Mandatory Training Workbook 2015

Basic Resuscitation (BLS)

Medical Staff

Medical Staff Resuscitation

Definition of Levels for Resuscitation Training

- **Level 1 – BLS for All Staff**
- **Level 2 – BLS for staff with direct patient contact**
- **Level 3 – ILS**
- **Level 4 – ALS**

Checklist for Completion

- ***Read through this section of the workbook.***
- ***Complete the on-line assessment on*** My PACT
- ***If further information is required please contact the Cardio-pulmonary Resuscitation Officer on 1444 or Bleep 2739***

Learning Outcomes – mapped to Core Skills Framework

Staff with direct patient contact should be able to:

- Have an awareness of national guidelines, local policies and procedures.
- Recognise a person who has collapsed.
- Initiate an appropriate emergency response.
- Initiate and maintain effective chest compressions in accordance with the current Resuscitation Council (UK) guidelines.
- Initiate and maintain effective lung ventilations in accordance with the current Resuscitation Council (UK) guidelines.
- Provide effective airway management.
- Identify and manage a person who is choking.
- Identify and manage a person who is unconscious, facilitate the person in recovery position.
- Understand their role and responsibilities within the team in responding to emergency situations until the arrival of a resuscitation team or more experienced assistance.
- Understand reporting conventions appropriate to their role and responsibilities.

Introduction

We are all duty bound (Clinical and Non-Clinical Employees of the Liverpool Heart & Chest Hospital NHS Foundation Trust), to provide care for any member of the public or staff that becomes unwell/collapses anywhere on the hospital site.

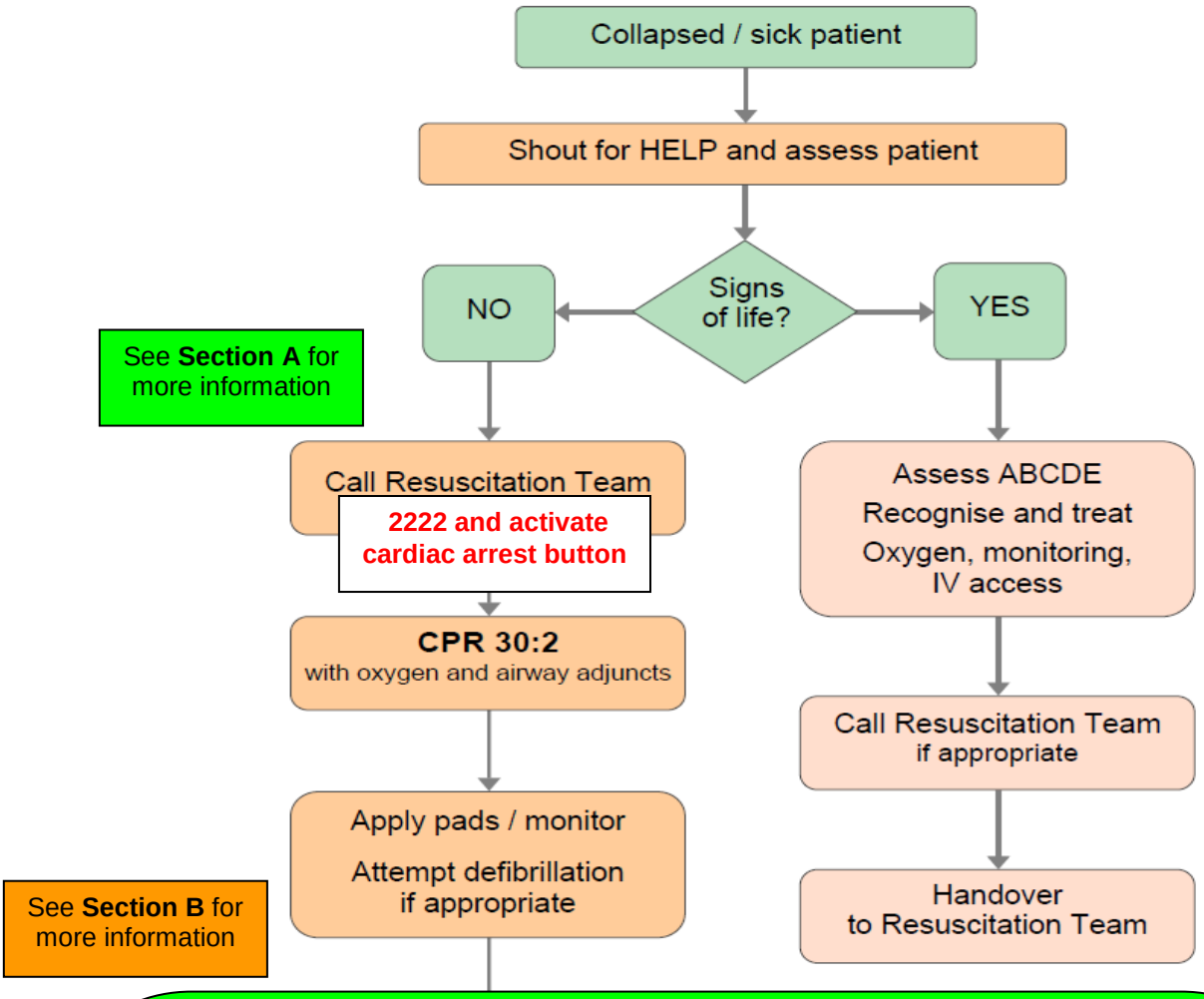
The hospital site is deemed as all buildings belonging to any hospital or organisation within the confines of the whole of the Broadgreen Hospital site enclosed by the boundary wall.

