**POLICY STATEMENT ON FIRST AID**

1. **Authority and Circulation**

1.1. The arrangements within this policy (for example the number of First Aiders, Appointed Persons and First Aid boxes and contents of First Aid boxes) are based on the results of a suitable and sufficient risk assessment carried out by the School in regard to all staff, students and visitors.

1.2. This policy complies with S3 (6) of the Independent School Standards, the Health and Safety at Work etc Act 1974 and subsequent regulations and guidance including the Health and Safety (First Aid) Regulations 1981, the Approved Code of Practice and Guidance for the Health and Safety (First Aid) Regulations 1981 and the guidelines issued by the Resuscitation Council, (UK) 2015

**2. Definitions**

2.1. "**First Aid**" means the treatment of minor injuries which do not need treatment by a medical practitioner or nurse as well as treatment of more serious injuries prior to assistance from a medical practitioner or nurse for the purpose of preserving life and minimising the consequences of injury or illness. For the avoidance of doubt, First Aid does not include giving any medication, the only exceptions being the medication within the Human Medicines Regulations (2012), schedule 19, which allow administration in an emergency without prescription such as administering adrenaline via an injectable device to victims in anaphylaxis and giving aspirin in accordance with accepted first aid practice to treat a suspected heart attack.

2.2. "**First Aiders**" are members of staff who have completed an approved First Aid course and hold a valid certificate of competence in First Aid at Work (FAW) or Emergency First Aid at Work (EFAW).

2.3. "**First Aid Guidance**" means the Approved Code of Practice and Guidance for the Health and Safety (First Aid) Regulations 1981.

2.4. "**Appointed Persons**" are members of staff who are responsible for looking after the first aid equipment and facilities and calling the emergency services if required. All of the School’s Appointed Persons will be trained in basic first aid.

2.5. "**Staff**" means any person employed by the School, volunteers at the School and self-employed people working on the premises.

2.6. Boarding students are registered at Meopham Medical Practice.

2.7. The "**School Nurse**" with effect from 1st September 2020 is Angela Wood, who is primarily located in Main House.

3. **Aims of this Policy**

3.1. To ensure that the School has adequate, safe and effective First Aid provision in order for every student, member of staff and visitor to be well looked after in the event of any illness, accident or injury, no matter how major or minor.

3.2. To ensure that all staff, students and parents are aware of the procedures in the event of any illness, accident or injury.

3.3. Nothing in this policy should affect the ability of any person to contact the emergency services in the event of a medical emergency. For the avoidance of doubt Staff should dial (9)999 for the emergency services in the event of a medical emergency before implementing the terms of this Policy and make clear arrangements for liaison with ambulance services on the School site.

4. **Who is Responsible?**

4.1. The Governors of Cobham Hall, as the employer, have overall responsibility for ensuring that there is adequate and appropriate First Aid equipment, facilities and First Aid personnel and for ensuring that the correct First Aid procedures are followed. The Governors delegate responsibility on a day-to-day basis to the Headteacher who designates tasks to relevant staff.

4.2. The Headteacher is responsible for ensuring that there are adequate and appropriate First Aid equipment, facilities and appropriately qualified First Aid personnel available to the School. The School Nurse in conjunction with the Estates manager will regularly (at least annually) carry out a First Aid risk assessment and review the School's First Aid needs to ensure that the School's First Aid provision is adequate.

The Headteacher is responsible for ensuring that all staff and students (including those with reading and language difficulties) are aware of, and have access to, this policy.

The Headteacher delegates to the School Nurse responsibility for collating medical consent forms and important medical information for each student and ensuring the forms and information are accessible to staff as necessary.

The Headteacher is responsible for ensuring that staff have the appropriate and necessary First Aid training as required and that they have sufficient understanding, confidence and expertise in relation to First Aid.

4.3. The Headteacher is responsible for ensuring that the School has the minimum number of First Aid personnel (First Aiders and/or Appointed Persons) with reference to the First Aid Risk Assessment.

