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1. Introduction

1.1. There is a requirement for all clinical staff to achieve a level of competence in cardiopulmonary resuscitation (CPR) skills appropriate to their employed role. This resuscitation policy fully supports the Quality Standards for Cardiopulmonary Resuscitation Practice and Training, published by the Resuscitation Council (UK) (2013) and the Care Quality Commission regulations.

1.2. This version supersedes any previous versions of this document.

1.3. Data Protection Act 2018 (General Data Protection Regulation – GDPR) Legislation

The Trust has a duty under the DPA18 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed and documented. We can’t rely on Opt out, it must be Opt in.

DPA18 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the DPA18 please see the ‘information use framework policy’, or contact the Information Governance Team rch-tr.infogov@nhs.net

2. Purpose of this Policy

2.1. The purpose of this policy is to provide guidance for the planning and implementation of a robust, high quality resuscitation service to the organisation. The strategy incorporates the current national guidelines for resuscitation (Resuscitation Council UK, 2015).

2.2. For guidance relating to situations where resuscitation may not be appropriate please refer to: Treatment Escalation Plan (T.E.P.) and Resuscitation Decision Record (in relation to the adult patient) (2015) and Royal Cornwall Hospitals NHS Trust Treatment Escalation Plan and Resuscitation Decision Record (in relation to Children under 18 years) (2015)

3. Scope

This policy applies to all clinical staff working within Royal Cornwall Hospitals NHS Trust.

4. Definitions/Glossary

Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) when completed as part of the Treatment Escalation Plan in the event of cardiopulmonary arrest; neither basic nor advanced resuscitation will be instigated.
Basic Life Support (BLS) is the most basic certification of life support training for the initial management of patients in cardiac arrest, respiratory arrest and choking. BLS generally does not include the use of drugs or invasive skills.

Cardiac Arrest is the cessation of cardiac output. There is abrupt loss of consciousness, no established breathing pattern, absence of a central pulse and/or no other signs of life.

Cardiopulmonary Resuscitation (CPR) the manual application of chest compressions and artificial ventilations delivered to patients in cardiac arrest, with the aim of preventing irreversible brain damage and death.

National Early Warning Score (NEWS) is a validated bedside “track and trigger” tool used to assess the severity of a patients’ physical condition by promoting early recognition of potential critical changes in vital signs.

Maternity Early Obstetric Warning Score (MEOWS) is an essential tool for assessing a woman’s clinical condition. The MEOWS chart can highlight a deteriorating condition in the antenatal, intrapartum or post natal period.

Paediatric Basic Life Support (PBLS) is the most basic certification of life support training for the initial management of paediatric patients in cardiac arrest, respiratory arrest and choking.

Paediatric Early Warning Score (PEWS) is the paediatric version of the adult NEWS scoring system.

Paediatric Emergency Response Team (PERT) A team of specialists (see 6.56) who respond to inter-hospital paediatric emergencies.

Respiratory Arrest is the cessation of spontaneous breathing.

Resuscitation the medical efforts which are made to revive a person who is seriously ill/injured or who is in cardiac arrest.

Treatment Escalation Plan (TEP) an agreed plan of care guiding which treatments / ceilings of care the patient should receive if they deteriorate including the resuscitation status.

5. Ownership and Responsibilities

5.1. The Trust Board

- The Trust Board and Chief Executive have a responsibility to ensure systems, policies and procedures are in place to provide an effective and appropriate resuscitation service. A suitable infrastructure is required to establish and continue support for these activities.
5.2. **Medical Director**

- The Medical Director has executive responsibility for this policy. They are also responsible for ensuring that all medical staff (not in training) receive the appropriate resuscitation training, that it is recorded and that all non-attendees of CPR training are followed up (this may be delegated to Divisional Directors).

5.3. **Role of the Resuscitation Committee**

- The Resuscitation Committee/ Resuscitation Officers are responsible for policy distribution, implementation and monitoring compliance throughout the Trust.

5.4. **Role of Director of Medical Education**

- The Director of Medical Education is responsible for ensuring that all medical staff in training receive the appropriate training, that it is recorded and that all non-attendees of CPR training are followed up.

5.5. **Role of Ward and Departmental Managers**

- Ward and Department managers have a responsibility to ensure that staff members have access to this policy, and adhere to it. Managers must also recognise the training needs of their staff by completing a Training Needs Analysis (TNA) and an annual Personal Development Review (PDR). Staff must then be provided access to training at the appropriate level agreed e.g. Level 1,2,or 3.

5.6. **Role of Individual Staff**

- Each individual clinical staff member is responsible for ensuring that they comply with this Trust policy and attend regular training as dictated by their TNA and PDR to achieve the level agreed.

5.7. **Role of the Procurement Department**

- The Procurement Department have a responsibility to liaise with the Resuscitation Department regarding any plans to introduce new equipment in relation to resuscitation into the Trust. This may require the input of the Clinical Engineering Management Service (Medical Physics) in relation to any electrical equipment.

6. **Standards and Practice**

6.1. **All Clinical Staff**

6.1.1. All clinical staff with direct patient contact should be fully competent in providing cardiopulmonary resuscitation to an adult.
6.1.2. All clinical staff with direct paediatric patient contact should be fully competent in providing cardiopulmonary resuscitation to both an adult (level 1) & child.

6.1.3. The level of training required for all clinical staff will be dictated by their clinical role and agreed with their manager/clinical lead. An annual training needs analysis is undertaken by the Learning and Development Team in consultation with line managers to review the education, core training and development needs of the organisation. Please refer to the Royal Cornwall Hospitals NHS Trust’s ‘Core Training Policy (2011).

6.1.4. **Level 1 - Basic Life Support (Adult (ABLS) and Paediatric (PBLS))**

This is the minimum standard required for all clinical staff with patient contact. Although commonly referred to as BLS, clinical staff should undertake in-hospital life support training which encompasses recognition of cardiac arrest, BLS, foreign body airway obstruction (FBAO) and the use of airway adjuncts (appendix 5). Level 1 should be updated ANNUALLY.