- There are approximately 700,000 cardiac arrests per year in Europe
- Bystanders CPR is a vital intervention before the arrival of emergency services – double or triple the survival from sudden cardiac arrest.
- Early resuscitation and prompt defibrillation (within 1-2 minutes) can result in >60% survival.

In-Hospital Resuscitation

Safe Approach First!

Assess the scene, make sure you are free from danger and identify any indications of why the patient may have collapsed i.e. bare electrical cable. If safe, approach the casualty and identify yourself.



Section A: Confirming no signs of life

- Gently shake their shoulders and ask loudly **'are you alright?'**
- No response **'shout for help'** turning the victim onto his back and open the airway using the head tilt chin lift:
- Confirm patent **Airway** by looking closely inside the patient's mouth, clearing any foreign bodies or debris i.e. vomit or secretions by using suction and solid objects by forceps. **Do Not** blind finger sweep. Leave any dentures that are tightly fitting, they will help to maintain structure and shape to the face.

The Head Tilt Chin Lift Manoeuvre

- Place your hand on their forehead and gently tilt their head back.
- With your fingertips under the point of the victim's chin, lift the chin to open the airway.

Keeping the airway open, LOOK, LISTEN and FEEL for NORMAL BREATHING for **No more than 10 seconds** *

- Look for obvious chest movement.
- Look for signs of life (obvious movements)
- Listen at the victim's mouth for breath sounds.
- Feel for air on your cheek.

Further Information

In the first few minutes after cardiac arrest, a victim may be barely breathing, or taking infrequent, noisy, gasps. Do not confuse this with normal breathing.
Caution
An AGONAL pattern of breathing is observed in approximately 40% of all cardiac arrested patients.
This pattern manifests as slow occasional gasps and/or laboured noisy breathing with no obvious chest rise or fall.

You will often see **only** the abdomen being pushed **'IN'** and **'OUT'.** During 'normal' breathing the abdomen is pushed out as the chest wall expands**,** so your assessment should ensure that you can see **BOTH CHEST AND ABDOMINAL** expansion

*A victim may be barely breathing, or taking infrequent, noisy, gasps. If so do not delay commencing chest compressions (CPR). The patient is more likely to die if there is a delay in diagnosing cardiac arrest, getting help and starting CPR. Starting CPR on a very sick patient with a low blood pressure is unlikely to be harmful and may help

****If you are trained and experienced,** check for signs of life and breathing as outlined above and also assess the **CAROTID Pulse.** This must be performed simultaneously with the above assessments and should be **no more** than **10 seconds**

..

Section B

1. Getting your Chest Compressions right!

- Place heel of your dominant hand onto the centre of the patient's chest. Use the 'Nipple' method to find the 'Centre of the Chest' or alternatively place your hand in the patient's armpit and slide directly across from the armpit to the breast bone (Sternum)
- Interlock your second hand with your dominant hand as outlined in the picture above
- Keep your elbows straight and lean over the patient – ensure that your shoulders are directly above the patient's breast bone. You may well have to kneel on a patient's bed to allow you to do this.
- Press down on the patient's sternum. You should attempt to **compress** the chest **down** approximately 5 – 6 cms
- After each compress relax your downward pressure to allow the chest to recoil. You can do this without removing your hands from the chest
- Repeat the compression and relaxation steps as above – allowing equal amounts of time for each. You should aim for a **compression rate of 100 – 120 bpm.**

2. Using a Self-Inflating Bag with Face Mask

- Using a self-inflating bag with face mask can be difficult unless you are experienced, so if possible allocate a second rescuer making sure it is attached to high flow oxygen. Hold the face mask in place by using a jaw thrust with both hands and an assistant or the person performing CPR can squeeze the bag twice after every 30 chest compressions.
- Use an inspiratory time of 1 sec and give enough volume to produce a visible chest rise.

