**Cardiopulmonary Resuscitation Policy**

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| Summary of most recent changes: | - Removal of DNACPR element of the policy to form a separate stand alone policy  
  - Updating of SUHT to UHS  
  - Inclusion of updated Cardiac arrest form  
  - Updated cardiac arrest teams  
  - Updated Acutely Ill referral pathway  
  - Inclusion of Safe Handling During Resuscitation Guidance  
  - Addition of CPR algorithms for adults and paediatrics |
| Consultation: | Resuscitation Committee, Governance, Medical staff, Nursing staff |
| Equality Impact Assessments completed and policy promotes equity | 9 October 2014 |
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The Trust strives to ensure equality of opportunity for all, both as a major employer and as a provider of health care. This document has therefore been equality impact assessed to ensure fairness and consistency for all those covered by it, regardless of their individual differences, and the results are available on request.
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Executive Summary

The Cardiopulmonary Resuscitation Policy sets out the principles by which patients who have suffered to cardiac arrest whilst under the care of University Hospitals Southampton NHS Foundation Trust (UHS) are managed, in accordance with current European / UK Resuscitation Council guidelines. This policy will always be applicable in the absence of any 'Do Not Attempt Cardiopulmonary Resuscitation' decisions.

This policy fully is in accordance with the recommendations for clinical practice and training in cardiopulmonary resuscitation published by the Resuscitation Council (UK) (2010) and has been constructed to promote compliance with regulators’ requirements and best practice.

The policy applies to adult and paediatric cardiopulmonary resuscitation within UHS.

The Trust acknowledges that to ensure optimal outcome from cardiac arrest it is essential to have a strong and cohesive chain of survival, comprising early recognition and call for help, early cardiopulmonary resuscitation, early defibrillation and post resuscitation care. This policy primarily covers the first three links of this chain as most post-resuscitation care is delivered through staff from intensive care units who have their own clinical policies. Survival and well being will be optimised by having appropriately trained staff and a robust system in place for alerting emergency teams.

All clinical and public areas where a cardiac arrest may occur must have adequate resources available and clearly visible. All cardiac arrest equipment must be checked on a daily basis and also after each use, this being documented in order to ensure continual availability of emergency equipment in clinical areas.

Survival and well being will be optimised by having appropriately trained staff and a robust system in place for alerting emergency teams. All staff with frequent, regular patient contact will attend resuscitation training at least every two years, relevant to their role. This training will include, as appropriate, anaphylaxis management, identification and response to the deteriorating patient, Do Not Attempt Cardiopulmonary Resuscitation processes (DNACPR), Resuscitation processes, Safe Handling during Resuscitation and post resuscitation care.

The Trust will support the resuscitation training service by ensuring adequate resources are available to provide relevant levels of training to staff members’ specific to their role and speciality in managing a cardiac arrest. This will include having experienced Resuscitation Officers, a designated training area and appropriate resuscitation equipment.

The policy will be monitored by the Resuscitation Committee, through regular review, compliance with the UHS clinical governance framework and in particular through regular clinical audit cycles.
1 Introduction

The policy fully supports the recommendations for clinical practice and training in cardiopulmonary resuscitation published by the Resuscitation Council (refer to Related External Policies – Resuscitation Council UK) and has been developed to optimise patient care and outcome. In doing so, it sets out the process for managing and mitigating risks associated with resuscitation within University Hospitals Southampton NHS Foundation Trust.

The Trust must provide a resuscitation service for patients, visitors and staff on its sites. The aim is that all staff must be aware of the process for alerting the emergency response across the Trust. All health care staff that have direct patient contact must be able to provide cardiopulmonary resuscitation (CPR) at levels appropriate to their role and healthcare environment in which they are working. As a minimum this is Basic Life Support (BLS). However, some staff e.g. doctors, nurses and technicians must provide elements of advanced life support (ALS), including defibrillation.

CPR is undertaken in an attempt to restore breathing (on occasions with assisted support) and spontaneous circulation in a patient in cardiac and/or respiratory arrest. CPR is an invasive medical procedure and it is therefore essential that it is carried out only on appropriate patients for whom there is likelihood that cardiopulmonary resuscitation would be successful. This policy should be read in conjunction with the UHS DNACPR policy, to ensure that CPR is only initiated for patients when it is appropriate and in their best interests.

1.1 Scope
The policy applies to UHS staff, clinical and non clinical (including voluntary workers, students, locums and agency), whilst acknowledging for staff other than those of the Trust the appropriate line management or chain of command will be followed. It applies to all UHS sites inclusive of Countess Mountbatten Hospital, New Forest Birth centre, Royal South Hants, Southampton General Hospital and Princess Anne sites.

1.2 Purpose
The purpose of this policy is to optimise patient care and outcome by:
- Providing direction and guidance for the planning and delivery of a high-quality robust resuscitation response to the Trust
- Ensuring that safe, early and appropriate CPR, including early defibrillation, occurs within the Trust;
- Detailing the duties and training requirements for all staff in the Trust relating to anaphylaxis, CPR and post resuscitation care.
- Detailing the process and tools utilised for the identification and response to patients at risk from deterioration and cardio-respiratory arrest within UHS
- Standardising the management of anaphylaxis and cardiopulmonary arrest by adopting the national guidance
- Detailing the process for ensuring continual availability of cardiac arrest equipment in clinical areas
- Detailing the process for monitoring compliance with all the above.
1.3 Definitions

Acutely Ill Referral Pathway
Sets outs the process for escalation of medical concerns relating to patients physiological observations in accordance with their MEWS score (refer Appendix C and related Trust policies - Mews)

Adult Manual Defibrillation Pads
Adhesive external pads which are attached to the patient to enable the delivery energy for external pacing, defibrillation or cardio version purposes. Adult pads are used for all patients over 10kg with the exception of AED’s.

Advanced Life Support (ALS)
ALS describes additional measures aimed at restoring ventilation and a perfusing cardiac rhythm.

Anaphylaxis
An acute multi-system severe hypersensitivity allergic reaction.

Automated External Defibrillators (AED)
An automated external defibrillator or AED is a portable electronic device that automatically diagnoses the potentially life threatening cardiac arrhythmias of ventricular fibrillation and ventricular tachycardia in a patient the application of electrical therapy can stop the arrhythmia, allowing the heart to re-establish an effective rhythm. It is able to treat the patient through defibrillation, selecting the appropriate energy levels according to the current Resuscitation Council (UK) Guidelines. AED’s allow staff such as nurses and physiotherapists to defibrillate prior to the arrival of more expert help. Wherever possible it is recommended that manual defibrillators are used on paediatric patients to assist with rhythm recognition. When AED’s are used on paediatric patients attenuated pads that reduce the energy delivered should be used for children weighing less than 25kg.

Basic Life Support (BLS)
Basic life support is the provision of adequate oxygenation to the vital organs through maintenance of ventilation and circulation. This is continued until respiratory/cardiac arrest is reversed and/or underlying cause treated, or the resuscitation attempt is stopped. It is a ‘holding measure’ until defibrillation and/or advanced life support is available. BLS generally does not include the use of drugs or invasive skills. Failure for the circulation for three to four minutes (less if the patient is initially hypoxaemic) will lead to irreversible cerebral damage. Emphasis must be placed primarily on prevention of cardiac arrest and early access to help, then rapid institution of BLS by a rescuer if required. Any gaps in cardiac compressions should be minimised.

Basic Life Support with Airway Adjunct
Basic life support implies that no equipment is employed. When a simple airway device is used to assist the delivery of ventilation, this is defined as ‘basic life support with airway adjunct’.

Cardiac Arrest
The sudden cessation of normal circulation of the blood due to failure of the heart to contract effectively, confirmed by the absence of a detectable pulse, unresponsiveness, and apnoea or agonal, gasping respiration.

Cardiac Arrest Team (CAT)
A Cardiac Arrest Team is available on the Southampton General site at all times and comprises of staff trained in ALS provision. There are different teams for different patient geographical localities as identified in Appendix C
**Cardiac Rhythms**
Cardiac rhythms associated with cardiac arrest can be divided into two groups: ventricular fibrillation/pulseless ventricular tachycardia (VF/VT) and other rhythms (Non VF/VT). The latter includes asystole and pulseless electrical activity (PEA). The principle difference in the management of these two groups is the need for defibrillation in those patients with VF/VT. Subsequent actions, including chest compressions, airway management and ventilation, venous access, the administration of epinephrine (adrenaline) and the identification and correction of reversible causes are common in both groups.

**Cardiopulmonary resuscitation**
Emergency procedure which is attempted in an effort to return life to a person in cardiac arrest through a combination of artificial ventilation, chest compressions, drug therapy and defibrillation.

**Cardioversion**
This term is taken to mean synchronized electrical cardioversion using a therapeutic dose of electric current to the heart, at a specific moment in the cardiac cycle (ensure that a DC shock is not delivered on the ‘T’ wave, which in the susceptible heart can lead to VF or VT. Pharmacologic cardioversion, also called chemical cardioversion, uses antiarrhythmia medication instead of an electrical shock.

**Chain of Survival**
The interventions that contribute to a successful outcome after cardiac arrest can be conceptualized as a chain. The four links in the chain comprise of early recognition and call for help (telephone 2222), early CPR, early defibrillation and post resuscitation care.

**Clinical Staff**
An employee of the Trust whose job description includes direct patient care.

**Defibrillation**
The delivery of a therapeutic dose of electrical energy to the affected heart with a device called a defibrillator. It is the definitive treatment for Ventricular Fibrillation (VF) and pulseless Ventricular Tachycardia (VT). It involves the delivery of a DC electric shock to the myocardium. The energy level to be administered is defined in the current ALS guidelines by the Resuscitation Council (UK). For defibrillation to be effective, a critical mass of myocardium needs to be depolarized to allow the heart’s own pacemaker to resume control.

**Do Not Attempt Cardiopulmonary Resuscitation (DNACPR).**
A DNACPR order indicates that in the event of a cardiac arrest CPR will not be initiated. DNACPR decisions are the overall responsibility of the Consultant/General Practitioner in charge of the patient’s care. Attempts at CPR will not be commenced when it is felt that a patient would not survive or when it is not in the patient’s wishes. A DNACPR decision does not limit other forms of treatment being provided.

**First Response**
For cardiac arrest this involves basic life support, using an AED to defibrillate if necessary and basic airway management (suction, positioning, Oropharyngeal airway).