6.1.5. **Level 2 - Immediate Life Support (ILS), Paediatric Life Support (PLS) and Newborn Life Support (NLS)**

ILS, PLS and NLS are all recognised national training courses. Which provides clinical staff with the knowledge and skills needed to treat patients in cardiac arrest until arrival of the resuscitation team; includes extended skills such as defibrillation. It also prepares them to be members of that team. Level 2 training should be updated ANNUALLY. An ILS certificate is only valid for 1 Year. PLS and NLS are both 4 year certificates however, staff must update at minimum level 1(BLS) for years 2 & 3.

6.1.6. **Level 3 - Advanced Life Support (ALS) and Advanced Paediatric Life Support (APLS)**

ALS and APLS are both recognised national training courses. Which provides clinical staff with the knowledge to lead a cardiac arrest team and to provide advanced skills. Level 3 whilst valid for 4 years requires a BLS training update in year 3:-

Year 1 – Advanced course certificate obtained  
Year 2 – No additional training required  
Year 3 – Level 1 (minimum) training required  
Year 4 – Advanced course recertification or Level 1 minimum annual thereafter.

**6.2. Life Support Instructors – Roles, Responsibilities & Updating**

6.2.1. Resuscitation training may only be delivered by recognised life support instructors.

6.2.2. **Level 1 Instructors.**

• BLS Instructors may only train staff at Level 1.
• BLS Instructors must have attended a Royal Cornwall Hospitals NHS Trust BLS Instructor course. (If the Instructor already has the appropriate skills and knowledge, the Resuscitation Team may waive this stipulation, assessment will still be required).
• BLS Instructors must successfully complete a BLS skills pack prior to attending the above course and can only instruct once they have attended the above course and been assessed as competent in performing BLS and in teaching the skill to others.
• BLS Instructors must regularly teach to remain current in their role.
• BLS Instructors must send a record of those trained to the Resuscitation Courses Administrator within the Postgraduate Department.
• It is the responsibilities of the Ward/Department Manager to ensure that their BLS Instructors are given adequate time in order to deliver level 1 training to their colleagues.
• BLS Instructors will be updated & assessed regularly by the Resuscitation Officers.

6.2.3. Level 2 & 3 Instructors
• Level 2 & 3 instructors may deliver training to staff up to the level of their instructor certificate.
• Advanced instructors are developed and updated through a complex system of training overseen by the organisation validating their national course certificate e.g. Resuscitation Council (UK) or Advanced Life Support Group.
• Level 2 & 3 Instructors are exempt from mandatory training (detailed in 6.1) as they are regularly assessed as part of their advanced instructor role; under strict rules and regulations overseen by the appropriate national organisation.
• All training delivered must be documented and a record of those trained sent to the Resuscitation Courses Administrator within the Postgraduate Department.

6.3. Nursing, Midwifery and Allied Health Professional Staff - Roles and Responsibilities

6.3.1. Registered nurses, midwives and allied health professionals (clinical) must be fully competent to level 1 (minimum) irrespective of their area of work.

6.3.2. They may also undertake further advanced life support training as their role and job descriptions dictate, identified by the training needs analysis and agreed with their managers in conjunction with the Resuscitation Officers.

6.3.3. Department Managers, Sisters/Charge Nurses

6.3.3.1. Those who take responsibility for a ward or department must also be expected to demonstrate the same degree of competence as
those acting under their direction. They should know the required skills of other grades in order to teach direct and support them in their duties.

6.3.3.2. In addition they should:

- Ensure that a member of staff is available to assist the cardiac arrest team at each cardiac arrest within their clinical area.
- Establish a ward or departmental daily routine for the checking and documentation of resuscitation equipment checks.

6.3.4. **Matrons/Assistant Directors of Nursing**

6.3.4.1. Those who take responsibility for a clinical area are expected to demonstrate the same degree of competence as those acting under their direction. They should know the required skills of other grades in order to support them in their duties.

6.3.4.2. They should establish systems to ensure that all non-attendees of CPR training are followed up.

6.3.5. **Drug Administration**

6.3.5.1. Nurses, midwives and registered allied health professionals who hold a current Resuscitation Council (UK) ALS, ILS PLS or APLS certificate, and have been assessed and demonstrated competence in Intravenous Drug Administration can give the following drugs without prescription during resuscitation: In accordance with the Resuscitation Council (UK) guidelines (2015).

- IV Adrenaline
- IM Adrenaline (anaphylaxis)
- IV Amiodarone

**6.4. Medical Staff - Roles and Responsibilities**

6.4.1. All registered medical staff regardless of grade must be able to take an active role in a resuscitation attempt and should be fully competent to a minimum level 1 BLS, irrespective of their area of work. Further training is determined by the duties that these staff would be expected to undertake when in attendance at a cardiac arrest, medical/obstetric/neonatal emergency and identified through their personal development plan which is written in conjunction with their personal supervisor.

In addition :-

6.4.2. **Foundation Year One (F1)**
All F1s will receive as part of their induction to the Trust, information specific to the Trust arrest procedures and attend appropriate training. All
F1s during their F1 year should undertake as a minimum a Resuscitation Council (UK) ILS and ALERT/AIM course.

6.4.3. **Foundation Year 2 (F2)**
All F2s and Senior House Officers will receive as part of their induction to the Trust, information specific to the Trust arrest procedures and attend appropriate training. During their F2 year they should undertake as a minimum a Resuscitation Council (UK) ALS course.

### 6.5. Clinical Support Workers - Roles and Responsibilities

Clinical support workers should be trained to minimum level 1 BLS in order to assist in resuscitation.

### 6.6. Pre-registration Health Care Students / Medical Students

All pre-registration health care students working within the Trust should be able to perform level 1 BLS as a minimum, and be appropriately trained and updated by their training establishment.

### 6.7. Security Staff

Security staff should be trained on an annual basis in BLS at level 1 with the use of a pocket mask/2 person bag-valve-mask.