3. Attaching the Defibrillator

- The third responder attaches the collapsed patient to the Defibrillation Monitor by the application of the 2 sticky adhesive electrodes (Quik-Combo Pads) via the electrode connection provided. Therefore the Advanced or Immediate Life Support Provider can immediately determine the heart rhythm and if appropriate deliver a Shock.
- Treat ventricular fibrillation/pulseless ventricular tachycardia (VF/VT) with a single shock, at 200 Joules (J) followed by immediate resumption of CPR (30 compressions to 2 ventilations). Do not reassess the rhythm or feel for a pulse. After 2 min of CPR, check the rhythm and give another shock if indicated, at 360 Joules).
- Recommence chest compressions immediately after the defibrillation attempt. Do not pause to assess the pulse or heart rhythm. Minimise interruptions to chest compression. Continue resuscitation until the resuscitation team arrives or the patient shows signs of life.

Once resuscitation is underway, and if there are sufficient people available, prepare intravenous cannulae and drugs likely to be used by the resuscitation team (e.g. adrenaline)

4. Next steps

- Once resuscitation is underway, and if there are sufficient people available, prepare intravenous cannulae and drugs likely to be used by the resuscitation team (e.g. adrenaline).

- Identify one person to be responsible for handover to the resuscitation team leader. Locate the patient's records.

- Change the person providing chest compression about every 2 min to prevent fatigue.

5. Post Resuscitation Care

Immediately after resuscitation, most patients are likely to require admission to the Critical Care Unit or even directly to Catheter Laboratory/Theatre. The team leader is not to leave the patient unless they have delegated care to an appropriate colleague. It is the responsibility of the Resuscitation Team Leader and the Hospital Co-Ordinators to ensure that the transfer of patient care is efficient and safe.

The patient's condition should be stabilised before transfer, but this should not delay definitive treatment. The following must be documented within the health records **(this process is audited)**:-

- Mews score
- Pre event episodes
- Gas analysis
- Fluid therapy
- Doctor review
- Drugs given
- Previous MEWS scoring
- Documentation detailing immediate care given

6. Patient Transfer

All post-resuscitation patient transfers are to be accompanied by;

- SHO and an Anaesthetist (for intubated patients),
- Critical Care Nurse/Hospital Coordinator/Outreach Nurse and Porters.

They must be continuously monitored by attachment to the External Defibrillator/Monitor by way of the Quik-Combo Pads and the Portable Oxygen Supply checked to ensure it is sufficiently full to safely complete a transfer. The team leader must assess what further additional airway equipment or emergency medications with delivery devices are required and document the transfer in the patient's case notes.

How to do Chest Compressions

- Place heel of your dominant hand onto the centre of the patient's chest

    - You can use the 'Nipple' method to find the 'Centre of the Chest'.
      Or
    - Alternatively place your hand in the patient's armpit and slide directly across from the armpit to the breast bone (Sternum)

- Interlock your second hand with your dominant hand as outlined in the picture above
- Keep your elbows straight and lean over the patient – ensure that your shoulders are directly above the patient's breast bone. You may well have to kneel on a patient's bed to allow you to do this.
- Press down on the patient's sternum. You should attempt to **compress** the chest **down** approximately 5 – 6 cms
- After each compress relax your downward pressure to allow the chest to recoil. You can do this without removing your hands from the chest
- Repeat the compression and relaxation steps as above – allowing equal amounts of time for each. You should aim for a **compression rate of 100 – 120 bpm.**

Continue resuscitation in accordance with the Resuscitation Council Guidelines (UK) 2010 until directed otherwise by the Team Leader or by the patient's own Consultant

CHEST COMPRESSION only CPR is better than no CPR but has limiting effect on an arrest attributed to hypoxia or asphyxia. Patients falling into these arrest categories include children, trauma, drowning and patients with known respiratory conditions.

- Use an inspiratory time of 1 sec and give enough volume to produce a visible chest rise.

- The third responder attaches the collapsed patient to the Defibrillation Monitor by the application of the 2 sticky adhesive electrodes (Quik-Combo Pads) via the electrode connection provided. Therefore the Advanced or Immediate Life Support Provider can immediately determine the heart rhythm and if appropriate deliver a Shock.