**Modified Early Warning System (MEWS)**
MEWS is based on an aggregated physiological parameter scoring system based on five physiological parameters: pulse, temperature, systolic blood pressure, respiratory rate, AVPU/Glasgow Scoring System (the level to which the patient has a neurological response) and urine output.
Modified Early Obstetric Warning System (MEOWS)
MEOWS is a track and trigger system designed to identify maternity patients at risk of deteriorating and relies on the accurate recording of simple physiological patient observations (Refer to Related Trust Policies – Modified Early Obstetric Warning Policy).

Neonate
For the purpose of this policy a neonate is any infant cared for within the Maternity Unit or Neonatal Intensive Care Unit (NICU) regardless of age. For other areas within the organisation the neonate is a baby below 29 days of age.

Newborn Resuscitation Policy
The newborn resuscitation policy outlines the management of the newborn/neonate infant whilst in Maternity and NICU.

Non-clinical staff
An employee of the Trust whose job description does not include direct patient care. Some staff in this group needs to attend annual resuscitation training if they have unsupervised patient contact, such as reception staff.

Paediatric AED defibrillation pads
Adhesive external pads used with an automated defibrillator which itself analyses the cardiac rhythm. The pads are attached to the patient but reduce the energy before the delivery of current for defibrillation is delivered. These are used for patients under 25kg.

Paediatric Manual defibrillation pads
Adhesive external pads used for infants under 10kg

Paediatric Resuscitation Guidelines
The paediatric resuscitation BLS guidelines are related to size and used for the management of an infant, a baby under one year of age, and for a child between one year and puberty. The paediatric ALS guidelines are weight related and therefore apply to all babies and pre-puberty children.

Plus size (Bariatric)
Defined as anyone, regardless of age who has limitations in health and social care due to their weight, physical size / shape / width, health, mobility, tissue viability and environmental access with one or more of the following:
   i)    Exceeds the safe working load and dimensions of the support surface such as a bed, chair, couch, toilet, mattress etc or
   ii)   Weighs in excess of 18st (114kgs); or
   iii)  Has a BMI > 30+

Rapid entire body assessment (REBA):
A tool designed to assess postures for risk of work related musculoskeletal disorders.

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<tr>
<td>2 -3</td>
<td>Low risk</td>
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<tr>
<td>4 -7</td>
<td>Medium risk</td>
</tr>
<tr>
<td>8 -10</td>
<td>High risk</td>
</tr>
<tr>
<td>11 -15</td>
<td>Very high risk</td>
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Respiratory Arrest
The cessation of spontaneous breathing
2222 is the emergency number for the Cardiac Arrest/Emergency response team at Southampton General Hospital (SGH), Princess Anne Hospital (PAH), and Royal South Hants (RSH)

2 Related Trust Policies

- Do Not Attempt CardioPulmonary Resuscitation Policy (DNACPR)
- Incident reporting analysis reporting and management policy
- Immediate Care of the Newborn
- Maternal Collapse Guideline
- Medicines – Prescribing, Acquisition, Storage And Administration Of Policy
- Mental Capacity Policy
- Modified Early Warning System (MEWS) policy
- Modified Early Obstetric Warning System (MEOWS) - MEOWS Identification and Monitoring of the Severely Unwell Woman in Obstetrics
- Moving and Handling of loads policy
- Specialist Training for Maternity Service Policy
- Standard Infection Control Precaution policy
- Statutory and Mandatory Training Needs Analysis

Related External Policies

- Decisions Relating to Post Resuscitation Care. Resuscitation Council UK
  http://www.resus.org.uk/pages/dnar.htm
- Resuscitation Council UK
- Resuscitation Council UK – Safe Handling
  http://www.resus.org.uk/pages/safehand.htm
  www.gmc-uk.org/Witholding.pdf_40818793.pdf
- South Central Unified Do Not Attempt Cardiopulmonary Resuscitation Policy
  http://www.southampton.ac.uk/healthsciences/business_partnership/services/eolc.page
- The Association of Anaesthetists of Great Britain and Ireland

3 Roles and Responsibilities

Acute NHS Trusts have an obligation to provide an effective resuscitation service to their patients and appropriate training to their staff. A suitable infrastructure is required to establish and continue support for these activities.

3.1 Roles and Responsibilities of Employees within the Organisation

Chief Executive

The Chief Executive has ultimate accountability for ensuring robust systems are in place to support effective CPR management is in place across the organisation but delegates this responsibility to the Medical Director.
**Medical Director**
The Medical Director is the Executive with responsibility for ensuring robust systems are in place to support effective CPR management is in place across the organisation.

**Manager and Consultant of the Resuscitation Services and the Resuscitation Officers**
The Resuscitation Manager/Consultant and the Team are responsible for ensuring that:

- Resuscitation training delivered to University Hospitals Southampton NHS Foundation Trust staff adheres to the current Resuscitation Council (UK) guidelines and incorporates training on the current early warning system used by the Trust for the identification of patients at risk, including the systems for summoning assistance, and DNACPR decision making;
- The delivery of annual resuscitation training updates including the requirement for attendees to be aware of the need to read and implement this policy
- All data collected from the returned part of the Cardiac Arrest Form is entered onto the database, to support the audit of compliance (Appendix B).
- Any required audits are undertaken
- Quarterly reports are produced for the chair of the Trust Resuscitation Committee using the cardiac arrest, DNACPR and adverse incident data from the Resuscitation database to present quarterly at the Resuscitation Committee and quarterly to the Clinical Effectiveness/Outcomes Committee
- An annual cardiac arrest equipment audit cycle is undertaken on the Southampton General Hospital, Princess Ann Hospital, Royal South Hants Hospital, Countess Mountbatten and New Forest Birth Centre sites for the Trust clinical areas.

**Line Managers**
Line Managers are responsible for

- Releasing their staff to attend Resuscitation Training, in accordance with the requirements identified in the training needs analysis and monitoring their attendance
- Taking any unresolved queries to their link champions or Resuscitation Manager who will take the appropriate actions or take to the appropriate form for resolution
- Ensuring the daily checks of availability of cardiac arrest equipment

**All Clinical Staff**
All staff is responsible for ensuring that they:

- Cooperate and comply with the implementation of this policy
- Practice within the current Resuscitation Council (UK) Guidelines and their own Codes of Professional Conduct
- Attend the appropriate resuscitation training as per training needs analysis (Refer to Trust Related Policies – Statutory and Mandatory Training Needs Analysis) This will be monitored by the Line Managers and the Educational Training teams for the care group/Division
- Raise any queries about implementation of this policy with their line manager
- Participate in the daily checking of cardiac arrest equipment to make sure the equipment is continually available
- Immediately alerting the appropriate response team in the event of an obstetric, paediatric, neonatal or adult emergency
- Are familiar with the processes to follow if any cardiac arrest equipment fails or is found to be faulty during the daily operational checks or when being used.

**All Non clinical staff**
All staff is responsible for ensuring that they:

- Cooperate and comply with the implementation of this policy
• Attend the appropriate resuscitation training annually, as per training needs analysis. This will be monitored by Line Managers for the care group/Division.

3.2 Roles and Responsibilities of Groups within the Organisation

Quality Governance Steering Group
The Quality Governance Steering Group is responsible through the receipt of quarterly reports from the Clinical Effectiveness and Outcomes Steering Group for ensuring there is continuous and measurable improvement in the quality of services provided.

Clinical Effectiveness and Outcome Steering Group
The Clinical Effectiveness and Outcome Steering Group is responsible through the receipt of quarterly reports from the Resuscitation Committee to monitor continuous and measurable improvement in the quality of the services provided.

Resuscitation Committee
The Resuscitation Committee is responsible for ensuring that:
• This procedural document is up to date, technically accurate, is in line with current evidence based practice and has been produced following consultation with stakeholders.
• Processes to enable audits of compliance with the practices as detailed in this policy are in place and that the actions identified as a result of those audits are implemented.
• Through the Chair, assurance on the effectiveness of this policy and the Trust's procedures for CPR, is provided through an annual report to the Quality Governance Steering Group, including any necessary recommendations to address identified deficits.
• Receiving quarterly reports from the Resuscitation Manager using data from the Resuscitation Service database to support the quarterly report provided by the Chair of this committee to the Clinical Effectiveness and Outcomes Steering Group.

Cardiac Arrest Teams
The teams consist of at least four members consisting of a team leader, any airway manager, a circulation manager and an assistant. Primary responders on the team must respond at the earliest opportunity to any cardiac arrest bleep; including the test call which is tested in the morning each day.

Training and Development
The Training and Development services through the Clinical Skills Manager, is responsible for the provision of educational facilities and up to date resuscitation educational equipment to support the training of staff through the Resuscitation service team.

Educational Training Teams
The educational training teams are responsible for monitoring and reporting quarterly to the Education Strategy Group on attendance at resuscitation training, as determined by the Trust's training needs analysis. The education teams are responsible to feeding back to Care Group and Divisional Governance groups on attendance at resuscitation training.

Clinical Engineering Department
Are responsible for:
• Disseminating alerts of resuscitation equipment to relevant CAS leads.
• Responding to alerts and reports of any faults with emergency equipment and for making arrangements for repair or replace the equipment.
4. Resuscitation Training

The strategy for resuscitation training shall embody the statements and guidelines published by the Resuscitation Council (UK) and the European Resuscitation Council, incorporating the most recent updates of these guidelines. This explicitly supports current Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) policy, the identification of patients at risk from cardiac arrest and a strategic approach to implement preventative measures such as modified Early Warning Systems (MEWS) and clinical escalation processes.

The Trust will provide sufficient and appropriate resuscitation training for each of the main staff groups. Profession specific resuscitation training will be directed by their respective functional role and the guidelines and directives issued by their professional bodies (e.g., The Royal College of Anaesthetists). The profession specific guidelines for resuscitation are detailed in the Statutory and Mandatory Training Needs Analysis. All clinical staff are trained in the identification of the deteriorating patient and use of the physiological observation charts to enhance decision making and care escalation. This is included in the two yearly resuscitation training updates to a level relevant to the staff role.

The approach to teaching is one of positive encouragement and proven educational efficacy and follows the recommendations for resuscitation teaching advocated by the Resuscitation Council (UK) (Mackway-Jones & Walker). Education and training will follow the identified Resuscitation UK algorithms (Appendix G-K) for adults and paediatrics.