### 6.8. Ancillary Staff

This range of staff includes all non-clinical patient support staff, such as maintenance, clerical staff, Central Sterile Services Department, domestic and catering staff. Resuscitation training should meet the relevant competencies outlined in The Health and Safety (First-Aid) Regulations (1981). However it is acknowledged that in some clinical areas administrative and clerical staff may initially be the only other person available to assist in the resuscitation attempt. Therefore for these staff it is recommended that level 1 BLS be taught.

### 6.9. New Staff

Attendance at Corporate Induction is mandatory to ensure that all newly appointed staff receive mandatory training as appropriate for their role. This includes BLS at level 1 for all new clinical staff. Please also refer to the Royal Cornwall Hospitals NHS Trust Policy ‘Management of Corporate and Local Induction’ (2011).

### 6.10. Locums and Kernowflex workers

Locums and Kernowflex staff should be as competent as the replacement role they are providing cover for and attend the local induction. Therefore BLS at level 1 is the minimum requirement.
6.11. The Hospital Adult Cardiac Arrest Team

6.11.1. All members of the adult cardiac arrest team should hold as a minimum a current ILS certificate. The team leader and at least one other member of the cardiac arrest team should have a current ALS certificate.

6.11.2. The Cardiac Arrest (Crash) Team should be summoned to all suspected cardiac arrests by Dialling ‘2222’ stating, for example, “Cardiac Arrest, Roskear Ward, 1st Floor, Trelawney Wing”. All members of the cardiac arrest team will carry ‘crash bleeps’. These bleeps will be alerted simultaneously by the switchboard operator via a speech channel. This speech channel will be tested each day to ensure the system and individual bleeps are in working order.

6.11.3. The Cardiac Arrest Team will attend all 2222 calls to all areas in and around the Trust, the road surrounding the hospital is considered the boundary and outside these areas eg Diabetic Centre the staff should dial 999.

6.11.4. The RCHT Cardiac Arrest Team:

- Medical SpR/Specialty Trainee, Core trainee /F2 – Team Leader.
- ICU Speciality Trainee/Core Trainee – Airway management (advanced airway support available via 4444 Bleep Senior Anaesthetic Trainee).
- Medical F1 – Peripheral intravenous access and drug delivery.
- Coronary Care Nurse – Cardiac monitoring and defibrillation.
- Two ward nurses – Automated defibrillation, basic airway management, airway assist, drug delivery, chest compressions, equipment preparation and documentation.
- Resuscitation Officer/ Advanced Nurse Practitioner – supervisory, educational and supportive role and if the clinical situation dictates, lead the team (within working hours)
- Outreach practitioner/Hospital at night – to support the team.

6.11.5. The West Cornwall Hospital Cardiac Arrest Team:

**09.00hrs-22.00hrs**

- Urgent Care Centre Doctor (ED Middle Grade/GP) – Team Leader
- Urgent Care Centre Nurse/Medical ST1/2 – Airway management
- Medical ward Senior Nurse/Urgent Care Nurse/Medical F1/2 – Cardiac monitoring and defibrillation.
- Medical Ward F1/2 – Peripheral intravenous access and drug delivery.
- Ward Nurses – Automated defibrillation, basic airway management, airway assistance, drug delivery, chest compressions, equipment preparation and documentation.
22.00hrs-09.00hrs

- Medical ST1/2 – Team Leader
- Urgent care Centre Nurse/ENP/Medical ST1/2 – Airway management
- Medical ward Senior Nurse/Urgent Care Nurse/ – Cardiac monitoring and defibrillation.
- Ward Nurses – Automated defibrillation, basic airway management, airway assistance, drug delivery, chest compressions, equipment preparation and documentation.

6.11.6. The St. Michael’s Hospital Cardiac Arrest Team:

- 1st Medical Officer – Advanced airway management.
- 2nd Medical Officer – Team Leader, peripheral intravenous access and drug delivery.
- Senior Nurse – Automated external defibrillation, drug delivery, chest compressions. Support of ward/department nurse.
- Ward Nurse – Automated external defibrillation, basic airway management, airway assistance, drug delivery, chest compressions, equipment preparation and documentation.
- F2 if on-site.
- An Anaesthetist will also attend if they are on site and available.

6.11.7. Individual cardiac arrest situations may dictate that roles are shared within the Cardiac Arrest Team.

6.12. Responsibilities of the Cardiac Arrest Team

6.12.1. Core personnel of the arrest teams are responsible for ensuring that they are familiar with the emergency equipment available and how to use any piece of the equipment relevant to their role. All members of the team are expected to be familiar with the contents of the standardised cardiac arrest trolley and Laerdal Portable Suction (LSU).

6.12.2. Core team personnel must respond to the daily test by ringing switchboard (this call may be delegated). If a test call has not been received by mid-day then it is the responsibility of the bleep holder to recognise this and take appropriate steps to check their bleep is working and call switchboard. If there is no response to the test, bleep holders will be tested a second time and failure to respond will be investigated by the Resuscitation Officers.

6.12.3. All team members must attend any call they receive with all possible haste while maintaining their own and others’ safety. Once they arrive they should make themselves known to the Team Leader and only leave with the Team Leader’s agreement.

6.12.4. The team leader has a specific role directing the resuscitation attempt and ensuring it continues in a co-ordinated manner. This person is responsible for patient assessment throughout, ensuring that adequate
BLS is being performed and that defibrillation is delivered swiftly when indicated.

6.12.5. If the resuscitation is successful, it is the team leader’s responsibility to communicate with those responsible for the further care of the patient. It is the team leader’s responsibility to make the final decision to stop the resuscitation attempt. Ideally this should be done after discussion with all the members of the team and may include the relatives where appropriate.

6.12.6. It is the team leader’s responsibility to ensure that all the necessary documentation is completed as soon as possible after the resuscitation attempt, including the resuscitation audit form. The ITU doctor is then responsible for ensuring the audit form is brought back to ITU and left in the red resuscitation folder for collection by the resuscitation team if not present at the arrest.

6.12.7. In the event of a ‘false alarm’ it is the responsibility of the team leader to assess the patient using an A-E structured approach as recommended by the RC(UK).