- Treat ventricular fibrillation/pulseless ventricular tachycardia (VF/VT) with a single shock, at 200 Joules (J) followed by immediate resumption of CPR (30 compressions to 2 ventilations). Do not reassess the rhythm or feel for a pulse. After 2 min of CPR, check the rhythm and give another shock if indicated, at 360 Joules).

- Recommence chest compressions immediately after the defibrillation attempt. Do not pause to assess the pulse or heart rhythm. Minimise

Variations to standard cardiac arrest algorhythm

If the patient is not breathing but has a pulse (respiratory arrest):

- Ventilate the patient's lungs (as described above) and check for a pulse every 10 breaths (about every minute). Only those confident in assessing breathing and a pulse will be able to make this diagnosis. If there are any doubts about the presence of a pulse, start chest compression and continue until more experienced help arrives.

If the patient has a monitored and witnessed cardiac arrest:

- Confirm cardiac arrest and summon help as described above.
- If the defibrillator is not immediately to hand consider giving a single precordial thump immediately after confirmation of VF/VT cardiac arrest. The precordial thump should be given only by healthcare professionals trained in the technique.
- If the initial rhythm is VF/VT and the defibrillator is already attached, give up to three shocks initially with energies of 200 J (Joules), 360 J, 360J.
- Start CPR immediately (if no obvious return of spontaneous circulation) after the shocks is delivered as described above. After 2 min of CPR, check the rhythm and give another single shock 360 J if indicated.
- Continue resuscitation in accordance with the Resuscitation Council Guidelines (UK) 2010 until directed otherwise by the Team Leader or by the patient's own Consultant.

Managing the Collapsed Person Non-Clinical Areas Including the Grounds of the Hospital

The following sequence of actions will help deal with a potential emergency on site.

Managing the unwell / collapsed person in the grounds of the hospital

Make sure the victim, any bystanders, and you are safe

- Under no circumstances do you place yourself in **Danger**.
- Check the collapsed person's surroundings are safe. Therefore if you are unsure whether it is safe to approach a collapsed person i.e. they are in a restricted area (construction site) then you do not approach the victim but contact the emergency services immediately. This also applies to road traffic accident victims.
- If you do not have an operational mobile phone on you and no one else does, then leave the victim and go to the nearest building on the hospital site, and contact the Paramedics directly or through the Hospitals Switchboard.

If it is safe to approach then check the victim for a response

- If they don't respond (**Please refer to Box C**)

- If they do respond but are complaining of difficulties like chest pain, shortness of breath then contact the Paramedics directly by dialling **'112'** or **'999'** and then stay with them till the Paramedics arrive or other clinical personnel passing take over from you.

- If you do not have an operational mobile phone on you and no one else does, then leave the victim and go to the nearest building on the hospital site and contact the Paramedics directly or through the Hospitals Switchboard. Then return to the victim and stay with them till the Paramedics arrive or other clinical personnel passing take over from you.

Managing the unwell / collapsed person inside non-clinical areas of the hospital

- If they don't respond (**Please refer to Box C**)

- If they do respond but are complaining of difficulties like chest pain, shortness of breath then in a non-clinical part of the LHCH phone Switchboard by dialling **'0'**, and ask them to contact the Hospital Co-ordinator on **Bleep '2707'**.
- The Hospital Co – coordinator will determine the level of response by contacting and directing the appropriate clinical personnel to assess the person. If near a clinical area ask for assistance from clinical personnel in that area.

Section C: Managing the person once cardiac arrest has been confirmed

(The rest of the hospital site except LHCH clinical areas)

- Immediately call the Paramedics and if you are on your own do this yourself. Leave the victim if there is no other way of obtaining help.

Where to go on the Hospital site to get help?

- Broadoak Hospital and the Renal Dialysis Unit are not connected to the Hospital Cardiac Arrest Call System. If you access any of these buildings, Contact the Paramedics directly by dialling **'112'** or **'999'**.

- State clearly it is a **'Cardiac Arrest'**, giving the 'exact location', and requesting that they also inform the LHCH Switchboard so the Trust's Cardiac Arrest Team can also respond.

- All other building on the Broadgreen Hospital Site are connected to one of the Hospitals Cardiac Arrest Call System (it doesn't matter which one!)

- The number you dial is **'2222'**. Do not place any other numbers like 0 or 9 before this number.

- Upon dialling **'2222'** you must clearly say **'Cardiac Arrest'** and then state clearly your location describing where you are. If you are in a non-clinical area such as the Nursing Annex Building you must describe how to access your location, for this information can then be voiced over to the Cardiac Arrest Team.