A list of staff who have completed an HSE advised First Aid course and hold a valid certificate of competence in First Aid at Work (FAW), or Emergency First Aid at Work (EFAW) is kept up to date by the School Nurse.

The main duties of First Aiders are to give immediate First Aid to students, staff or visitors when needed; to ensure that an ambulance or other professional medical help is called when necessary and to check availability and appropriateness of equipment. First Aiders are to ensure that their First Aid certificates are kept up to date through liaison with the School nurse.

The First Aiders will undergo update training every three years. Boarding staff and PE staff will complete 3-day courses.

4.4. **All staff** should read and be aware of this Policy, know who to contact in the event of any illness, accident or injury and ensure this Policy is followed in relation to the administration of First Aid. All staff will use their best endeavours, at all times, to secure the welfare of the students.

4.5. **Anyone on School premises** is expected to take reasonable care for their own and others' safety.

5. **First Aid Equipment**

5.1. Cobham Hall provides a variety of First Aid equipment for staff and visitors to use when required, including: First Aid boxes, Burns kits, Eye Wash stations and Automated External Defibrillators.

5.2. First Aid boxes are marked with a white cross on a green background and are stocked in accordance with the suggested guidelines in Guidance Note 37 of the First Aid Guidance and subsequent advice received from an appropriately trained consultant based on an assessment of risks (found in appendix one).

5.3. First Aid boxes are located at these positions around the School site and are as near to hand washing facilities as is practicable:

* Reception
* School Kitchen
* Science Prep Room
* Workshop
* Sports Department
* Swimming Pool
* Teaching Kitchen
* Teachers’ Staff Rooms
* All Boarding Houses
* Gardener’s Yard
* Estates manager’s Office
* Music department
* 6th Form centre

5.4. If First Aid boxes are used, contact should be made with the School Nurse and replenishment stocks will be issued. All requirements for the first aid kits are supplied by the School Nurse and are regularly stocked at the request of individual departments. First Aid boxes will be checked on a termly basis. The night Caretaker will check First Aid boxes in the public areas, First Aid boxes in boarding houses will be checked by the Housemistress and the First Aid box in the prep room will be checked by the Lab Technician. All requirements for replacement items will be reported to the School Nurse.

5.5. Automated External Defibrillators (AEDs) chosen by the School are ZOLL AED Plus devices, which are easy to use and one of the recommended AEDs by the British Heart Foundation for public use.

5.6. Automated External Defibrillators are located at these positions around the school site:

1. In a wall mounted cabinet in the Stone Corridor to the left as you enter from East Court.
2. In the Sports Department (mobile unit)
3. In Brooke house

5.7. AEDs are self-checking; however, the School Nurse will check each ZOLL AED Plus to ensure the “green tick” is showing, which indicates that the device is in full working order. A record of checking of each device will be kept at the cabinet.

5.8. The School Nurse is responsible for informing the School Bursar when an AED’s pads or batteries require changing. The Estate manager is responsible for procuring new batteries and pads when required.

5.9. The Kitchens and Teaching Block should also have Burns management items and in addition, additional wound dressings and an eye wash station.

5.10. School vehicles will have a prominently marked First Aid box on board which is readily available for use and which is maintained in a good condition. The First Aid box is stocked in accordance with Part II of Schedule 7 of the Road Vehicles (Construction and Use) Regulations 1986 which is set out in Appendix two, as well as an airway barrier device such as pocket mask.

5.12. Off-site activities: Staff must notify the School Nurse in advance of any off-site activity. The First Aid box must be collected from the School Nurse. The First Aid Box must be signed out and signed back in.

6. **Information on STUDENTS**

6.1. Parents are requested to provide written consent for the administration of First Aid and medical treatment before students are admitted to the School.

6.2. The School Nurse will be responsible for reviewing students' confidential medical records and providing essential medical information regarding allergies, recent accidents or illnesses, or other medical conditions which may affect a student's functioning at the School to the Headteacher, class teachers and First Aiders on a "need to know" basis. The School Nurse will also advise catering of all food allergies. This information should be kept confidential but may be disclosed to the relevant professionals if it is necessary to safeguard or promote the welfare of a student or other members of the School community.

