388 4678
Fax: 020 7383 0773

Website: www.resus.org.uk
Email: enquiries@resus.org.uk

Registered Charity No. 286360

Published by the Resuscitation Council (UK)

Hyperlinks to other document sections or external websites are shown in blue.

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Contents

Drug tables for cardiac arrest are highlighted in the text with the symbol !

1 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.

As part of the quality standards for cardiopulmonary resuscitation practice and training this document provides lists of the minimum equipment and drugs required for cardiopulmonary resuscitation in settings that deliver mental healthcare. These lists are categorised according to the clinical setting.

This document is referred to by the standards documents pertaining to specific clinical settings. Links to these documents are provided below:

- **Acute care**
- **Primary care**
- **Primary dental care**
- **Mental health inpatient care**
- **Community Hospital care**

The core standards for the provision of cardiopulmonary resuscitation across all healthcare settings are described in the document:

- **Introduction and overview**
  to quality standards for cardiopulmonary practice and training

Throughout this document the term **Community hospitals** includes inpatients and all services held within those premises (e.g. speech and language therapists, physiotherapists, occupational therapists, podiatrists).

2 General points

1. All clinical service providers must ensure that their staff have immediate access to appropriate resuscitation equipment and drugs to facilitate rapid resuscitation of the patient in cardiorespiratory arrest. The standard defibrillator sign should be used in order to reduce delay in locating a defibrillator in an emergency www.resus.org.uk/pages/AEDsign.htm
2. All settings must have a means of calling for help (e.g. landline telephone [internal or external], mobile telephone with reliable signal, or alarm bell).
3. Standardisation of the equipment used for cardiopulmonary resuscitation (including defibrillators and emergency suctioning equipment), and the layout of equipment and drugs throughout an organisation is recommended.
4. It is recognised that planning for every eventuality is complex, therefore, organisations must undertake a risk assessment to determine what resources are required given their local circumstances. Risk factors to consider include patient group (e.g. adults, children), incidence of cardiac arrest, training of staff, and access to expert help.
    a. Community hospitals may need special provisions (e.g. for failed intubation, tracheostomy care, cardiac arrest in pregnancy etc.).
    b. Some settings need a wide range of equipment immediately available (e.g. resuscitation room in emergency department). Suggested options include having basic equipment (and possibly drugs) available immediately (on a resuscitation trolley), and further equipment and drugs arriving with a resuscitation team (in a ‘grab-bag’), or in some settings as part of an ambulance response.
    c. Staff should be trained to use the available equipment according to their expected roles.
5. Depending on the organisation, this risk assessment must be overseen by a Resuscitation Service Structure or a designated resuscitation lead. Expert advice should also be sought locally from those regularly involved in resuscitation (e.g. resuscitation officers, emergency physicians, cardiac care unit staff, intensivists, anaesthetists, prehospital care physicians).
6. Resuscitation equipment should be single-patient-use and latex-free, whenever possible and appropriate. Where non-disposable equipment is used, a clear policy for decontamination after each use must be available and must be followed.
7. Personal protective equipment (e.g. gloves, aprons, eye protection) and sharps boxes must be available, based on a local risk assessment and local polices.
8. A reliable system of equipment checks and replacement must be in place to ensure that equipment and drugs are always available for use in a cardiac arrest. The frequency of checks should be determined locally.
9. It is recommended that equipment and drugs are presented in a clear and logical manner to enable easier use during an emergency.
10. The manufacturer’s instructions must be followed regarding use, storage, servicing and expiry of equipment and drugs.

11. Further equipment and drugs may be needed to manage other types of emergencies that are likely to be encountered in a particular setting; this may include:
    - monitoring equipment (e.g. blood pressure, pulse oximetry, 3-lead electrocardiogram [ECG], temperature, waveform capnography);
    - 12-lead ECG recorder;
    - near-patient tests (e.g. blood glucose, blood gas analysis).
12. A formal procurement process that includes trialing of equipment before purchase is recommended. Trialing of resuscitation equipment can take place in actual care settings or in simulated patient scenarios.
13. The precise availability of equipment and drugs should be determined locally. The lists include a suggestion on the immediacy with which equipment and drugs should be available:
    a. Immediate – available for use within the first minutes of cardiarespiratory arrest (i.e. at the start of the resuscitation).
    b. Accessible – available for prompt use when the need is determined by the resuscitation team.

    These lists are not exhaustive. Local experts should be consulted to ensure the appropriate equipment and drugs are available when they are needed, to enable provision of high-quality attempted resuscitation.