6.12.8. It is accepted that the Coronary Care Nurse may on occasion be unable to attend calls due to workload. It is anticipated that they make the Resuscitation team during the day and the Clinical Site Co-ordinator at night aware if this is the case.

6.13. **Resuscitation in Trauma, Paediatrics, Newborn and Pregnancy**

Special conditions apply when resuscitating victims of trauma, children, newborns and pregnant women, both in the aetiology of cardiopulmonary arrest and in the techniques of resuscitation. It is imperative that experienced personnel who are aware of these special needs are present at the resuscitation attempt. The Royal Cornwall Hospitals NHS Trust has specialist teams, namely the ‘Trauma Team’, the ‘Paediatric Emergency Response Team’, the Neonatal Team and the ‘Maternal Emergency Response Team’ all of which are contacted directly via switchboard on 2222.

6.14. **Trauma Team**

6.14.1. The Trauma Team should be summoned by Dialling ‘2222’ stating, “Trauma Team to ED Resus” (for example). All members of the team will carry ‘crash bleeps’. These bleeps will be alerted simultaneously by the switchboard operator via a speech channel. This speech channel will be tested weekly to ensure the system and individual bleeps are in working order.

6.14.2. At least two members of the Trauma Team should have a current Advanced Trauma Life Support (ATLS) qualification (or equivalent).
6.14.3. The RCHT Trauma Team comprises of:

- ED Consultant/Staff Grade/SpR/Speciality Trainee - Team leader.
- Anaesthetist/ICU/SpR/Speciality Trainee - Advanced airway management.
- ED F2 – IV access & circulation.
- General Surgical SpR/Speciality Trainee - Team members.
- Orthopaedic SpR/ Speciality Trainee - Team members.
- Two ED Nurses- Documentation, drug preparation/ administration.

6.15. **Paediatric Emergency Response Team**

6.15.1. The Paediatric Emergency Response Team should be summoned by Dialling ‘2222’ stating, “Paediatric Emergency response Team (in full) to Polkerris Ward, 5th Floor, Tower Block” (for example). All members of the team will carry ‘crash bleeps’. These bleeps will be alerted simultaneously by the switchboard operator via a speech channel. This speech channel will be tested each day to ensure the system and individual bleeps are in working order.

6.15.2. At least two members of the PERT team should have a current APLS qualification.

6.15.3. The RCHT PERT Team comprises of:

- Paediatric SpR/ Speciality Trainee - Team leader.
- Anaesthetist/ICU SpR/Speciality Trainee - Advanced airway management.
- Paediatric F2 - IV access & circulation.
- Senior Nurse Child Health - basic airway management, airway assist, drug delivery, chest compressions, equipment preparation and documentation.
- Advanced Practitioner in critical care/Resuscitation Officer – Team support.

6.15.4. If within the Emergency Department the team also involves the following staff

- ED Consultant – Team leader.
- Staff Grade/ SpR/Speciality Trainee – Assist team leader, IV access,
- Two ED Nurses, basic airway management, airway assist, drug delivery, chest compressions, equipment preparation and documentation.
- Senior Nurse Child health - To support ED Nurses/ family.

6.15.5. Within West Cornwall Hospital and St Michaels Hospital there is no dedicated paediatric cardiac arrest team. In the event of a paediatric
emergency the adult cardiac arrest team should be called and 999 dialled for an ambulance to transfer the child to Royal Cornwall Hospital.

6.16. **Neonatal Team**

6.16.1. The Neonatal Team should be summoned by Dialling ‘2222’ stating, “Neonatal Team to Wheal Rose, PAMW” (for example). All members of the team will carry ‘crash bleeps’. These bleeps will be alerted simultaneously by the switchboard operator via a speech channel. This speech channel will be tested each day to ensure the system and individual bleeps are in working order.

6.16.2. At least 2 members of the team should hold a current NLS (or ARNI) qualification.

6.16.3. The RCHT Neonatal Team comprises of:

- Neonatal Registrar
- Advanced Neonatal Nurse Practitioner
- Neonatal Nurse

6.16.4. Medical and nursing staff working on the Neonatal Intensive Care Unit should hold a current NLS certificate.

6.16.5. Medical and Midwifery staff who attend the delivery of newborns must attend the Training in Obstetric Multi-Speciality Emergencies (TOME) course and should hold an NLS certificate.

6.17. **Maternal Emergency Response Team**

6.17.1. The Maternal Emergency Response Team should be summoned by Dialling ‘2222’ stating, “Maternal Emergency response Team (in full) to Delivery, 1st floor PAMW” (for example). All members of the team will carry ‘crash bleeps’. These bleeps will be alerted simultaneously by the switchboard operator via a speech channel. This speech channel will be tested weekly to ensure the system and individual bleeps are in working order.

6.17.2. The RCHT obstetric emergency team comprises of:

- Adult Cardiac Arrest team.
- Neonatal Team
- On-call Obstetric Registrar.
- On-call Obstetric Anaesthetist

6.18. **Defibrillation**

6.18.1. Manual defibrillation in adult patients in the treatment of pulseless ventricular tachycardia (VT) and ventricular fibrillation (VF) may be
performed by Registered Health Professionals who have been trained and deemed competent, if all of the following criteria are fulfilled:

- The patient is confirmed to be in a collapsed state, with no cardiac output, determined by the absence of a major pulse and /or no signs of life.
- They hold a current Resuscitation Council (UK) ALS certificate, or Resuscitation Council (UK) ILS certificate.

6.18.2. Automated/semi-automated defibrillation in adult patients to treat pulseless VT and VF may be performed by Registered Health Professionals who have been trained and deemed competent, if all of the following criteria are fulfilled:

- The patient is confirmed to be in a collapsed state, with no cardiac output, determined by the absence of a major pulse and /or no signs of life.
- They hold a current Resuscitation Council (UK) ALS certificate or Resuscitation Council (UK) ILS certificate or have attended a Trust ‘Automated External Defibrillation (AED) session’.