The uptake of training is tracked through the WIRED tracker system and monitored by local Education leads.

The Resuscitation Manager supported by the Resuscitation administrator will ensure that the relevant line manager is informed within five working days, via email, if a member of staff does not attend a training session on which they have been booked.

The recommended training levels for Resuscitation for clinical and non-clinical staff are set out within the Resuscitation Training Needs analysis available via the Staffnet.

4.1 General Recommendations

Clinical Staff
All doctors, nurses and associated healthcare professionals must be adequately and regularly trained in cardiopulmonary resuscitation appropriate to their discipline. The level of that training is determined by the normal duties that those staff would be expected to undertake when in attendance at a cardiopulmonary arrest.

Non Clinical Staff
All hospital staff that has frequent regular contact with patients should be trained in hospital life support.

All other non-clinical staff should be trained in their awareness and use of the hospital internal emergency alerting system.

4.2 Resource Issues
Resuscitation training may be prioritised to incorporate the available resources of the resuscitation service.

If high standards of cardiopulmonary resuscitation are to be achieved and maintained, it is essential that the policy is adhered to.
5. The Process

5.1 The Cardiac Arrest Team
Southampton General Hospital and Princess Anne Hospital are serviced by a twenty four hour cardiac arrest team. The Royal South Hants has a member of the Resuscitation Service on site during core hours (08.00-18.00) to deliver first responders response to cardiopulmonary resuscitation calls. The individual works within their clinical sphere of expertise and competence; calling on external emergency services via the 999 telephone service where required for further clinical assistance. Countess Mountbatten and New Forest Birth Centre sites are not serviced by a designated Cardiac Arrest Team (CAT); in the event of a cardiopulmonary resuscitation basic life support techniques should be commenced and a 999 response call made.

At Southampton General and Princess Anne Hospitals the CAT will be summoned by using the universal national number of 2222. For emergency situations within the hospital grounds but not within the main hospital the precise location of the patient must be communicated promptly and clearly to the switchboard operator. Additional support may be required from the ambulance service to transport the patient to the Emergency Department. It is the decision of the cardiac arrest team leader and/or site co-ordinator in consultation with the cardiac arrest team to decide whether an ambulance is required to attend through calling 999.

On receipt of a 2222 call, all emergency bleeps will be alerted simultaneously by the switchboard operator via a speech channel. Each member of the CAT must attend at the earliest opportunity.

Daily Test Call
The speech channel will be tested daily between 21.00 – 22.00 to ensure that the system and the individual bleeps are in full functioning order and the emergency bleeps are attended. All primary responders must respond to this test call.

If staff have not received their test call between these hours they must report immediately to the Switchboard, located on C level near to Security at the main entrance of the hospital, to have their emergency bleep checked.

It is the primary responders responsibility to become accustomed to and acquainted with the hospital geography in order to respond to 2222 calls with least delay.

5.2 Early Warning Systems - Identification of patients at risk of cardio pulmonary arrest and deterioration
a) Management of sick and deteriorating patients at risk of cardiac arrest will be managed in accordance with the Trust’s Modified Early Warning Score (MEWS) policy and in conjunction with the Acutely Ill Referral Pathway (refer to Appendix D), this may require the attendance of the Cardiac Arrest team to assist with the acutely ill patient.

b) During an adult inpatient episode all patient observations are recorded and scored as per the MEWS system (refer MEWS policy). In certain cases where it is deemed not appropriate i.e. palliative care patients or where a senior medical decision requests the MEWS system may be withdrawn however a clear escalation process will need to be supported in that area for alerting the medical staff to acute deterioration.

c) All clinical staff are trained in the identification of the deteriorating patient and the use of physiological observation charts to enhance decision making and care escalation.
This is included in the resuscitation training sessions to a level relevant to the
candidate’s role.

d) To ensure the appropriate action is taken in a time appropriate manner in light of the
MEWS score the process is supported by an escalation algorithm speciality specific.
These referral algorithms detail when and who should be called to respond and when
additional help and support is required.

e) The MEWS and escalation protocol have been adapted for use in the Trust’s
Maternity Department (refer to Trust Related Policies – Modified Early Obstetric
Warning Guideline)

5.3 Cardiac Arrest Response

a) CPR should be commenced for all patients/visitors/staff who suffer a cardiac arrest
unless there is a valid DNACPR or Advanced Directive decision present

b) It is the responsibility of the clinical staff to ensure that patients, visitors and staff
suffering a respiratory or cardiopulmonary arrest, receive the appropriate treatment
as described in current guidelines by the Resuscitation Council (UK) and as per
appropriate site response (refer to section below)

Southampton General site
In the event of a cardiac arrest, adult, obstetric, neurological, paediatric or neonatal
emergency being identified the appropriate response/team must be alerted
immediately.

The appropriate emergency response/team will be summoned by using the universal
national internal telephone number 2222. The precise location of the patient must be
communicated promptly and clearly to the switchboard operator.

- Adult patients state Adult Cardiac Arrest Team
- Obstetric patients state Obstetric Cardiac Arrest Team
- Paediatric patients state Paediatric Cardiac Arrest Team
- Neurological patients state Neurological Cardiac Arrest Team
- Neonates state Neonatal Emergency Team

Princess Anne site
Within the Princess Anne hospital the appropriate emergency response/team is
summoned by the same method as the Southampton General site – the universal
number 2222. Telephone information is communicated in the same manner.

Royal South Hants site
In the event of cardiac arrest within the Royal South Hants Hospital the Resuscitation
service is summoned via the 2222 universal number. The precise location of the
patient must be communicated promptly and clearly to the switchboard operator.
The Resuscitation service attendee will decide on the clinical situation if further
assistance and support is required from the 999 ambulance service.

Countess Mountbatten site
Within the Countess Mountbatten site an internal system alerts present medical staff
in the event of a cardiopulmonary arrest. The medical member of staff will decide on
clinical grounds whether the 999 ambulance service is alerted to transfer the patient
to Southampton General Hospital.

Out of hours when there is no doctor on site ‘first response’ is initiated whilst alerting
an ambulance and awaiting its arrival to transfer the patient to Southampton General
Hospital.
New Forest Birth Centre site
Within New Forest Birth Centre site an internal system alerts staff in the event of a cardiopulmonary resuscitation, ‘first response’ is initiated. The direct dedicated number to ambulance control is called. Information is relayed as to whether the situation is ‘time critical’ – over rides every other call and receives immediate response or ‘emergency’ – activates the next available ambulance. The patient is transferred to Southampton General Hospital Emergency Department.

Resuscitation in non-clinical areas within main buildings
The nearest member of staff (clinical or non-clinical) to the incident should summon help as per site response above. They need to clearly describe the location of the event to assist the CAT in finding them. If there is a nearby clinical area then they could be contacted to provide clinical expertise and emergency equipment.

Some non clinical areas/departments will have a designated person responsible for first aid who should be summoned to assist with the situation.

Resuscitation in areas outside of the main buildings (e.g. grounds, car parks)
If the victim has collapsed outside of the main hospital buildings staff (clinical or nonclinical) should dial 2222 to alert the normal emergency response. They need to clearly describe the location of the event and remain with the patient. Where appropriate they should instigate CPR and remain with the victim.

On arrival it is the role of the cardiac arrest team leader or site co-ordinator to decide on whether an ambulance is required to transfer the patient to the Emergency Department. The mechanism for doing this is by dialling 2222 and requesting the switchboard to call for the 999 ambulance. The caller should remain on the telephone line as often the ambulance request detailed information pertaining to the victim’s condition and location.

If access to an internal telephone is not possible, the victim is in an isolated location for example, then staff should call an ambulance directly as they would in the community.

5.4 Management of the patient surviving cardiac arrest – Post Resuscitation Care
The healthcare staff responsible for the patient’s care, such as the CAT leader must ensure safe continuity of care and where necessary safe transfer following resuscitation of the patient. This may include

- Referral to a specialist or specialist area
- Full and complete documentation and hand over of care
- Preparation of equipment, oxygen, drugs and monitoring systems
- Intra-hospital or inter hospital transfer
- Liaison with the Ambulance Service
- Liaison with staff experienced in patient retrieval and transfer
- Informing relatives
- Completion of an Adverse Incident Reporting Form if indicated and in accordance with Trust requirements.
- If the decision is to transfer the patient, appropriate members of the Cardiac Arrest team are required to stay in attendance of the patient until the responsibility of care is handed over to the receiving clinicians.

Reference to the Resuscitation Council (UK) statement on post resuscitation care is advised (refer to Related External Policies – Decisions relating to Post Resuscitation care)
5.5 Documentation

- All cardio respiratory arrests in UHS must be recorded on the Trusts Cardiac Arrest Form (Appendix B)
- It is the responsibility of the Resuscitation team leader to ensure that the documentation is completed.
- Once completed the inner copy of the Cardiac Arrest Record Form must be detached and it is the responsibility of the person completing the form to ensure that it is returned to the Resuscitation department, E Level, Centre Block, Shackleton Department of Anaesthetics at Southampton General hospital (SGH) site for audit and governance purposes;
- The most senior medical member of staff present must document in the patient’s clinical notes the cardiopulmonary resuscitation event and outcome
- Recording in the nursing notes of the cardiopulmonary resuscitation event and outcome should be made by the primary nurse or the most senior member of the nursing team

5.6 The Safe Transfer of the Patient Post Cardiac Arrest

a) Where possible the patient should be stabilised prior to transfer, though this should not delay definitive treatment.

b) The patient must be transferred with the relevant emergency equipment and monitoring – this includes a defibrillator, appropriate airway management devices, adequate oxygen supply, emergency drugs and relevant documentation.

c) The patient being transferred should be accompanied by staff appropriately trained in the safe transfer of patients

d) A full medical and nursing handover of the patients care must be evident and relatives/significant others must be informed of the transfer, but not expect to travel with the patient.