3

Community Hospitals – ADULT

AIRWAY AND BREATHING

Item	Suggested availability	Comments
Pocket mask with oxygen port & oxygen tubing	Immediate	
Oxygen mask with reservoir	Immediate	
Self-inflating bag with reservoir	Immediate	
Clear face masks, sizes 3, 4, 5	Immediate	For use with self inflating bag
Oropharyngeal airways, sizes 2, 3, 4	Immediate	
Nasopharyngeal airways, sizes 6, 7 (and lubrication)	Immediate	Will depend on local policy and staff training
Portable suction (battery or manual) with Yankauer sucker and soft suction catheters	Immediate	Airway suction equipment. NPSA Signal. Reference number 1309. February 2011.
Supraglottic airway device with syringes, lubrication and ties/tapes/scissors as appropriate	Immediate / Accessible	Choice of device (e.g. laryngeal mask airway, i-gel®, laryngeal tube) and size will depend on local policy and staff training
Oxygen cylinder (with key where necessary)	Immediate	
Magill forceps	Immediate	Will depend on local policy and staff training
Stethoscope	Immediate	

Community Hospitals – ADULT		
CIRCULATION		
Item	**Suggested availability**	**Comments**
Automated external defibrillator (AED)	Immediate	Type of defibrillator and locations determined by a local risk assessment (e.g. manual defibrillators for settings where general anaesthesia undertaken). Available to enable shock within 3 minutes of collapse
Adhesive defibrillator pads x 2 packs	Immediate	
Razor	Immediate	
ECG electrodes	Immediate	If monitoring devices are available
Tuff Cut Scissors	Immediate	
Intravenous cannulae (selection of sizes) and 2% chlorhexidine/alcohol wipes, tourniquets and cannula dressings	Immediate / Accessible	Will depend on local policy and staff training
Adhesive tape	Immediate / Accessible	
Intravenous infusion set	Accessible	Will depend on local policy and staff training
0.9% sodium chloride (1000 ml)	Accessible	Amount depends on access to further fluids
Selection of needles and syringes	Accessible	Will depend on local policy and staff training
Intraosseous access device	Accessible	Will depend on local policy and staff training
Dressing Pads x 2	Immediate	

Community Hospitals – ADULT

OTHER ITEMS

Item	Suggested availability	Comments
Clock/timer	Accessible	
Gloves, aprons, eye protection	Immediate	Further personal protective equipment may be required according to local policy
Sharps container and clinical waste bag	Immediate	Sharps container must be immediately available wherever sharps used
2% chlorhexidine / alcohol wipes	Accessible	
Blood sample tubes	Accessible	Usually in clinical room, must not delay transfer
Blood glucose analyser with appropriate strips	Accessible	According to local policy
Manual handling equipment	Accessible	According to setting. See Guidance for safer handling during resuscitation in healthcare settings Resuscitation Council (UK) November 2009
Cardiorespiratory arrest record forms for patient notes, Audit forms and DNACPR forms	Accessible	
Access to algorithms, emergency drug doses	Accessible	

Community Hospitals – ADULT

CARDIAC ARREST DRUGS – FIRST LINE for intravenous use

Item	Suggested availability	Comments
Adrenaline 1mg (= 10 ml 1:10,000) IV as a prefilled syringe x 3	Immediate	Number of syringes depends on access to further syringes. 1 syringe needed for each 4-5 min of CPR. Will depend on local policy and staff training
Amiodarone 300mg as a prefilled syringe x1	Accessible	First dose required after 3 defibrillation attempts. Will depend on local policy and staff training

Community Hospitals – ADULT		
OTHER DRUGS		
Item	**Suggested availability**	**Comments**
Adrenaline 1mg (1 ml 1:1000) IM	Immediate	First line for anaphylaxis – 0.5 mg intramuscular injection in adults
Chlorphenamine 10 mg IV / IM x 2	Accessible	Second line for anaphylaxis, can also be given intramuscularly. Will depend on local policy and staff training
Hydrocortisone 100 mg IM / IV x 2	Accessible	Second line for anaphylaxis, can also be given intramuscularly. Will depend on local policy and staff training
Aspirin 300 mg and other antithrombotic agents	Accessible	For acute coronary syndrome. Will depend on local policy and staff training
Furosemide 50 mg IV x 2	Accessible	Will depend on local policy and staff training
Flumazenil 0.5 mg IV x 2	Accessible	Will depend on local policy and staff training
Nalaxone 400 micrograms x 5 IM /IV	Accessible	Will depend on local policy and staff training
Midazolam 10 mg (1ml) Buccal	Accessible	Will depend on local policy and staff training
Glucagon 1 mg IM / IV x 2	Accessible	
GTN spray	Accessible	
Ipratropium bromide 500 microgram nebules x 2 (and nebulizer device)	Accessible	Will depend on local policy and staff training
Salbutamol 5 mg nebules x 2 (and nebulizer device	Accessible	