6.18.3. Synchronised cardioversion of adult patients may be performed by nursing staff that have been trained and assessed, if the following criteria are fulfilled:

- It is an elective prescribed treatment for the patient.
- As an emergency treatment for tachyarrhythmia (Resuscitation Council (UK), 2015).
- They hold a current Resuscitation Council (UK) ALS certificate.

6.19. **Resuscitation of the Laryngectomy or Tracheostomy Patients**

6.19.1. All staff involved in the care of patients with a laryngectomy or tracheostomy should be aware of the procedure for managing the patient’s airway and breathing during resuscitation. (see ‘Emergency Resuscitation for Laryngectomy or Tracheostomy Patients’, 2014 leaflet – copy on cardiac arrest trolley)

6.19.2. Additional airway adjuncts must be kept on the cardiac arrest trolley in clinical areas caring for such patients, i.e. a paediatric round silicone (‘doughnut’) mask that is attached to the self-inflating resuscitation bag.

6.20. **Thrombolysis for Suspected PE during Adult Cardiac Arrest**

A laminated two-sided algorithm for guidance is available in the documentation (top) drawer of all standardised resuscitation trolleys throughout RCHT. This algorithm details treatment options and drug doses. It also lists areas that stock Alteplase and the location of the Autopulse devices which can provide battery operated automatic chest compressions.

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6.21. **Resuscitation Equipment**

6.21.1. Emergency equipment should be available in all clinical areas of the hospital. The majority of these areas will have a dedicated cardiac arrest trolley which should be sealed with a unique numbered tag and contains standardised equipment. The equipment trolley contents list for checking purposes will be kept on each trolley (copies can be found on the Resuscitation intranet website).

6.21.2. The standardised equipment required is decided by the Resuscitation Officers in conjunction with the ward/dept manager which will be one of the following:-

- Full adult cardiac arrest trolley
- Full combined paediatric/adult trolley

6.21.3. In a few patient areas where a dedicated cardiac arrest trolley is not required, basic emergency equipment should be available for staff to use until further help arrives. The list of equipment to be stocked and checked must be agreed with the Resuscitation Officers.

6.21.4. Portable oxygen and suction devices should always be available on all resuscitation trolleys. Where piped or wall oxygen and suction are available, these should always be used in preference.

6.21.5. Defibrillators are available on most (but not all) cardiac arrest trolleys. The Resuscitation Officers are responsible for deciding the location and type (manual and/or automated) of defibrillator if required. Defibrillators with external pacing are located strategically, (both in terms of need and accessibility) i.e. Coronary Care, Emergency Department, Critical Care Unit, Cath Lab, Tower block etc.

6.21.6. The resuscitation trolley, defibrillator, oxygen and suction equipment should be kept clean and free from dust.

6.21.7. Every seven days since the last full check or after use, all cardiac arrest equipment should be checked against the standardised checklist and the trolley resealed. Daily, this seal number must be checked along with defibrillator, oxygen and LSU daily checks. It is the responsibility of the department manager to ensure that a trained member of staff carries out these checks and signs the ‘Resuscitation Trolley: Daily Check Record’ (Appendix 3).

6.21.8. There is a spare adult cardiac arrest trolley, suction unit and defibrillator available to loan out of hours from the Clinical Site Coordinators.

6.21.9. After use, staff must ensure that all items are either safely disposed of or cleaned as per the instructions on the equipment trolley checklist.
6.21.10. All items for both adult and paediatric trolleys are available either via ward stock or from the Medical Physics Department. The Medical Physics Store is located in the basement of the tower block and is open from 9am-4pm Monday-Friday. The Clinical Site Co-ordinators have access to this store out of hours to obtain equipment to restock the clinical areas. A list of the equipment available from Medical Physics should be found on the cardiac arrest trolley or via the Resuscitation intranet website.


6.22. **Procurement**

All resuscitation equipment purchased should be subject to the Trust's standardisation strategy. Therefore all resuscitation equipment placed upon the approved purchase list should be agreed by the Resuscitation Officers and any other equipment purchased outside of this should be sanctioned by the Resuscitation Officer prior to ordering.

6.23. **Critical Care Outreach Service**

6.23.1. The critical care outreach team are available 7 days a week and can be contacted by bleep or via switch-board.

6.23.2. To support this service the Trust uses early warning systems: the National early warning scoring system (NEWS) for adults, the modified early obstetric warning scoring system (MEOWS) for obstetric patients and the paediatric early warning scoring system (PEWS) for children. These have been adopted in all clinical areas for the recognition of the deteriorating patient and prevention of cardiopulmonary arrest. All clinical staff should be trained in the identification of critically ill patients and the use of physiological observation charts (Eobs) to enhance decision making and care escalation.

6.23.3. Please refer to the following documents:

- Royal Cornwall Hospitals NHS Trust ‘Policy for recording physiological observations and NEWS in adults’ (2018)
- Royal Cornwall Hospitals NHS Trust ‘Patient Observation & Monitoring Child Health Policy’ (2016)
- Royal Cornwall Hospitals NHS Trust ‘Clinical Guideline for the use of Modified Early Obstetric Warning Score (MEOWS) in Detecting the Seriously Ill & Deteriorating Woman’ (2017)

6.24. **Patient Transfer and Post-Resuscitation Care**

6.24.1. The immediate post-resuscitation phase is often characterised by high dependency and clinical instability. Most patients require either coronary or critical care treatment. Facilities for ongoing care of the patient may not be available at the location of the cardiac arrest and safe transfer of the patient is essential.
6.24.2. Continuity of care during this period is vital. It is the responsibility of the team leader at the resuscitation to ensure that the transfer of care from one group of clinicians to another is both appropriate and efficient. Only staff with appropriate skills should transfer the patient.

6.24.3. Equipment for transfer, including drugs, should be kept readily accessible and appropriate monitoring equipment should be available.

6.24.4. A patient being transferred should be accompanied by a doctor and an appropriately trained nurse. Relatives should be informed of the transfer.

6.24.5. Please refer to the following document: RCHT Transfer Policy for transferring patients internally, between sites and out of the Trust (2012).