6.3. The information held by the School Nurse will include a record of students who need to have access to asthma inhalers, auto-injectors injections or similar and this information should be circulated to teachers and First Aiders. Where appropriate, individual students will be given responsibility for keeping such equipment with them and this will be reviewed on a regular basis. In other cases, auto-injectors such as EpiPen's will be kept in the Main Hall Staff Room. Emergency inhalers are kept in the main hall staff room, the nurses room and the activity centre.

7. **Procedure in the event of illness**

7.1. Daygirls who feel ill whilst at School must report to the Administrator/Receptionist. Where appropriate the Administrator/Receptionist will arrange for the student to be assessed by the School Nurse or other suitably qualified person. When necessary, the School will make arrangements for the student to be picked up by her parents or guardian. Students must not make arrangements themselves to be collected from School.

7.2. Daygirls who are unwell at the start of the day should not be brought to School. Daygirls who have minor complaints, such as sore throats or coughs, should be provided with cough sweets or soothing drinks by their parents. The School should be notified when these have been provided.

7.3. Daygirls who need to take medication during the day (e.g. antibiotics) must hand the medication in to the School nurse in Chaffinch at the beginning of the school day. A record will be kept of all medication held on each day and will be available for inspection.

7.4. If a boarder is ill at night, the Duty Housemistress will assess the student and determine if the students need further medical intervention or supervision overnight.

7.5. Where necessary and advised by the School Nurse or other competent person, students will be isolated in the designated boarding rooms.

7.6. During the day, the Duty Housemistresses will be advised of any sick student and where she is located. The Duty Housemistress will arrange for regular checks to be carried out.

7.7. The Duty Housemistress will make arrangements for emergency appointments, including the transport. The Housemistress and student will then be informed and told if an escort is required. The escort should then report to the student’s Housemistress before leaving to see if there is any information or notes to take to the appointment. After returning from the appointment the escort will share any relevant information with the School Nurse.

7.8. Designated members of the boarding staff may administer Paracetamol and other homely remedies to the students following the administration of medicines policy and the protocol for administering medication to an individual.

8. **Procedure in the event of an accident or injury**

8.1. If an accident occurs, then the first member of staff on the scene will assess the situation and decide on the next course of action, which may involve calling immediately for an ambulance, Appointed Persons or First Aiders.

8.2. In the event that the First Aider does not consider that they can deal with the presenting condition by the administration of First Aid, then they should arrange for the injured person to access appropriate medical treatment without delay by dialling (9)999.

8.3. In the event that a victim has no signs of life, an AED should be requested, obtained and utilised as a priority and Basic Life Support should be commenced following the latest Resuscitation Council, (UK) guidelines (see appendix 3). Emergency Services should be called by calling (9)999, when someone is available to do this.

8.4. If an ambulance is called, then the First Aider in charge should make arrangements for the ambulance to have access to the location on site.

8.5. In case of a student requiring emergency services, arrangements should be made to ensure that any student is accompanied in the ambulance, or followed to hospital, by a member of staff. Parents will be contacted as soon as possible.

8.6. If a spillage of blood or other bodily fluids occurs, the Bursar must be informed. The Estate manager or a nominated person in the Estate mangers absence, will then arrange for the proper containment, clear up and cleansing of the spillage site as well as disposal. Body fluid kits are available from the School Nurse.

9. **Communication**

9.1. The School provides radios to assist with communication around the site. Radios are held by the Duty Caretaker and Duty Housemistress at all times. Radios are also available in reception and all boarding houses. A radio is available to sports staff for use when away from the main building. The school nurse carries a radio.

9.2. In the case of a medical emergency on site, then radios will be used to obtain equipment and staff to attend.

9.3. Radios will be tested twice in the day. In the morning the radios will be checked by the Administrator/Receptionist. The radio will be checked again by the night Caretaker when he comes on duty to ensure that staff carrying the radios are available to assist in an emergency and that the radios are working. Radio tests will be recording on a monitoring form.