5.7 Process for Ensuring Continual Availability of Resuscitation Equipment

a) All cardiac arrest equipment must be maintained in a state of readiness at all times. The cardiac arrest equipment must be checked by a qualified member of staff at least once every 24 hours and immediately following a resuscitation event.

b) The defibrillator must be operationally checked in accordance with the Manufacturers Guidelines and any instructions issued by the Medical Electronics department. Daily check lists must be maintained and kept within the clinical area ideally located with the cardiac arrest equipment for the life of the defibrillator and suction device; which will be on average ten years, plus one year for audit purposes.

c) The resuscitation trolleys should be stocked in accordance with the standardised list issued by the Resuscitation Department

http://staffnet/Governanceandquality/Patientcareandexperience/Resuscitationservices/Resusequipment.aspx

d) Disposable items not routinely kept in clinical areas should be replenished at the earliest opportunity from the Resuscitation central storage area (accessed via Security at the main entrance of SGH) this should be no more than one hour after the event. Non-disposable items should be decontaminated/cleaned in accordance with the Trust’s infection prevention policy and reinstated to the trolley as soon as is practical. The resuscitation trolleys must be replenished fully in accordance with the standardised list within a maximum of one hour post use.

http://staffnet/Governanceandquality/Patientcareandexperience/Resuscitationservices/Resusequipment.aspx
e) Pharmacy items must be replenished from within the Ward stock and in accordance with the Medicines – Prescribing, Acquisition, Storage And Administration Of Policy (refer to Trust Related Policies)

f) The defibrillator must be operationally checked daily with the Trust guidance issued by the Resuscitation Service.

5.8 Manual Handling
In situations where the collapsed patient is on the floor, in a chair or in a restricted/confined space the Trust guidelines for the movement of the patient must be followed to minimise the risks of manual handling and related injuries to both staff and the patient (refer to Appendix F and Trust Related Policies – Moving and Handling of loads)

Refer also to the Resuscitation Council (UK) safe handling statement (see Related External Policies)

5.9 Infection Prevention
While the risks of infection transmission from patient to rescuer during direct mouth-to-mouth resuscitation is extremely rare, isolated cases have been reported. It is therefore advisable that direct mouth-to-mouth resuscitation be avoided in the following circumstances:

- All patients who are known to have or suspected of having an infectious disease.
- All undiagnosed patients entering the Emergency Department, Outpatients or other admission service.
- Other persons where the medical history is unknown.

In such circumstances, a simple adjunct (face shield, pocket mask or self inflating bag/mask device should be used as an alternative). However, in situations where these devices are not immediately available, mouth-to-mouth ventilation may be considered necessary. Alternatively continuous chest compressions alone could be conducted until a suitable adjunct is obtained and prepared for use.

5.10 Anaphylaxis

a) The management of anaphylaxis/anaphylactoid reactions should be conducted in accordance with the Resuscitation Council UK guidelines.


b) Anaphylactic algorithms accompany this document in Appendix E.

c) All Health Care Professionals administering medication will attend mandatory two yearly Basic Life Support and Anaphylaxis training as a minimum standardisation

d) For governance purposes non-prescribing Health Care Professionals where Patient Group Direction applies for administration of Adrenaline during an anaphylactic reaction must complete relevant anaphylaxis training. Evidence of competency is to be held on the ward/department in the individual's personal development records.

e) For guidelines associated with local anaesthetic reactions or anaesthetic anaphylaxis refer to The Association of Anaesthetists of Great Britain and Ireland (see Related External Policies):
5.11 Defibrillation
a) Defibrillators must only be operated by persons specifically trained in their use.

b) Training will be in accordance with the current Resuscitation Council (UK) Guidelines.

c) Staff authorised to manually defibrillate or use an Automated External Defibrillator (AED) must have demonstrated practical and theoretical competence to Resuscitation or have successful completed a course recognised by UHS Resuscitation services.

d) The member of staff must continue to update practical and theoretical competence annually in accordance with their current clinical responsibilities. For flexibility and to minimise the impact on clinical areas and patients there is a permitted period of 2 months whereby staff can urgently arrange an update should their certificate have expired.

5.12 Procurement
For all resuscitation equipment purchasing is subject to the Trust’s standardisation strategy therefore all resuscitation equipment purchased must be sanctioned by the Resuscitation Committee prior to ordering.

6. Paediatric Resuscitation Process
In children, secondary cardiopulmonary arrests, caused by either respiratory or circulatory failure, is more frequent than primary arrests caused by an arrhythmia. So-called asphyxial arrests or respiratory arrests are also more common in young adulthood (e.g. trauma, drowning, poisoning).

Many in hospital paediatric cardiopulmonary arrests may be preventable and identification of the antecedent stages of cardiac or respiratory failure is a priority, as effective early intervention may be life-saving.

The paediatric resuscitation policy has as its framework the Royal College of Paediatrics and Child Health document; Withholding or Withdrawing Life Sustaining Treatment in Children. A Framework for Practice May 2004. It is essential to identify children for whom cardiac arrest is an anticipated terminal event and in whom cardiopulmonary resuscitation (CPR) is inappropriate.

A default response of full resuscitation is appropriate for the majority of children and neonates; however there may be a small proportion of children or neonates in whom a cardiac arrest could be anticipated and where full resuscitation may not be in their best interest. This small group of patients should have an agreed resuscitation plan which may include a full or modified do not attempt resuscitation plan. This should be discussed in detail with the parents and where appropriate the child and should be clearly documented and copied to all relevant parties.

The plan should be re-discussed and re-signed on each admission to hospital or if the medical condition or views of the family and child change. (Refer to UHS DNACPR policy for further details)

7 Immediate Care of the Newborn Process
The process for the Immediate Resuscitation of the Newborn is held within the Immediate Care of the Newborn: Guideline.
The guideline provides the appropriate action in terms of local standard of this service to ensure a seamless and effective response to babies with detectable problems. This guideline does not describe the technique of undertaking resuscitation and it is assumed that all staff will undertake update and training of neonatal resuscitation as per “The updating of all clinically based staff in the maternity service including emergency skills and drills policy” (Specialist Training for Maternity Service Policy)

The Trust supports the processes and clinical techniques identified within the Resuscitation Council (UK) guidance on resuscitation of the Newborn.

8. **Maternal Collapse**
   Cardio Pulmonary arrest during late pregnancy or delivery is rare. However, when it does occur maternal and foetal survival rates are low. This is at least partly because the events leading to cardiac arrest tend to be overwhelming and incurable, and that the physical and physiological changes of pregnancy hamper resuscitative efforts.

   In the event of maternal cardiopulmonary arrest, resuscitation should begin immediately and should follow current basic and advanced life support guidelines.

   For further details on policy relating to this area of practice refer to the Trust’s Maternal Collapse guideline (Refer to Trust Related Policies)

9. **Consultation and Communication with Stakeholders**
   Consultation and communication of this policy has occurred through clinical professional and governance leads for care groups and Divisions. The policy has been disseminated through the Resuscitation Committee and Resuscitation Officers for contribution.

10. **Implementation of the Policy**
   The Cardiopulmonary Resuscitation policy will be made available via the staff net to all Education and Governance leads for dissemination through their channels of communication with clinical staff. The policy will be upheld across University Hospitals Southampton NHS Foundation Trust sites ensuring that staff comply with the policy and process of training and audit.

11. **Approval and Ratification of the Cardiopulmonary Resuscitation Policy**
   Ratification is via the Resuscitation Committee, and PRAM

12. **Process for Monitoring Compliance/Effectiveness**

<table>
<thead>
<tr>
<th>What aspects of compliance</th>
<th>What will be reviewed to evidence this</th>
<th>How and how often will this be done</th>
<th>Detail sample size if applicable</th>
<th>Who will coordinate and report findings</th>
<th>Which group or report will receive findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duties</td>
<td>Policy document will be reviewed</td>
<td>Review through the Resuscitation Committee Annually</td>
<td>n/a</td>
<td>Resuscitation Manager</td>
<td>Resuscitation Committee and Clinical Effectiveness and Outcomes</td>
</tr>
<tr>
<td>Early Warning Systems</td>
<td>Please refer to MEWS policy monitoring system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post Resuscitation Care</td>
<td>Medical notes of patients following return of spontaneous circulation following cardiac arrest</td>
<td>Audit Annually</td>
<td>50 sets of medical notes</td>
<td>Resuscitation Manager</td>
<td>Resuscitation Committee and Clinical Effectiveness and Outcomes</td>
</tr>
<tr>
<td>Availability of Resuscitation Equipment</td>
<td>Records of ward Emergency trolley Checklists</td>
<td>Audit Annually</td>
<td>Minimum of 50 resuscitation trolleys</td>
<td>Resuscitation Manager</td>
<td>Resuscitation Committee and Clinical Effectiveness and Outcomes</td>
</tr>
<tr>
<td>Do Not Attempt Resuscitation (DNACPR)</td>
<td>Audit sheet of DNACPR forms</td>
<td>Audit and review Quarterly</td>
<td>50 DNACPR forms</td>
<td>Resuscitation Manager</td>
<td>Resuscitation Committee and Clinical Effectiveness and Outcomes</td>
</tr>
<tr>
<td>Resuscitation Training Provision</td>
<td>Training levels for Resuscitation across the Trust</td>
<td>Review of care group education and training databases</td>
<td>n/a</td>
<td>Education leads</td>
<td>Resuscitation Manager Resuscitation Committee, Trust Education Strategy Group</td>
</tr>
<tr>
<td>Resuscitation service activity and outcome</td>
<td>Number of cardiac arrests and patient outcome</td>
<td>Review of type of cardiac arrest, survival post event, survival to discharge Monthly</td>
<td>Approximately 15 per month</td>
<td>Resuscitation Manager</td>
<td>Resuscitation Committee and Clinical Effectiveness and Outcomes</td>
</tr>
<tr>
<td>Themes and trends identified from adverse/near miss incidents</td>
<td>Adverse incident forms</td>
<td>Review Quarterly</td>
<td>n/a</td>
<td>Resuscitation Manager</td>
<td>Resuscitation Committee, Resuscitation Manager Resuscitation Committee,</td>
</tr>
</tbody>
</table>

(1) State post not person.

**Action Planning and Learning from Audits**
- This will be led by the Trust's Resuscitation Committee to ensure that there is a strategy for cascading learning from resuscitation related audits to the relevant Trust staff. This system will ensure a robust change management system for issues relating to resuscitation when required.

- Information on action planning and learning will be presented to the Clinical Effectiveness and Outcomes Group, as part of the annual report.