6.24.6. All the staff involved in a resuscitation attempt must be given the opportunity to debrief.

6.25. **Post Resuscitation Documentation and Reporting Arrangements**

6.25.1. Accurate data from all resuscitation attempts must be kept, for audit, training and medico-legal purposes. During resuscitation, one team member should document events. The team leader should ensure that an accurate record of the resuscitation attempt has been recorded on the arrest audit form and in the patient notes. The Critical Care doctor is responsible for taking this form back to critical care where it is collected by a member of the resuscitation team for audit purposes.

6.25.2. It is essential that any delays or issues with equipment, team members etc are recorded on the arrest audit form, PERT form and a Datix is completed.

6.26. **Manual Handling**

In situations where the collapsed patient is on the floor, in a chair or in a confined space, the Trust guidelines for the movement of the patient must be followed to minimise the risks of manual handling related injuries to both the rescuer and the patient. Please also refer to the Resuscitation Council UK (2009) Guidance for safer handling during resuscitation in healthcare settings.

6.27. **Decisions Relating to Cardiopulmonary Resuscitation**

It is essential to identify patients where it is inappropriate to attempt resuscitation or where a patient is refusing or has refused resuscitation in advance. For further information please refer to Royal Cornwall Hospitals Treatment Escalation Plan (T.E.P.) and Resuscitation Decision Record (2015) and NHS Trust 'Treatment Escalation Plan (T.E.P) and Resuscitation Decision Record: Children Under 16 years (2015).
6.28. **Relatives Witnessing Resuscitation**

The Trust support relatives should they wish to be present during a resuscitation attempt. There will be occasions where the cardiac arrest team leader deems it inappropriate for relatives to be present. The overall decision remains with the cardiac arrest team leader which should be documented if this occurs. A member of staff must be delegated to stay with the relatives and liaise with the cardiac arrest team on their behalf.

7. **Dissemination and Implementation**

7.1. This policy document will be held in the public section of the Documents Library with unrestricted access, replacing the previous version which will be archived in accordance with the Trust information Lifecycle and Corporate Records Management Policy.

7.2. Staff will be alerted to changes from previous versions using established communication channels to distribute information including:

- Inclusion in the RCHT Staff daily bulletin
- Monthly list of all recently published guidelines/policies sent via all users communication.
- Cascading by the Divisional Management Teams to their clinical areas involved in transferring RCHT patients.

7.3. This guidance will be held on the Documents Library on the Trust

8. **Monitoring compliance and effectiveness**

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>1. Daily resuscitation trolley and equipment checks.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Equipment availability in all clinical areas.</td>
</tr>
<tr>
<td></td>
<td>3. All cardiac arrest calls within the Trust.</td>
</tr>
<tr>
<td></td>
<td>4. All incidents involving Resuscitation and Resuscitation equipment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lead</th>
<th>1. Ward/Department managers.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Resuscitation Officers</td>
</tr>
<tr>
<td></td>
<td>3. Resuscitation Officers</td>
</tr>
<tr>
<td></td>
<td>4. Resuscitation Officers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tool</th>
<th>1. A standardised daily record check book for every resuscitation trolley (see appendix 4).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Annual cardiac arrest trolley audit carried out by the resuscitation officers.</td>
</tr>
<tr>
<td></td>
<td>3. Cardiac arrest audit form and National Cardiac Arrest Audit.</td>
</tr>
<tr>
<td></td>
<td>4. Datix (staff able to select tick box for resuscitation). Electronic system used for reporting incidents/non-compliance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency</th>
<th>1. Ongoing monitoring.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Annually.</td>
</tr>
</tbody>
</table>
3. Ongoing collection of cardiac arrest audit forms.
4. Whenever an alert occurs.

| Reporting arrangements | 1. Ward managers will report back to their staff and highlight any ongoing issues to their clinical line managers.
| | 2. Will be reported back to the Resuscitation Committee and to the ward managers and matrons.
| | 3 & 4. Will be reported back to the Resuscitation Committee. All reports presented and discussed by the Resuscitation committee are minuted. These minutes feed in to the Governance Committee reporting structure which in turn reports to the Board.
| | Any specific learning outcomes and issues will be shared with the Governance Lead(s) for the appropriate division(s) via the Divisional Governance and Clinical Leads Advisory Group.

| Acting on recommendations and Lead(s) | Divisional Governance and Clinical Leads Advisory Group is responsible for interrogating required actions and to designate a named lead where appropriate. This is documented in meeting minutes.

| Change in practice and lessons to be shared | The Resuscitation Officers will to take any necessary changes to practice forward where appropriate. Lessons will be shared with all the relevant stakeholders.

9. **Updating and Review**

This policy will be due to have a full review every 3 years.

10. **Equality and Diversity**

10.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Inclusion & Human Rights Policy' or the Equality and Diversity website.