**10. Procedure in the event of contact with blood or other bodily fluids**

The First Aider should take the following precautions to avoid risk of infection:

* Cover any cuts and grazes on their own skin with a waterproof dressing.
* Wear suitable disposable gloves when dealing with blood or other bodily fluids;
* Use suitable eye protection and a disposable apron where splashing may occur;
* Use devices such as pocket masks, where appropriate, when giving mouth to mouth resuscitation;
* Wash hands after every procedure.
	+ If the First Aider suspects that they or any other person may have been contaminated with blood and other bodily fluids which are not their own, the following actions should be taken without delay:
	+ Wash splashes off skin with soap and running water;
	+ Wash splashes out of eyes with tap water or an eye wash bottle;
	+ Wash splashes out of nose or mouth with tap water, taking care not to swallow the water;
	+ Record details of the contamination.
	+ Report the incident to the School Nurse and take medical advice if appropriate.

11. **Reporting**

11.1. During term time, all injuries, accidents and illnesses, however minor, must be reported to the School Nurse and she is responsible for ensuring that the accident report forms and books are filled in correctly and that parents and HSE are kept informed as necessary.

11.2. During School holidays all injuries, accidents and illnesses, however minor, must be reported to the Estate manager’s Office and the Estate manager is responsible for ensuring that the accident report forms and books are filled in correctly and HSE are kept informed as necessary.

11.3. In the event of accident or injury parents must be informed as soon as practicable. The member of staff in charge at the time will decide how and when this information should be communicated, in consultation with the Headteacher if necessary.

11.4. The School is legally required under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR) to report the following to the HSE:

11.4.1. Accidents involving Staff

* Work related accidents resulting in death or major injury (including as a result of physical violence) must be reported immediately (major injury examples: dislocation of hip, knee or shoulder; amputation; loss of sight; fracture other than to fingers, toes or thumbs).
* Work related accidents which prevent the injured person from continuing with his/her normal work for more than 3 days must be reported within 10 days.
* Cases of work-related diseases that a doctor notifies the School of (for example: certain poisonings; lung diseases; infections such as tuberculosis or hepatitis; occupational cancer).
* Certain dangerous occurrences (near misses - reportable examples: bursting of closed pipes; electrical short circuit causing fire; accidental release of any substance that may cause injury to health).

11.4.2. Accidents involving students or visitors

* Accidents where the person is killed or is taken from the site of the accident to hospital and where the accident arises out of or in connection with:
* Any School activity (on or off the premises).
* The way a School activity has been organised or managed (e.g., the supervision of a field trip).
* Equipment, machinery or substances;
* The design or condition of the premises.

For more information on how and what to report to the HSE, please see http://www.hse.gov.uk/riddor/index.htm. It is also possible to report online via this link.

12. **Staff and Medicines**

12.1 Staff will be made aware that any medicines they have on site must be locked away securely. They may not, for example, be stored in an unlocked drawer of a desk in a classroom. Staff will be made aware that they should not take medicines in front of students.

13. **Monitoring**

13.1. All accidents will be reviewed by the Health and Safety Committee in order to take note of trends and areas of improvement. This will form part of the annual First Aid risk assessment. The information may help identify training or other needs and be useful for investigative or insurance purposes. In addition, the Headteacher, where necessary, with the support of an appropriately qualified consultant, will undertake a review of all procedures following any major incident to check whether the procedures were sufficiently robust to deal with the major occurrence or whether improvements should be made.

13.2. An independent audit will be undertaken on an annual basis by an appropriately qualified consultant. All audits will be recorded in writing.

**Appendix One**

**First Aid Kit Contents**

* Individually wrapped sterile plasters (assorted sizes)
* 2 sterile eye pads.
* 1 individually wrapped triangular bandages, preferably sterile.
* 6 safety pins.
* 1 small, 1 medium and 1 large, individually wrapped, sterile, unmedicated wound dressings.
* 3 (at least) pairs of disposable non-latex gloves – one small, one medium and one large
* 1 pair of Tuff-Cut Scissors
* 1 x Cool Pack (Becomes ice like, for treatment of head injuries and swollen joints)
* 1 Pocket mask

The Kitchens, Teaching Block and Maintenance yards should also have Burns management items and in addition, additional wound dressings and an eye wash station.