**13 Arrangements for Review of the Policy**

This policy will be reviewed annually by the Resuscitation Committee. (National policy or guideline changes may require additional review and this will be conducted as necessary, and ratified accordingly). Should no amendments be required then the
policy will be updated at least every three years. Archiving of this policy will be conducted in accordance with the Trust’s archiving procedure.

14 References


Appendix A: EQUALITY IMPACT ASSESSMENT TOOL - To be completed for all new/revised policy, procedural and guideline documents.

Equality Impact Assessments (EIAs) are a way of examining new policy documents to see whether they have the potential to affect any one group of people more or less favourably than another. Their purpose is to address actual or
potential inequalities resulting from policy development. The duty to undertake EQIAs is a requirement of race, gender and disability legislation. The word ‘policy’ is taken to mean all procedural documents i.e.: Policy, Procedure, and Guideline. (this does not include Patient Information)

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Cardiopulmonary Resuscitation Policy</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is this a new or revised document?</td>
<td>Revised</td>
<td></td>
</tr>
<tr>
<td>Area to which document relates Specify whether Trust wide or, Care Group. Name Care Group</td>
<td>Trust wide</td>
<td></td>
</tr>
<tr>
<td>Name of person completing Assessment</td>
<td>Karen Hill</td>
<td></td>
</tr>
</tbody>
</table>

STAGE 1 – INITIAL SCREENING
This stage establishes if the proposed change will have an impact from an equality perspective on any particular group(s) of people. See guidance notes on completion.

<table>
<thead>
<tr>
<th>Does the document affect one group more or less favourably than another on the basis of any of the strands of diversity?</th>
<th>Positive Impact Y/N/Neutral</th>
<th>Negative Impact Y/N/Neutral</th>
<th>Comments - Give details of concerns and evidence in the boxes below</th>
<th>Impact Level N/L/M/H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>N</td>
<td>N</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Disability</td>
<td>N</td>
<td>N</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Gender</td>
<td>N</td>
<td>N</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td>N</td>
<td>N</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Race &amp; Ethnicity</td>
<td>N</td>
<td>N</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Religion or Belief</td>
<td>N</td>
<td>N</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Culture</td>
<td>N</td>
<td>N</td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Other e.g. Mental Health, Geographic factors, Economic factors...</td>
<td>N</td>
<td>N</td>
<td></td>
<td>N</td>
</tr>
</tbody>
</table>

Level of impact:
Taking into account the impact level for each group, circle one of the words in the boxes below to identify the overall impact level:

<table>
<thead>
<tr>
<th>NONE</th>
<th>LOW</th>
<th>MEDIUM</th>
<th>HIGH</th>
</tr>
</thead>
</table>
Significance

Is the positive / adverse impact significant enough to warrant a more detailed assessment (Stage 2) A full assessment will usually be required if the level of impact is above 'LOW' as identified above.

NO (delete as applicable)

If no give brief details of any action taken/information gathered to justify this decision:
The Education and Learning Policy is for all staff and any specific requirements that staff may have to enable them to access education and training is assessed on an individual basis and adjustments made to support them, for example support for staff who may be dyslexic.

Or give brief details of how the change will be monitored to assess the impact over a specified period of time:

IF NO POTENTIAL DISCRIMINATION HAS BEEN IDENTIFIED or THE IMPACT IS NOT SIGNIFICANT ENOUGH TO WARRANT A FULL IMPACT ASSESSMENT, PLEASE SIGN AND DATE BELOW.

(NOTE: A full impact assessment should be undertaken if initial screening demonstrates that there could be significant detrimental impact.)

I have assessed this document and found:
- no potential impact on any group
- the impact is not significant enough to warrant a full impact assessment
  (delete as applicable)

SIGNATURE:                  DATE: 7th October 2014
PRINT NAME:     Karen HILL      POST HELD: Acuity Practice Development Matron

THE COMPLETED EQIA MUST BE RETURNED TO THE TRUST POLICY ADMINISTRATOR ALONG WITH THE FINAL VALIDATED DOCUMENT

IF YOU HAVE IDENTIFIED ANY POTENTIAL IMPACT THAT REQUIRES FURTHER ASSESSMENT PLEASE CONTINUE TO COMPLETE STAGE 2 OF THE ASSESSMENT
This form must be completed for all cardiac arrest calls and events both adult and paediatric.

Please complete this form using a ball point pen and ensure both copies are named.

Put the white copy in the patient’s notes

RETAIN BLUE COPY IN SAFE PLACE!
Resuscitation Services will collect on next working day.
Attach patient label to BOTH copies of form or write:

<table>
<thead>
<tr>
<th>FULL NAME:</th>
<th>Admission / Visit date :</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of birth:</td>
<td>/ /</td>
</tr>
<tr>
<td>Hospital No:</td>
<td>Date of Event :</td>
</tr>
<tr>
<td>NHS No:</td>
<td>/ /</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Male / Female</th>
<th>Location / Ward</th>
<th>Bed</th>
<th>Time of Event</th>
<th>Time of Call</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SGH</td>
<td>PAH</td>
<td>RSH</td>
<td></td>
</tr>
</tbody>
</table>

**Reason for Admission**

- Patient - Trauma
- Patient Obstetric
- Patient - Medical
- Outpatient
- Patient - Elective / scheduled surgery
- Staff
- Patient - Emergency / urgent surgery
- Visitor

**What was the event**

- False alarm
- Collapsed patient
- Respiratory arrest
- Cardio-respiratory arrest

If it was a false alarm, you can stop entering details here. Please sign and send form to Resus Services (address on front)

**Presenting / first documented rhythm**

- Shockable - VF
- Non Shockable - Asystole
- Shockable - VT
- Non Shockable - PEA
- Non Shockable - bradycardia
- Shockable - not documented rhythm
- Non Shockable - not documented rhythm
- Unknown

**Clinical Notes**

**Intervention Log: What was done?**
## Time CPR started:  

<table>
<thead>
<tr>
<th>Time</th>
<th>Rhythm</th>
<th>Shock</th>
<th>Drug/Fluid</th>
<th>Dose</th>
<th>Intervention</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

## Time CPR stopped:  

<table>
<thead>
<tr>
<th>Time</th>
<th>Reason resuscitation stopped at end of team visit</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Alive, ROSC &gt; 20 mins</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alive, now DNACPR (lilac form completed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Death, No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Death, ROSC &lt; 20 mins</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Death, No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Death, DNACPR identified</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Death, Futility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Time of death</td>
<td></td>
</tr>
</tbody>
</table>

## Patient Destination

### Transitional Location:
- Theatre
- Imaging Dept.
- Cardiac Cath
- ED
- AMU
- Stayed on ward
- Other

### Longer term post-arrest location:
- AMU
- ICU
- HDU
- CCU
- Ward
- Mortuary
- Other

## Person Filling in form
- Print Name
- Signature
- Designation
- Contact/bleep no:

## Event Team Leader
- Print Name
- Signature
- Designation
- Contact/bleep no:
## Appendix C  
### Cardiac Arrest Teams

#### TEAM 20  ADULT EAST WING TEAM

<table>
<thead>
<tr>
<th></th>
<th>Position</th>
<th>Code</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2110</td>
<td>Anaesthetist</td>
<td>9191</td>
<td>Outreach Team</td>
</tr>
<tr>
<td>2011</td>
<td>Medical Take SHO</td>
<td>2238</td>
<td>Site Co Ordinator</td>
</tr>
<tr>
<td>2012</td>
<td>Medical Take HO</td>
<td>2161</td>
<td>Resus Dept</td>
</tr>
<tr>
<td>2257</td>
<td>Medical Senior Sister</td>
<td>1102</td>
<td>Cancer Care Nurse</td>
</tr>
<tr>
<td>2752</td>
<td>Anaesthetist SpR GICU</td>
<td>1359</td>
<td>Matron Acuity</td>
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<tr>
<td>9297</td>
<td>Technician</td>
<td>9172</td>
<td>Outreach Team</td>
</tr>
<tr>
<td>2496</td>
<td>Education Facilitator</td>
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</tr>
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</table>

#### TEAM 21  ADULT WEST WING TEAM

<table>
<thead>
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<th>Position</th>
<th>Code</th>
<th>Notes</th>
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</thead>
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<td>Anaesthetist</td>
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<td>Technician</td>
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<td>9191</td>
<td>Outreach Team</td>
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<td>Site Co Ordinator</td>
</tr>
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<td>2257</td>
<td>Medical Senior Sister</td>
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<td>Resus Dept</td>
</tr>
<tr>
<td>2126</td>
<td>Surgical Senior Nurse</td>
<td>1359</td>
<td>Matron Acuity</td>
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<tr>
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<td>Night Nurse Practitioner</td>
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<td>Outreach Team</td>
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<td></td>
</tr>
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# May not answer Test call
Appendix D

Acutely Ill Referral Pathway

New admissions: ALL patients have baseline observations and MEWS

Minimum frequency of observations
All patients 12 hourly
MEWS 4 Hourly
MEWS 5 30 minutes
MEWS>6 Continuous monitoring
Or as directed by medical staff

Compulsory action ALL MEWS scores 4 or more reviewed by a junior doctor or night practitioner/ bleep holder within 30 minutes as per local protocols

CONCERN
MEWS 4-5 or 2 in any one parameter or Concern by nursing staff
Review by junior doctor/ night practitioner within 30 minutes
Consider Outreach referral
Manage on ward with active plan
Consider level of escalation +/- Outreach or DNACPR

URGENT
MEWS 6 or more or multiple uplifts or 3 in any one parameter
Review by SHO or above within 30 minutes and d/w SpR
Consider Outreach referral
Increased level of care on ward with Outreach support
Or Transfer to designated level 2 area

CRITICAL
MEWS 7 and above
Review by SpR/Consultant
Call Outreach
Consider admission to level 2 or 3 area &/or Consultant to Consultant referral
Safe Transfer to level 2 or level 3 with Outreach support

Assess, plan, implement, evaluate
1. Patient response
2. Level of support required – is transfer required?
3. Consider referral to other teams including pain/physio
4. If appropriate junior doctor/ night practitioner unavailable, contact most senior person.
5. Is full active management appropriate? If not, ensure DNACPR order documented and review need for MEWS scoring

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Appendix E  Anaphylactic Algorithm

Resuscitation Council (UK)

Anaphylaxis algorithm

Anaphylactic reaction?