10.2. **Equality Impact Assessment**

The Initial Equality Impact Assessment Screening Form is at Appendix 2.
### Appendix 1. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Cardiopulmonary Resuscitation Policy V5.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>11\textsuperscript{th} March 2020</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>March 2020</td>
</tr>
<tr>
<td>Date for Review:</td>
<td>March 2023</td>
</tr>
<tr>
<td>Directorate / Department responsible (author/owner):</td>
<td>Ella Leuzzi, Resuscitation Officer. Resuscitation Department, Postgraduate Education Centre.</td>
</tr>
<tr>
<td>Contact details:</td>
<td>01872 252124</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>Guidance for staff regarding all aspects of in-hospital Cardiopulmonary resuscitation, including roles and responsibilities, training and equipment.</td>
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<tr>
<td>Suggested Keywords:</td>
<td>Resuscitation, cardiopulmonary,</td>
</tr>
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<td>Target Audience</td>
<td>RCHT</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Medical Director</td>
</tr>
<tr>
<td>Date revised:</td>
<td>February 2020</td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>Cardiopulmonary resuscitation Policy V4.1</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Resuscitation Committee</td>
</tr>
<tr>
<td>Care Group Manager confirming approval processes</td>
<td>Claire Martin</td>
</tr>
<tr>
<td>Name and Post Title of additional signatories</td>
<td>Not Required</td>
</tr>
<tr>
<td>Signature of Executive Director giving approval</td>
<td>{Original copy signed}</td>
</tr>
<tr>
<td>Publication Location (refer to Policy on Policies – Approvals and Ratification):</td>
<td>Internet &amp; Intranet</td>
</tr>
<tr>
<td>Document Library Folder/Sub Folder</td>
<td>Clinical / Critical Care and Resuscitation</td>
</tr>
<tr>
<td>Links to key external standards</td>
<td>Care Quality Commission</td>
</tr>
<tr>
<td>Reference</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Royal Cornwall Hospitals NHS Trust ‘Clinical Guideline for the use of Modified Early Obstetric Warning Score (MEOWS) in Detecting the Seriously Ill &amp; Deteriorating Woman’ (2017)</td>
<td></td>
</tr>
<tr>
<td>Royal Cornwall Hospitals NHS Trust’s ‘Mandatory &amp; Statutory Training Policy’ (2017)</td>
<td></td>
</tr>
<tr>
<td>Royal Cornwall Hospitals NHS Trust Policy ‘Management of Corporate and Local Induction Policy’ (2017)</td>
<td></td>
</tr>
<tr>
<td>Royal Cornwall Hospitals NHS Trust ‘Policy for the Physiological Observations and NEWS in Adults’ (2018)</td>
<td></td>
</tr>
<tr>
<td>Royal Cornwall Hospitals NHS Trust ‘Patient Observation &amp; Monitoring Child Health Policy’ (2016)</td>
<td></td>
</tr>
<tr>
<td>Royal Cornwall Hospitals NHS Trust Policy ‘Medical Devices Training Policy’ (2016).</td>
<td></td>
</tr>
<tr>
<td>Royal Cornwall Hospitals NHS Trust ‘Clinical policy for safe transfer of patients between care areas or between hospitals’ (2015)</td>
<td></td>
</tr>
<tr>
<td>Training Need Identified?</td>
<td>Yes. All clinical staff need to undertake resuscitation training – level 1 is the minimum standard which is updated annually. Learning and Development department is aware.</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</table>

### Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
</tr>
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<tr>
<td>08 Jun 09</td>
<td>V1.0</td>
<td>Original document produced</td>
<td>Ella Leuzzi, Resuscitation Officer</td>
</tr>
<tr>
<td>08 Jun 09</td>
<td>V2.0</td>
<td>Full review of document and changes made to content.</td>
<td>Ella Leuzzi, Resuscitation Officer</td>
</tr>
<tr>
<td>June 12</td>
<td>V3.0</td>
<td>Full document review. Changes made to wording, new appendices.</td>
<td>Ella Leuzzi, Gemma Ashton-Cleary, Jay Over, Resuscitation Officers</td>
</tr>
<tr>
<td>November 12</td>
<td>V3.1</td>
<td>Review of West Cornwall Hospital Cardiac Arrest Team</td>
<td>Gemma Ashton-Cleary Resuscitation Officer</td>
</tr>
<tr>
<td>June 15</td>
<td>V4.0</td>
<td>Full review of document and changes made to content</td>
<td>Ella Leuzzi, Resuscitation Officer</td>
</tr>
<tr>
<td>Jan 16</td>
<td>V4.1</td>
<td>Minor additions to the role of the cardiac arrest team</td>
<td>Ella Leuzzi, Resuscitation Officer</td>
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<tr>
<td>Jan 18</td>
<td>V4.2</td>
<td>Minor additions to the roles of the cardiac arrest team and emergency teams, updating of policy references</td>
<td>Ella Leuzzi Resuscitation Officer</td>
</tr>
<tr>
<td>Feb 2020</td>
<td>V5.0</td>
<td>Thrombolysis algorithm added</td>
<td>Ella Leuzzi Resuscitation Officer</td>
</tr>
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All or part of this document can be released under the Freedom of Information Act 2000. This document is to be retained for 10 years from the date of expiry. This document is only valid on the day of printing. Controlled Document. This document has been created following the Royal Cornwall Hospitals NHS Trust Policy on Document Production. It should not be altered in any way without the express permission of the author or their Line Manager.
## Appendix 2. Initial Equality Impact Assessment Form

<table>
<thead>
<tr>
<th>Name of the strategy / policy / proposal / service function to be assessed</th>
<th>Cardiopulmonary Resuscitation Policy V5.0</th>
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<tr>
<td>Directorate and service area:</td>
<td>Critical Care and Resuscitation</td>
</tr>
<tr>
<td>New or existing document:</td>
<td>Existing</td>
</tr>
<tr>
<td>Name of individual completing assessment:</td>
<td>Ella Leuzzi</td>
</tr>
<tr>
<td>Telephone:</td>
<td>01872 252124</td>
</tr>
</tbody>
</table>

1. **Policy Aim***

   **Who is the strategy / policy / proposal / service function aimed at?**

   To provide guidance for the planning and implementation of a robust, high-quality resuscitation service to the organisation.

2. **Policy Objectives***

   **To ensure that all clinical staff are fully competent in CPR skills appropriate to their role.**

   **To ensure that all clinical areas have fully stocked, working and in date resuscitation equipment available.**

3. **Policy – intended Outcomes***

   **Effective management of all patients in the event of a cardiopulmonary or respiratory arrest occurring.**

4. *How will you measure the outcome?*

   **Audit of every arrest call.**

   **Annual Trolley Audit.**

5. **Who is intended to benefit from the policy?**

   **All Patients**

   **Clinical Staff**

6a Who did you consult with

   **Workforce**

   **Patients**

   **Local groups**

   **External organisations**

   **Other**

   *X*

   **Please record specific names of groups**

   Resuscitation Committee

What was the outcome of the consultation?