All kits to include:

a. Content's list

b. Up to date checklist

c. Completed checklists

e. Any CHS memos relating to First Aid

f. Clear information on location of more advanced kit such as AEDs and Epi-Pens

**Appendix Two**

**Part II Schedule 7 of Road Vehicles (Construction and Use) Regulations 1986 First Aid Equipment**

* 10 antiseptic wipes, foiled packed.
* 1 conforming disposable bandage (not less than 7.5cm wide).
* 2 triangular bandages.
* 1 packet of 24 assorted adhesive dressings.
* 3 large sterile unmedicated ambulance dressings (not less than 15.0cm x 20.0cm);
* 2 sterile eye pads, with attachments.
* 12 assorted safety pins.

**Appendix Three**

**Basic Life Support (Resuscitation Council, UK) Guidelines**

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| --- |
| **BLS/AED detailed sequence of steps** |
| **SAFETY** | **Make sure you, the victim and any bystanders are safe.** |
| **RESPONSE** | **Check the victim for a response** * Gently shake their shoulders and ask loudly: “Are you all right?"

If victim responds leave them in the position in which you find them, provided there is no further danger; try to find out what is wrong with them and get help if needed; reassess them regularly. |
| **AIRWAY** | **Open the airway*** Turn the victim onto their back.
* 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.
 |
| **BREATHING** | **Look, listen and feel for normal breathing for no more than 10 seconds**In the first few minutes after cardiac arrest, a victim may be barely breathing, or taking infrequent, slow and noisy gasps. Do not confuse this with normal breathing. If you have any doubt whether breathing is normal, act as if it is they are not breathing normally and prepare to start CPR. |
| **DIAL 999** | **Call an ambulance (999)*** Ask a helper to call if possible, otherwise call them yourself.
* Stay with the victim when making the call if possible.
* Activate the speaker function on the phone to aid communication with the ambulance service.
 |
| **SEND FOR AED** | **Send someone to get an AED if available** If you are on your own, do not leave the victim, start CPR. |
| **CIRCULATION** | **Start chest compressions*** Kneel by the side of the victim.
* Place the heel of one hand in the centre of the victim’s chest; (which is the lower half of the victim’s breastbone [sternum]).
* Place the heel of your other hand on top of the first hand.
* Interlock the fingers of your hands and ensure that pressure is not applied over the victim's ribs.
* Keep your arms straight.
* Do not apply any pressure over the upper abdomen or the bottom end of the bony sternum (breastbone).
* Position your shoulders vertically above the victim's chest and press down on the sternum to a depth of 5–6 cm.
* After each compression, release all the pressure on the chest without losing contact between your hands and the sternum.
* Repeat at a rate of 100–120 min-1
 |
| **GIVE RESCUE BREATHS** | **After 30 compressions open the airway again using head tilt and chin lift and give 2 rescue breaths** * Pinch the soft part of the nose closed, using the index finger and thumb of your hand on the forehead.
* Allow the mouth to open but maintain chin lift.
* Take a normal breath and place your lips around their mouth, making sure that you have a good seal.
* Blow steadily into the mouth while watching for the chest to rise, taking about 1 second as in normal breathing; this is an effective rescue breath.
* Maintaining head tilt and chin lift, take your mouth away from the victim and watch for the chest to fall as air comes out.
* Take another normal breath and blow into the victim’s mouth once more to achieve a total of two effective rescue breaths. Do not interrupt compressions by more than 10 seconds to deliver two breaths. Then return your hands without delay to the correct position on the sternum and give a further 30 chest compressions.

Continue with chest compressions and rescue breaths in a ratio of 30:2.If you are untrained or unable to do rescue breaths, give chest compression only CPR (i.e. continuous compressions at a rate of at least 100–120 min-1)  |
| **IF AN AED ARRIVES**  | **Switch on the AED*** Attach the electrode pads on the victim’s bare chest.
* If more than one rescuer is present, CPR should be continued while electrode pads are being attached to the chest.
* Follow the spoken/visual directions.
* Ensure that nobody is touching the victim while the AED is analysing the rhythm.