Airway, Breathing, Circulation, Disability, Exposure

Diagnosis - look for:
- Acute onset of illness
- Life-threatening Airway and/or Breathing and/or Circulation problems
- And usually skin changes

- Call for help
- Lie patient flat
- Raise patient’s legs

Adrenaline

When skills and equipment available:
- Establish airway
- High flow oxygen
- IV fluid challenge
- Chlorphenamine
- Hydrocortisone
- Monitor:
  - Pulse oximetry
  - ECG
  - Blood pressure

1 Life-threatening problems:
Airway: swelling, hoarseness, stridor
Breathing: rapid breathing, wheeze, fatigue, cyanosis, $\text{SpO}_2 < 92\%$, confusion
Circulation: pale, clammy, low blood pressure, faintness, drowsy/coma

2 Adrenaline (give IM unless experienced with IV adrenaline)
IM doses of 1:1000 adrenaline (repeat after 5 min if no better)
- Adult: 500 micrograms IM (0.5 mL)
- Child more than 12 years: 500 micrograms IM (0.5 mL)
- Child 6-12 years: 300 micrograms IM (0.3 mL)
- Child less than 6 years: 150 micrograms IM (0.15 mL)

Adrenaline IV to be given only by experienced specialists
Titrating: Adults 50 micrograms; Children 1 microgram/kg

3 IV fluid challenge:
- Adult: 500 – 1000 mL
- Child: crystalloid 20 mL/kg

Stop IV colloid if this might be the cause of anaphylaxis

4 Chlorphenamine
  (IM or slow IV)
- Adult or child more than 12 years: 10 mg
- Child 6 - 12 years: 5 mg
- Child 6 months to 6 years: 2.5 mg
- Child less than 6 months: 250 micrograms/kg

5 Hydrocortisone
  (IM or slow IV)
- Adult: 200 mg
- Child 6 - 12 years: 100 mg
- Child 6 months to 6 years: 50 mg
- Child less than 6 months: 25 mg
Appendix F  Safe Handling During Resuscitation Guidance

This guidance is adapted from the current guidance from the Resuscitation Council (UK) published in Guidance for safer handling during resuscitation in Healthcare settings (2009). It is aimed at healthcare providers, resuscitation officers and manual handling advisors involved in resuscitation.

It is primarily for adult patients but may be appropriate for children over 8 years. It cannot provide all the answers and is unable to cover all possible situations however these principles can be adapted as a resource to assist in situations not covered within this guidance. It is not intended to replace existing manual handling procedures following full risk assessments.

Cardiorespiratory arrest is seen as the most acute medical emergency faced by healthcare providers and the speed of response is essential because delays in providing cardiopulmonary resuscitation (CPR) reduce the chance of survival.

In approximately 80% of cardiac arrests in adult cases there are clinical signs of deterioration prior to the event, therefore cardiorespiratory arrest in such circumstances can be described as a foreseeable event. As such, this situation should be assessed for risk and the outcome of this should lead to plans and provisions being implemented locally to handle the emergency situation safely as far as is reasonably practicable. For example, patients who are at risk of cardiac arrest should be on an appropriate bed type.

Moving and handling training is a statutory requirement under the Health and Safety at Work etc Act 1974 and expanded on in the Management of Health and Safety at Work Regulations 1992. Managers and staff have to consider the working environment and plans should be in place for dealing with identified medical emergencies.

The principles for moving plus size (bariatric) patients in resuscitation are the same, however account should be taken of the increased risk of staff injury and the need for provision of suitable equipment. Resuscitation guidelines for basic and advanced life support still apply with plus size (bariatric) patients. Their weight, body shape and increased tissue mass can make airway management, CPR and defibrillation technically more difficult therefore resulting in a more mentally challenging and more complex scenario.

The aims of the guidelines are to:

- Identify areas of concern
- Provide realistic principles for dealing with manual handling situations during resuscitation which have been scored using Rapid Entire Body Assessment (REBA) and taking into account the urgency of the cardiac arrest situation
- Consider that each healthcare setting will have different facilities and will face different situations
- Minimise the risk to the rescuer “as far as is reasonably practicable”
- Base the recommendations on current safer practice.
The Collapsing Patient Guidance

A common dilemma facing healthcare professionals is how to manage the patient as they collapse to the floor.

When a patient collapses, the urgency of the situation may distract rescuers from using safe handling techniques. If the patient is out of reach it may be unrealistic to be able to lower them in a safe manner.

Whilst this document does not address specific issues (e.g., protection of the patient’s cervical spine), before starting the resuscitation attempt the rescuer must rapidly and correctly assess the risks to both the patient and the rescuer. This is the first action in the sequence of events for basic life support (BLS).

The rescuer must take into account their own individual capability and experience, and the weight and build of the patient before handling them.

Environmental factors such as space and hazards must also be rapidly assessed. Care must be taken to avoid any injury to the rescuer during the resuscitation procedure as this may prevent them performing effective CPR.

Within the clinical setting it is likely that additional rescuers will arrive at the scene rapidly (within 3 minutes) and it may be more appropriate to wait for such help rather than risk personal injury.

Low-friction material devices, e.g., sliding sheets are now widely available and used across UHS. They are especially useful for turning or moving a patient. These should be readily available and it is recommended that they be kept in strategic areas within clinical settings. If space permits they should be kept next to, the emergency resuscitation trolley, or at the nearest location to this which is easily identifiable.

Performing chest compressions is physically demanding and may exhaust or strain the rescuer. Another rescuer should take over CPR about every two minutes to prevent fatigue and injury. Assessment of appropriate height of undertaking compressions, and pre-existing staff medical injuries must be undertaken. Good body posture in order to attain a good stable base and avoiding twisting must be attained where possible. Staff should take responsibility in accessing their local training on the specific equipment used within their areas to retrieve a patient from the floor following resuscitation. Generic handling procedures, such as how to log-roll a patient and insertion of sliding sheets should be addressed in staff mandatory training sessions.

If you are unfamiliar with these procedures, seek appropriate training and advice.

This guidance only pertains to safer handling techniques and methods that are specific to cardiopulmonary resuscitation.
**Glossary of terms**

**Kneeling positions:**

**High Kneeling**

[REBA score 2]

**Neutral position of the wrist:**

No flexion, extension or twisting

[REBA score 2]

Innermost: Nearest to the patient
Outermost: Furthest from the patient

**Half Kneeling**

[REBA score 2]

**Low Kneeling**

[REBA score 2]

**Walking stance**

[REBA score 1]

An example of a dynamic stable base
Aide memoire to safer handling during CPR

ASSESS THE SITUATION

Communication
One person co-ordinates the commands. The commands must be clear, ensuring that people know who is doing what, when and where

A commonly accepted command is
“Ready? Set? Move”

Stay close to the patient
Ensure you have a stable dynamic base of support. Alter your base of support rather than twist your body to ensure that you face the patient/object straight on.

Maintain your balance

Good posture
straight spine
stable dynamic base
close to load

Bad posture
C-shaped spine
unstable base
reaching and twisting

[REBA score 4] [REBA score 9]
**Cardiopulmonary Resuscitation on the Floor**

If a patient is found collapsed on the floor, CPR should be carried out on the floor.

Start CPR as quickly as possible and try to provide the best quality CPR, particularly chest compressions, that is possible in the circumstances.

Do not move the patient unless there is inherent danger to the patient or rescuers in that location.

If the patient has collapsed in a public area (such as a waiting room) consider the use of screens to provide privacy and dignity. Alternatively, ask the other patients and members of the public to leave the area.

If access to the patient is restricted, where possible, move the furniture. If it cannot be moved quickly and safely it may be necessary to slide the patient horizontally across the floor to an area that is less restricted. Use an inflatable air mattress/sliding sheets to achieve this to reduce the risk to the rescuers.

Poor access to the patient may result in the rescuers having to twist and bend awkwardly and this may impair the quality of CPR or risk potential injury to the rescuer.

![CPR on the floor](image)

**Chest compressions**

It is important that the rescuer minimises twisting their spine and applies force vertically down from their shoulders. This reduces the risk of injury and makes compressions more effective.

- Kneel in the high kneeling position with your knees shoulder-width apart at the side of the patient’s chest
- Position your shoulders directly above the patient’s chest and keep your arms straight
- The force of compressions should come from flexing your hips not from bending the arms
- With hands kept in position, allow the chest to recoil to its fullest extent before starting the next compression.

![CPR compressions](image)

[REBA score 4]
Airway management and ventilation
It is important there is sufficient space around the patient to enable rescuers to manage the airway effectively. Access from behind the head of the patient, as well as from the side, is required. Chest compressions should commence whilst awaiting appropriate equipment e.g. Bag valve mask.

Bag-mask ventilation
The two-person technique for bag-mask ventilation is preferable.
- Kneel behind the patient's head with your knees shoulder-width apart
- Rest back to sit on your heels in the low kneeling position
- Keep your back as upright as possible and keep your arms straight while holding the mask on the patient's face.

Mouth-to-mask
- Kneel behind the patient's head with your knees shoulder-width apart
- Rest back to sit on your heels in the low kneeling position
- Bend forwards from your hips and lean down to blow into the mask
- Resting your elbows on your legs may offer some support
- Using a pocket mask may be less comfortable for the rescuer compared with bag-mask ventilation
Airway devices
Supraglottic airway devices (e.g., laryngeal mask airway)
- Kneel behind the patient’s head with your knees shoulder-width apart
- Rest back to sit on your heels in the low kneeling position
- Place one hand behind the patient’s head to keep it tilted back
- During airway insertion lean forward slightly from your hips.

Tracheal intubation
- Kneel behind the patient’s head with your knees shoulder-width apart
- It will be necessary to bend forward considerably, from the hips, in order to see the vocal cords
- Resting your elbows on the floor or widening your knees may provide more stability
- Intubation will require considerably more bending forward than using any of the supraglottic airway devices
- No intubation attempt should take longer than 30 seconds.

Following resuscitation
The safest and easiest method of transfer of lifting a patient from the floor is to use an inflatable lifting cushion e.g. hoverjack, to lift in a supine position. Using a minimum of four handlers the device is placed under the person by either log rolling the patient to insert device under or by sliding patient onto with slide sheets.