**Agreed**

### 7. The Impact

Please complete the following table. **If you are unsure/don’t know if there is a negative impact you need to repeat the consultation step.**

<table>
<thead>
<tr>
<th>Equality Strands</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Rationale for Assessment / Existing Evidence</th>
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</thead>
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<tr>
<td><strong>Age</strong></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Sex (male, female, trans-gender / gender reassignment)**  
✓

**Race / Ethnic communities /groups**  
✓

**Disability - Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.**  
✓

**Religion / other beliefs**  
✓

**Marriage and Civil partnership**  
✓

**Pregnancy and maternity**  
✓

**Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian**  
✓

**You will need to continue to a full Equality Impact Assessment if the following have been highlighted:**
- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation- this excludes any policies which have been identified as not requiring consultation. or
- Major this relates to service redesign or development

<table>
<thead>
<tr>
<th>8. Please indicate if a full equality analysis is recommended.</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. If you are <strong>not</strong> recommending a Full Impact assessment please explain why.</td>
<td></td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Date of completion and submission</th>
<th>February 2020</th>
<th>Members approving screening assessment</th>
<th>Policy Review Group (PRG)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>APPROVED</td>
</tr>
</tbody>
</table>

**This EIA will not be uploaded to the Trust website without the approval of the Policy Review Group.**

A summary of the results will be published on the Trust’s web site.
Appendix 3. Resuscitation Trolley – Daily Check Record

Resuscitation Trolley:

Daily Check Record

Ward/Department:

YYYYY
# Crash Trolley & Emergency Equipment Daily Checklist

<table>
<thead>
<tr>
<th>DAILY Checks</th>
<th>26/01/15</th>
<th>02/02/15</th>
<th>09/02/15</th>
<th>16/02/15</th>
<th>23/02/15</th>
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<tbody>
<tr>
<td><strong>Day</strong></td>
<td><strong>Item</strong></td>
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<td><strong>Signature</strong></td>
<td><strong>Signature</strong></td>
<td><strong>Signature</strong></td>
</tr>
<tr>
<td>Monday</td>
<td>Crash trolley external check</td>
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<td></td>
<td>Ensure seal number is correct (sign)</td>
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<td></td>
<td>Defibrillator</td>
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<td></td>
<td>Portable suction &amp; oxygen</td>
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<tr>
<td>Tuesday</td>
<td>Crash trolley external check</td>
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</tr>
<tr>
<td></td>
<td>Portable suction &amp; oxygen</td>
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<tr>
<td>Wednesday</td>
<td>Crash trolley external check</td>
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<td>Portable suction &amp; oxygen</td>
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<td>Thursday</td>
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<td>Ensure seal number is correct (sign)</td>
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<tr>
<td></td>
<td>Portable suction &amp; oxygen</td>
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<td>Friday</td>
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</tr>
<tr>
<td></td>
<td>Portable suction &amp; oxygen</td>
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<td></td>
</tr>
</tbody>
</table>
**Specimen Signatures**

Before signing this please make sure you have read the general points & helpful information at the beginning of this book. Please also ensure you know the correct procedures for checking your defibrillator and suction unit.

<table>
<thead>
<tr>
<th>Full Name (in capitals)</th>
<th>Initials</th>
<th>Job Title</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>E.g. MARGARET BROWN</em></td>
<td>MB</td>
<td>Staff Nurse</td>
<td>Brown</td>
</tr>
</tbody>
</table>

Please try to ensure that two members of staff do not enter the same initials. Either do not include a middle name or use small
Appendix 4. Level 1 Course Content

Staff at level 1 are trained to act in the immediate resuscitation of a patient, including the use of oxygen, pocket mask or bag valve mask and suction. As such they should be competent in the management of Airway, Breathing and Circulation until the arrival of the hospital team. This training must be updated annually.

Basic Life Support & associated CORE skills:-

- Chain of survival (inc. brief overview of NEWS/PEWS/MEOWS)
- In hospital BLS
- Airway Opening Manoeuvres (head tilt/chin lift)
- Choking Manoeuvres
- Recovery Position
- Basic Airway Management, inc. use of 2 person bag-valve-mask technique
- Calling the Cardiac Arrest Team

- Equipment:-
  - Position of Cardiac Arrest Trolley
  - Contents of Cardiac Arrest Trolley

- Other Issues :-
  - Cardiac Arrest Audit
  - CPR & TEP policies

Role Specific skills:-

- Placement of Defibrillator Pads
- Use of Pharyngeal airways
- Jaw thrust technique
- Checking of Trolley, Oxygen and Suction
- Cardiac Arrest drugs (minijet assembly)
Appendix 5. Thrombolysis for suspected pulmonary embolism in adult cardiac arrest

Factors to suggest PE:
- Collapse/hypotension
- Unexplained hypoxia
- Engorged neck veins
- History of recent PE/DVT
- Risk factors for PE/DVT
- Initial rhythm PEA
- Persistently poor ETCO2 from outset despite good quality CPR

Thrombolysis for suspected PE during Adult Cardiac Arrest

Adult in cardiac arrest

ALS algorithm

Suspected massive PE

Consider degree of clinical suspicion

High

Administer bolus 50mg IV Alteplase*

Get Autopulse (Cath Lab/ED)

ROSC within 15 mins

YES

NO

Administer second bolus 50mg IV Alteplase

Consider further 60-90 mins CPR

Low

ECG/Bedside echo shows new right heart strain

YES

NO

Give second 50mg Alteplase dose AND start LMWH (IF NOT ALREADY GIVEN)

ABCDE approach

RESUSCITATION DEPARTMENT

EOL care

Consider bleeding risk:
- Previous ICH/recent (3month) large ischaemic stroke
- Active internal bleeding
- Given imminence of death there are NO absolute contraindications.

Resuscitation Department
RCHT, December 2019
Alteplase drug, reconstitution and administration details are in the following areas:

- Coronary Care
- Critical Care
- Acute Medical Unit 1&2
- Wellington
- ED Resus & ED Majors
- Eden
- Tower Theatre
- Trelawney Theatre
- St Michaels Hospital - Emergency drug cupboard
- West Cornwall Hospital - Emergency drug cupboard
- RCHT Pharmacy Emergency drug cupboard

Autopulse locations:
Cath Lab 2 anteroom cupboard and ED Resus