**If a shock is indicated, deliver shock** * Ensure that nobody is touching the victim.
* Push shock button as directed (fully automatic AEDs will deliver the shock automatically).
* Immediately restart CPR at a ratio of 30:2.
* Continue as directed by the voice/visual prompts.

**If no shock is indicated, continue CPR** * Immediately resume CPR.
* Continue as directed by the voice/visual prompts.
 |
| **CONTINUE CPR**  | **Do not interrupt resuscitation until:** * A health professional tells you to stop.
* You become exhausted.
* The victim is definitely waking up, moving, opening eyes and breathing normally.

It is rare for CPR alone to restart the heart. Unless you are certain the person has recovered continue CPR.  |
| **RECOVERY POSITION**  | **If you are certain the victim is breathing normally but is still unresponsive, place in the recovery position*** Remove the victim’s glasses, if worn.
* Kneel beside the victim and make sure that both their legs are straight.
* Place the arm nearest to you out at right angles to his body, elbow bent with the hand palm-up.
* Bring the far arm across the chest and hold the back of the hand against the victim’s cheek nearest to you.
* With your other hand, grasp the far leg just above the knee and pull it up, keeping the foot on the ground.
* Keeping his hand pressed against his cheek, pull on the far leg to roll the victim towards you on to his side.
* Adjust the upper leg so that both the hip and knee are bent at right angles.
* Tilt the head back to make sure that the airway remains open.
* If necessary, adjust the hand under the cheek to keep the head tilted and facing downwards to allow liquid material to drain from the mouth.
* Check breathing regularly.

**Be prepared to restart CPR immediately if the victim deteriorates or stops breathing normally.**   |

**Initial assessment**

For clarity, the algorithm is presented as a linear sequence of steps. It is recognised that the early steps of ensuring the scene is safe, checking for a response, opening the airway, checking for breathing and calling the ambulance may be accomplished simultaneously or in rapid succession.

**Airway**

Open the airway using the head tilt and chin lift technique whilst assessing whether the person is breathing normally. Do not delay assessment by checking for obstructions in the airway. The jaw thrust and finger sweep are not recommended for the lay provider.

**Breathing**

Agonal breaths are irregular, slow and deep breaths, frequently accompanied by a characteristic snoring sound. They originate from the brain stem, which remains functioning for some minutes even when deprived of oxygen. The presence of agonal breathing can be interpreted incorrectly as evidence of a circulation and that CPR is not needed. Agonal breathing may be present in up to 40% of victims in the first minutes after cardiac arrest and, if correctly identified as a sign of cardiac arrest, is associated with higher survival rates. The significance of agonal breathing should be emphasised during basic life support training. Bystanders should suspect cardiac arrest and start CPR if the victim is **unresponsive** and **not breathing normally**.

Immediately following cardiac arrest, blood flow to the brain is reduced to virtually zero. This may cause a seizure-like episode that can be confused with epilepsy. Bystanders should be suspicious of cardiac arrest in any patient presenting with seizures. Although bystanders who have witnessed cardiac arrest events report changes in the victims’ skin colour, notably pallor and bluish changes associated with cyanosis, these changes are not diagnostic of cardiac arrest.

Checking the carotid pulse (or any other pulse) is an inaccurate method for confirming the presence or absence of circulation.

**Dial 999**

Early contact with the ambulance service will facilitate dispatcher assistance in the recognition of cardiac arrest, telephone instruction on how to perform CPR and locating and dispatching the nearest AED.

If possible, stay with the victim while calling the ambulance. If the phone has a speaker facility, switch it to speaker mode as this will facilitate continuous dialogue with the dispatcher including (if required) CPR instructions. It seems reasonable that CPR training should include how to activate the speaker phone. Additional bystanders may be used to call the ambulance service.