The device has four chambers that are inflated independently and sequentially, starting from the bottom. **ALL APPROPRIATE STRAPS IN USE MUST BE LOOSENED BEFORE INFLATING.** Further CPR can be carried out at each individual level if necessary. The person is then raised to a level that will facilitate a safe lateral transfer onto a bed/trolley. The extremely high load capacity makes this device particularly useful for plus size (bariatric persons) and can be used together with an air mattress.

**Alternative mechanical floor lifting devices.**
If a hoist is not available then the patient can be log rolled onto a solid flat surface e.g. scoop stretcher and raised with an inflatable lifting cushion. The patient must be kept in a horizontal position: therefore sufficient staff must be available to ensure the surface is well balanced on the cushion whilst being inflated.

If this is not available, a hoist with a stretcher attachment that enables direct lifting from the floor can be used because it keeps the patient horizontal. If this is not available, a hoist and sling may be used as long as this enables direct lifting from the floor and does not compromise the patient in any way. A diagonal approach is usually the most practical.
**Extra Caution!**
The use of the stretcher attachment on a hoist may lower the hoist's overall safe working load. Always check the safe working load of any attachments and never exceed it.

Once raised, transfer the patient laterally across, onto the receiving bed/trolley using a minimum of four handlers.

In all circumstances the following criteria need to be met:
- Always use an inflatable/mechanical lifting device when lifting plus size (bariatric) patients
- The apparatus must always provide adequate support to the patient's head and trunk
- Try to keep the patient horizontal
- A head down position increases the risk of regurgitation and makes ventilation more difficult
- The hoist sling is inserted underneath the patient using either a log-roll technique or by using sliding sheets if the patient is too unstable to be rolled
- During hoisting care is taken to ensure the patient's trunk and head remain as horizontal as possible.
- A good team approach is vital when managing this transfer to ensure the safety and comfort of the patient is maintained
- If the patient re-arrests whilst in the hoist, either continue the transfer onto the bed or trolley or lower them back to the floor depending on which is the quickest or easiest
- If the resuscitation is unsuccessful, and hoist access is available, hoist the patient and transfer onto a trolley, bed or directly onto the mortuary trolley.

**Manual lift from floor**
Manual lifts from the floor (especially those within confined areas) are very high risk.

However, if an inflatable device/hoist transfer cannot be achieved, for example if the patient has collapsed in an area that is inaccessible to appropriate equipment, a manual lifting transfer may be the only alternative.

Determine the safest method:
- this should take into consideration the varying heights of the rescuers,
- the environment and the optimal positioning of the trolley.

The risks are significantly increased if transferring directly to a bed because a bed is wider than a trolley. This causes the rescuers to hold the patient further away from their trunk, which increases the load on their spine.

**This type of transfer is high risk – consider it only as a last resort. Make all individuals involved aware of the risks associated with this transfer and the physical abilities that will be required of them. The task MUST be documented after clearly stating all names of persons involved**

The following is advised:
- The transfer must be well planned and all rescuers briefed – in total 8 people will be required to assist
- One person co-ordinates the commands and lifting activity; this person is required to support the head
- Ensure that an appropriate designated lifting sheet (i.e., a sheet that has been designed for lifting) is available. A scoop stretcher may be used if correct safe working load allows.
- Log roll the patient onto the lifting sheet/scoop stretcher
- A minimum of three people are positioned on each side of the patient
An additional person will need to position the trolley under the patient

- Each rescuer faces the patient and drops down into the half-kneeling position (or into a position they feel comfortable in and are able to rise from)
- Each rescuer grasps the lifting sheet (or handles if present) with their wrists in a neutral position
- On the command the rescuers stand lifting the patient to approximately waist height
- The patient is transferred onto an appropriately positioned height-adjustable trolley.

**Cardiopulmonary Resuscitation on a Bed or a Trolley**

This is the most likely scenario faced by healthcare providers within the hospital setting.

There are numerous types of beds and trolleys available; therefore, it is more useful for rapid assessment and intervention, that two categories are considered. This document addresses the general issues faced in relation to **electrically powered** and **manually operated** beds or trolleys. The use of height adjustable beds and trolleys with electric profiling frames will eliminate many of the handling risks faced in the following situations by avoiding poor posture and actual moving and handling.

It is the responsibility of the healthcare provider to ensure that they are fully familiar with any moving and handling equipment, including beds and trolleys.

The healthcare provider needs to ensure that they have accessed appropriate training relating to the moving and handling equipment they are using.

Significant injury can occur if individuals who have not received the relevant training attempt to use these devices.

To enable effective CPR, ensure the patient is supine. Keep a pillow because it may be needed to optimise the patient’s position during laryngoscopy and tracheal intubation.

The following describes the general principles of how to get a patient on an **electrically powered** height-adjustable / profiling bed from a semi-reclined position into a supine position for performing CPR:

- Ensure that the brakes are on and, if applicable, bedrails are lowered
- Depending on Make / Model / Specifications, one or two rescuers should use a dynamic stable based position
• With one hand to steady the raised part of the bed and the other to release the marked 'CPR' handle, the rescuers lower the bed slowly to a horizontal position.
• If available, the powered CPR button should be used.

* Some electrically powered beds have 'controlled' release mechanisms; others may require the rescuer to release the bed while manually supporting the load. In these cases, be very careful to avoid bad postures, traumatic loadings and trapping hazards.

The following describes the general principles of how to get a patient on a manually operated height-adjustable bed from semi-reclined to supine to enable CPR to be performed:

• Clear the environment of any hazards
• Ensure that the brakes are on and, if applicable, bedrails are lowered
• If a sliding sheet(s) is in position
  - With the bed at approximately hip-height, grasp the top layer of the sliding sheet and slide the patient down the bed away from the backrest until supine
• If a sliding sheet(s) is readily available
  - It may be possible to insert this quickly underneath the patient’s hips/buttocks by inserting from the patient’s feet towards their buttocks and under their body. Use the technique outlined above to move the patient down the bed away from the backrest
• If no sliding sheet is available do NOT use the bed sheet as a sliding aid:
  - Lower the bed to the lowest height
  - Each rescuer faces the patient and positions themselves on either side of the bed
  - The innermost knee of each rescuer rests on the bed whilst their outermost leg remains on the floor

- The patient’s legs are flexed at both knees and hips
- Each rescuer grasps behind the back of the knee closest to them. One hand is placed in the crease of the knee and the other behind the calf
- On command, the rescuers transfer their body weight backwards towards their heels pulling the patient with them
- Re-position and repeat as necessary
- Readjust the height of the bed.
- The optimal height positions the patient between the knee and mid-thigh of the person performing chest compressions
- Consider the combined weight of the rescuers and the patient when using this approach; the total weight must not exceed the manufacturers guidance or specified safe working load of the bed.
If the patient has had a lower limb amputation, the rescuers’ handgrips are modified according to the level of the amputation.
In the event that the resuscitation takes place on a trolley where there is a manual “pull up” backrest, two rescuers are required to lower the backrest using safer handling principles.

[REBA score 5]

When resuscitating a patient on a pressure relieving bed or mattress, refer to the manufacturer’s instructions. For resuscitation to be effective, a firm surface is required underneath the patient.
Chest compressions
The optimal height of the bed places the patient’s chest level between the knee and mid-thigh of the person performing chest compressions.

Teamwork is essential and the bed may need to be adjusted according to the different heights of the rescuers.
- Stand at the side of the bed
- Place your feet shoulder-width apart
- Flex forward from your hips
- Ensure that the compression force comes from flexion of your hips and that your shoulders are positioned directly over the patient’s sternum

- If necessary, kneel with both knees on the bed.
- The bed must be clear of any hazards e.g., needles, blood.
- Ensure that your weight combined with the patient’s does not exceed the safe working load of the bed
- Do not remain on the bed if the patient is being defibrillated.
- If a patient has arrested on a fixed-height bed or trolley, a firm stool or steps must be provided. These must be of a suitable height to ensure that the rescuer performing chest compressions is able to stand with the patient level between their knee and mid-thigh region. The stool or steps must have a non-slip surface area, which is large enough to accommodate the rescuer standing with their feet shoulder-width a part. Kick stools are not suitable for this procedure
- No attempt should be made to kneel on a trolley
- It is advised that the rescuer providing chest compressions is changed every 2 minutes to prevent fatigue and injury from repetitive strain.

Airway management and ventilation
Mouth-to-mouth, ventilation
This technique of ventilation is not advocated at UHS.

For mouth-to-mask ventilation (one rescuer)
- Stand at the side of the bed facing the patient, level with their nose and mouth
- Bend forwards from your hips to minimise flexion of the spine
- Support your weight by leaning your legs against the side of the bed frame.
- To intubate the patient’s trachea or to provide mouth-to-mask or bag-mask ventilation (with two rescuers present), enable access by moving the bed away from the wall and removing the backrest.
  - Position yourself at the top of the bed facing the patient
  - Place your feet in the walk-stance position
  - Once the tracheal tube has been inserted adopt a comfortable position and avoid prolonged static postures.

**Dealing with a cardiac arrest in a sitting position**
To provide effective chest compressions the patient must be lowered to the floor.

This manoeuvre should be carried out in a safe and controlled manner.

Transferring a patient from a seated position onto the floor is high risk. Do not move the patient directly from the chair to the bed/trolley. An exception to this may be if the patient is already sitting on a sling and a hoist is readily available.

The optimal number of people required to perform this transfer is three.

If fewer than three people are available, a less than optimal transfer may have to be attempted. Wherever possible wait for additional people to provide assistance.

**Three-person transfer**
- The chair must be secure, with any brakes in the ON position
- If a sliding sheet is readily available, place it under the patient’s feet and extend their legs to enable the feet and legs to slide away from the chair as the patient is lowered onto the floor
- One rescuer supports the head by standing at the side of the chair, level with the patient’s head
- The other two rescuers face the patient in the chair, and position themselves slightly in front and to the side of the chair
- These rescuers get into a half-kneeling position with their innermost knee on the floor and grasp hold of the patient at the back of the pelvis/hip region with their outermost hand and behind the patient’s knee with their innermost hand
- An alternative is to use the high-kneeling position which some rescuers may find more comfortable
REBA score 9 [for kneeling rescuers]

- If the patient is dressed it may be helpful to grab hold of their clothing or belt
- On the command from one rescuer, each kneeling rescuer transfers their body weight back towards their heels. This pulls the patient forwards out of the chair into a sitting position on the floor with their back resting against the chair

NOTE: A pillow placed on the floor to cushion the fall acts as a hindrance rather than a help.