NOTES: Community Hospitals – ADULT

1. A 999 ambulance must be called for any cardiorespiratory arrest unless there is a local Resuscitation team available.

Supporting information

1. Association of Anaesthetists of Great Britain and Ireland (AAGBI) Safety Guideline – Interhospital Transfer. 2009. www.aagbi.org
2. Intensive Care Society. Guidelines for the transport of the critically ill adult (3rd Edition 2011). www.ics.ac.uk

4

Community Hospitals – PAEDIATRIC

AIRWAY AND BREATHING

Item	Suggested availability	Comments
Pocket mask with oxygen port & oxygen tubing	Immediate	Will depend on local policy and staff training
Oxygen mask with reservoir & oxygen tubing	Immediate	Will depend on local policy and staff training
Self-inflating bag with reservoir & oxygen tubing	Immediate	Will depend on local policy and staff training
Oropharyngeal airways size 0, 1 and tongue depressor	Immediate	Will depend on local policy and staff training
Portable suction (battery or manual) with Yankauer sucker and soft suction catheters	Immediate	Soft suction catheters will be dependant on suction device available
Oxygen cylinder (with key if necessary)	Immediate	

Community Hospitals – PAEDIATRIC

CIRCULATION

Item	Suggested availability	Comments
Defibrillator - Manual and/or automated external defibrillator (AED)	Immediate	Type of defibrillator and locations decided by a local risk assessment. AEDs are not suitable for infants (less than 12 months old) and this should be considered at risk assessment
Adhesive defibrillator pads – paediatric and adult sizes	Immediate	Spare set of pads also recommended
Intravenous cannulae (selection ofsizes) and 2% chlorhexidine / alcohol wipes, tourniquets and dressings	Accessible	Will depend on local policy and staff training
Adhesive tape	Accessible	
Intravenous infusion sets (with and without incorporated burette)	Accessible	Will depend on local policy and staff training
IV extension set with 3-way taps and bungs	Accessible	Will depend on local policy and staff training
0.9% sodium chloride	Accessible	Will depend on local policy and staff training
10% Dextrose	Accessible	
Selection of needles and syringes	Accessible	
Intraosseous access device with needles suitable for children and adults	Accessible	Will depend on local policy and staff training

Community Hospitals – PAEDIATRIC		
CARDIAC ARREST DRUGS – FIRST LINE for intravenous use !		
Item	**Suggested availability**	**Comments**
Adrenaline 1mg (= 10 ml 1:10,000) IV prefilled syringe(s)	Immediate	According to local policy
Chlorphenamine 10 mg IM x 2	Accessible	Second line for anaphylaxis, can also be given intramuscularly. Will depend on local policy and staff training
Hydrocortisone 100 mg IM / IV x 2	Accessible	Second line for anaphylaxis, can also be given intramuscularly. Will depend on local policy and staff training

* These lists refer to drug availability and not to the doses used for the treatment of children. Correct dosing is available at http://resus.org.uk/pages/PETchart.pdf

Community Hospitals – PAEDIATRIC		
OTHER ITEMS		
Item	**Suggested availability**	**Comments**
Clock / timer	Accessible	
Gloves, aprons, eye protection	Immediate	
Manual handling equipment	Accessible	According to setting. See Guidance for safer handling during resuscitation in healthcare settings Resuscitation Council (UK) November 2009
Cardiac arrest record form for patient notes and audit forms	Accessible	

Community Hospitals – PAEDIATRIC		
OTHER EMERGENCY DRUGS		
Item	**Suggested availability**	**Comments**
Adrenaline 1mg (1 ml 1:1000) IM	Immediate	First line for anaphylaxis for intramuscular use
Glucagon 1 mg IM x 2	Accessible	
Salbutamol 5mg nebules x 2 (and nebulizer device)	Accessible	

* These lists refer to drug availability and not to the doses used for the treatment of children. Correct dosing is available at http://resus.org.uk/pages/PETchart.pdf

NOTES - **Community Hospitals** – PAEDIATRIC

1. A 999 ambulance must be called for any cardiorespiratory arrest unless there is a local Resuscitation team available.