- If the Cardiac Arrest Call is within the grounds of the Hospital site or a satellite building follow the above steps but also ensure that you ask Switchboard to place a 'Cardiac Arrest Call' to the Paramedics.

- Then return to the victim and commence and commence basic life support until qualified help arrives and takes over.

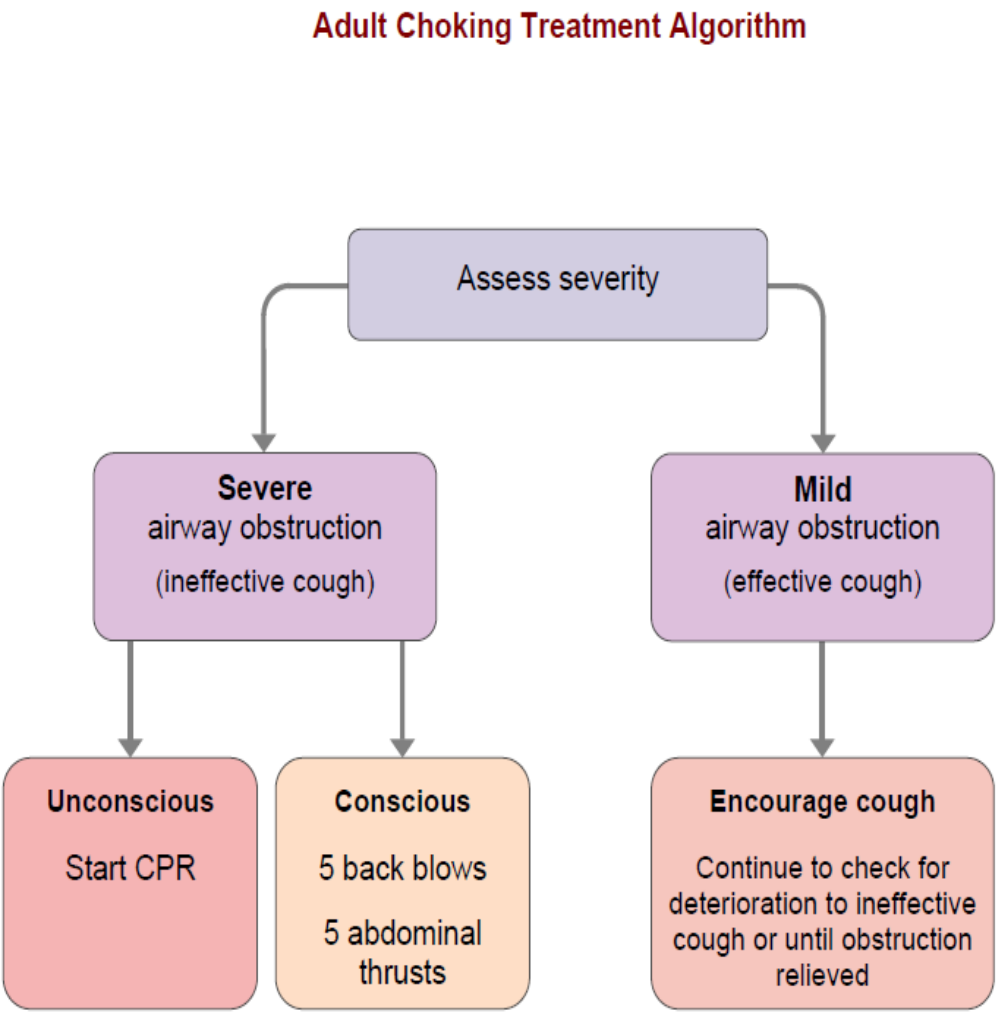
Managing the Patient Who is Choking

Recognition

Because recognition of choking (airway obstruction by a foreign body) is the key to successful outcome, it is important not to confuse this emergency with fainting, heart attack, seizure, or other conditions that may cause sudden respiratory distress, cyanosis, or loss of consciousness.

Adult Choking Algorithm

(This sequence is also suitable for use in children over the age of 1 year)



ACTIVITY: RESUSCITATION – ADULT BASIC LIFE SUPPORT

Do not forget to complete the on-line assessment on My PACT

Please note:

- If you achieve 80% or more you have been successful. Please print off your certificate as evidence for your portfolio .
- If you do not achieve 80% you will not be deemed as compliant with your essential mandatory training and will need to repeat the test.

Resuscitation Guidelines 2010 - Resuscitation Council (UK)

Evaluation – In-Hospital Resuscitation pass rate 8/10 (ANSWERS IN BOLD)