- Once in this position, either move the chair and lower the patient’s head and chest carefully to the floor, OR pull the patient’s legs forwards away from the chair until the patient is supine.

Two-person transfer

- Both rescuers face the patient in the chair, and position themselves slightly in front and to the side of the chair
- If readily available place a sliding sheet under the patient’s feet
- Both rescuers get into a half-kneeling position with their innermost knee on the floor and grasp hold of the patient at the back of the pelvis/hip region with their outermost hand and behind the patient’s knee with their innermost hand.
- An alternative is to use the high-kneeling position which some rescuers may find more comfortable
• If the patient is dressed it may be helpful to grab hold of their clothing or belt
• On the command from one rescuer, each kneeling rescuer transfers their body weight back towards their heels. This pulls the patient forwards out of the chair into a sitting position on the floor with their back resting against the chair.

**NOTE:** A pillow placed on the floor to cushion the fall acts as a hindrance rather than a help.

• Once the patient is in the sitting position on the floor, one rescuer takes responsibility for supporting their head, whilst the other pulls the patient’s legs forwards and away from the chair, or if there is enough room, moves the chair.
• Alternatively, one rescuer gently pushes the patient sideways towards the other rescuer who lowers them to the floor

**One-person transfer**
Wherever possible one rescuer should not undertake this task and they should wait for assistance to arrive. However, it is recognised that in some situations a rescuer may decide to begin resuscitation and will need to transfer the patient to the floor. This is a high risk activity it should only be undertaken in life-threatening or exceptional circumstances.
Kneel on the floor to one side of the patient
Position the patient's arm that is closest to you across their chest
Push against the patient’s thigh which is nearest to you with both your hands to position the patient’s hips at the front of the chair
Place your hand around the patient’s furthest hip.
Place your other hand on the patient’s thigh which is closest to you
Push / pull the patient down to the floor.

Cardiac arrest on the toilet
If a patient has a cardiac arrest on the toilet it is likely the patient will fall either sideways or forwards.

Before transferring the patient onto the floor it is important that the door is kept open. This will ensure that the entrance is not blocked and will enable other rescuers access to the room. If they still remain on the toilet they will need to be transferred to the floor using a similar technique as previously described for a sitting position.

If the patient is dressed it may be helpful to grab hold of their upper clothing

Avoid entrapment of the genitalia!

Where able use screens to maintain the patient’s privacy and dignity
Dealing with a cardiac arrest in a bath

This is an extremely difficult topic to address because shapes and sizes of bathrooms differ and access to the patient varies.

Any physical technique of removing a collapsed patient from a bath is hazardous and includes high risk of injury. Risk assessments of this potential situation must be carried out locally, especially for those patients who are at risk of cardiac arrest, and evacuation procedures established.

To enable resuscitation to be attempted the patient needs to be out of the bath.
- Remove the plug so that the water can begin to drain from the bath before starting the transfer. The rationale for this is that the water will render the area hazardous and slippery for the rescuers, whilst also making it dangerous for attempting defibrillation.
- Towels, or other absorbent materials, should be placed on the floor before removing the patient from the bath.
- The patient must not be lying in a puddle of water and their chest must be dried before attempting defibrillation.

NOTE: Local evacuation procedures must also be established for birthing pools. After 20 weeks gestation (or obvious signs of a pregnancy) a woman's uterus can press against the inferior vena cava resulting in reduced cardiac output and hypotension. Whenever a pregnant woman collapses the rescuers need to place the patient either in a full left lateral position or, if this is not possible, a 15 degrees tilt to the left to relieve caval compression. This can be achieved by using sand bags, firm pillows, a wedge or the thighs of the kneeling rescuers to tilt the torso, or by manually and gently displacing the uterus to the left.

Dealing with a cardiac arrest in the Hydrotherapy Pool

Each organisation must have a local policy in place for evacuating a collapsed patient from the hydrotherapy pool and the procedure must be practised regularly. Many hydrotherapy pools now have a ceiling track hoist installed and this is often the preferred method of evacuation from the pool in an emergency.

The following describes an alternative method for a rapid evacuation from the pool:
- The rescuer in the water pulls the emergency cord to summon help
- An inflatable neck support is placed around the patient’s neck
- The rescuer floats the patient to a side of the pool which enables open access
- The next rescuer to arrive puts an “evacuation board” into the pool and joins the other rescuer in the water to assist supporting the patient
- Further rescuers take over supporting the patient from either inside or outside the pool whilst the rescuers in the pool place the evacuation board under

- The next rescuer to arrive puts an “evacuation board” into the pool and joins
the other rescuer in the water to assist supporting the patient

- Further rescuers take over supporting the patient from either inside or outside the pool whilst the rescuers in the pool place the evacuation board under the patient.

The board can be pushed out of the pool directly onto the floor or onto a trolley if the pool is above ground level.

**NOTE:** Do not exceed the weight limit indicated on the evacuation board.

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**Cardiopulmonary Resuscitation and the Plus Size (Bariatric) Patient**

The principles for moving plus size (bariatric) patients are the same as those already described in this document. Healthcare settings must ensure suitable equipment is available for their staff when dealing with these patients and that they are trained in its use. The following is additional guidance that should be taken into account to provide safer handling and effective CPR when a plus size (bariatric) patient has a cardiac arrest.

**Airway management and ventilation**

Airway manoeuvres and maintaining an adequate airway can be difficult due to the increased size of the head and neck and glottic oedema.

Plus size (bariatric) patients have a higher risk of regurgitation and aspiration.

Inflating the lungs during ventilation can be harder due to the patient’s body shape, tissue mass, and because they are lying flat.

Sitting the patient up slightly can make airway manoeuvres and ventilation easier but this will make chest compressions more difficult.

Identifying chest movement can also be difficult.

Adequate ventilation often requires early tracheal intubation by an individual who is already competent in this skill.

**Chest compressions**

Identifying landmarks for chest compressions can be difficult.

It is important that the rescuer maintains a stable base and minimises the risk of extending their reach when giving compressions.
Chest compression quality may be compromised because of the increased physical effort required to achieve the full compression depth of 5-6 cm (for an adult) at a rate of 100 - 120 per minute.

Adequate staff must be available to rotate rescuers every two minutes, or sooner, to reduce fatigue and ensure effective chest compressions.

Transferring and handling the plus size (bariatric) patient

- If the patient is on the floor with restricted access and has to be moved, use a plus size sliding sheet preferably that can be attached with extension straps/air mattress with extension straps
- When transferring the patient following resuscitation, it is advised that an inflatable lifting cushion e.g. hoverjack be used and an air mattress suitable for the plus size (bariatric) patient’s body shape and weight.
- Bariatric patients MUST be cared for on an appropriate electrically operated bed
- Manual lifts are not recommended with bariatric patients.
- Where able do not stretch across the patient as this manoeuvre can cause overstretching

References


Health and Safety Executive (1999) Management of Health and Safety at


Appendix G Adult Basic Life Support Algorithm

Adult Basic Life Support

UNRESPONSIVE?

Shout for help

Open airway

NOT BREATHING NORMALLY?

Call 999

30 chest compressions

2 rescue breaths
30 compressions
Appendix H Adult Advanced Life Support Algorithm

Adult Advanced Life Support

Unresponsive?
Not breathing or only occasional gasps

Call resuscitation team

CPR 30:2
Attach defibrillator / monitor
Minimise interruptions

Assess rhythm

Shockable
(VF / Pulseless VT)

Non-Shockable
(PEA / Asystole)

1 Shock

Return of spontaneous circulation

Immediately resume CPR for 2 min
Minimise interruptions

Immediately resume CPR for 2 min
Minimise interruptions

During CPR
- Ensure high-quality CPR: rate, depth, recoil
- Plan actions before interrupting CPR
- Give oxygen
- Consider advanced airway and capnography
- Continuous chest compressions when advanced airway in place
- Vascular access (intravenous, intrasosseous)
- Give adrenaline every 3-5 min
- Correct reversible causes

Reversible Causes
- Hypoxia
- Hypovolaemia
- Hypo-/hyperkalaemia/metabolic
- Hypothermia
- Thrombosis - coronary or pulmonary
- Tamponade - cardiac
- Toxins
- Tension pneumothorax
Appendix I AED Algorithm

AED Algorithm

Unresponsive?

- Call for help

Open airway
Not breathing normally

Send or go for AED
Call 999

CPR 30:2
Until AED is attached

AED assesses rhythm

Shock advised

- 1 Shock
  - Immediately resume CPR 30:2 for 2 min

No Shock advised

- Immediately resume CPR 30:2 for 2 min

Continue until the victim starts to wake up, i.e. moves, opens eyes and breathes normally
Paediatric Basic Life Support
(Healthcare professionals with a duty to respond)

UNRESPONSIVE?

Shout for help

Open airway

NOT BREATHING NORMALLY?

5 rescue breaths

NO SIGNS OF LIFE?

15 chest compressions

2 rescue breaths
15 compressions

Call resuscitation team
Appendix K Paediatric Advanced Life Support Algorithm

Paediatric Advanced Life Support

Unresponsive? Not breathing or only occasional gasps

CPR (5 initial breaths then 15:2)
Attach defibrillator / monitor
Minimise interruptions

Call resuscitation team
(1 min CPR first, if alone)

Assess rhythm

Shockable
(VF / Pulseless VT)
1 Shock
4J / kg
Immediately resume CPR for 2 min
Minimise interruptions

Non-Shockable
(PEA / Asystole)
Return of spontaneous circulation
Immediately resume CPR for 2 min
Minimise interruptions

Immediate post cardiac arrest treatment
- Use ABCDE approach
- Controlled oxygenation and ventilation
- Investigations
- Treat precipitating cause
- Temperature control
- Therapeutic hypothermia?

During CPR
- Ensure high-quality CPR: rate, depth, recoil
- Plan actions before interrupting CPR
- Give oxygen
- Vascular access (intravenous, intraosseous)
- Give adrenaline every 3-5 min
- Consider advanced airway and capnography
- Continuous chest compressions when advanced airway in place
- Correct reversible causes

Reversible Causes
- Hypoxia
- Hypovolaemia
- Hypo-/hyperkalaemia/metabolic
- Hypothermia
- Tension pneumothorax
- Toxins
- Tamponade - cardiac
- Thromboembolism