**Circulation**

In adults needing CPR, there is a high probability of a primary cardiac cause for their cardiac arrest. When blood flow stops after cardiac arrest, the blood in the lungs and arterial system remains oxygenated for some minutes. To emphasise the priority of chest compressions, start CPR with chest compressions rather than initial ventilations.

**Deliver compressions ‘in the centre of the chest’**

Experimental studies show better haemodynamic responses when chest compressions are performed on the lower half of the sternum. Teach this location simply, such as, “place the heel of your hand in the centre of the chest with the other hand on top”. Accompany this instruction by a demonstration of placing the hands on the lower half of the sternum.

Chest compressions are most easily delivered by a single CPR provider kneeling by the side of the victim, as this facilitates movement between compressions and ventilations with minimal interruptions. Over-the-head CPR for single CPR providers and straddle-CPR for two CPR providers may be considered when it is not possible to perform compressions from the side, for example when the victim is in a confined space.

**Compress the chest to a depth of 5–6 cm**

Fear of doing harm, fatigue and limited muscle strength frequently result in CPR providers compressing the chest less deeply than recommended. Four observational studies, published after the 2010 Guidelines, suggest that a compression depth range of 4.5–5.5 cm in adults leads to better outcomes than all other compression depths during manual CPR.  The Resuscitation Council (UK) endorses the ILCOR recommendation that it is reasonable to aim for a chest compression depth of approximately 5 cm but not more than 6 cm in the average sized adult. In making this recommendation, the Resuscitation Council (UK) recognises that it can be difficult to estimate chest compression depth and that compressions that are too shallow are more harmful than compressions that are too deep. Training should continue to prioritise achieving adequate compression depth.

**Compress the chest at a rate of 100–120 per minute (min-1)**

Two studies, with a total of 13,469 patients, found higher survival among patients who received chest compressions at a rate of 100–120 min. Very high chest compression rates were associated with declining chest compression depths. The Resuscitation Council (UK) therefore recommends that chest compressions are performed at a rate of 100–120 min-1.

**Minimise pauses in chest compressions**

Delivery of rescue breaths, defibrillation shocks, ventilations and rhythm analysis lead to pauses in chest compressions. Pre- and post-shock pauses of less than 10 seconds, and minimising interruptions in chest compressions (proportion of resuscitation attempt delivering chest compression >60% (chest compression fraction) are associated with improved outcomes.Pauses in chest compressions should be minimised and training should emphasise the importance of close co-operation between CPR providers to achieve this.

**Chest recoil**

Leaning on the chest preventing full chest wall recoil is common during CPR.Allowing complete recoil of the chest after each compression results in better venous return to the chest and may improve the effectiveness of CPR.CPR providers should, therefore, take care to avoid leaning forward after each chest compression.

**Duty cycle**

The proportion of a chest compression spent in compression compared to relaxation is referred to as the duty cycle. There is very little evidence to recommend any specific duty cycle and, therefore, insufficient new evidence to prompt a change from the currently recommended ratio of 50%.

**Feedback on compression technique**

CPR feedback and prompt devices (e.g. voice prompts, metronomes, visual dials, numerical displays, waveforms, verbal prompts, and visual alarms) should be used when possible during CPR training. Their use during clinical practice should be integrated with comprehensive CPR quality improvement initiatives rather than as an isolated intervention.

**CPR provider fatigue**

Chest compression depth can decrease as soon as two minutes after starting chest compressions. If there are sufficient trained CPR providers, they should change over approximately every two minutes to prevent a decrease in compression quality. Changing CPR providers should not interrupt chest compressions.

**Rescue breaths**

CPR providers should give rescue breaths with an inflation duration of 1 second and provide sufficient volume to make the victim’s chest rise. Avoid rapid or forceful breaths. The maximum interruption in chest compression to give two breaths should not exceed 10 seconds.

**Mouth-to-nose ventilation**

Mouth-to-nose ventilation is an acceptable alternative to mouth-to-mouth ventilation. It may be considered if the victim’s mouth is seriously injured or cannot be opened, the CPR provider is assisting a victim in the water, or a mouth-to-mouth seal is difficult to achieve.

**Mouth-to-tracheostomy ventilation**

Mouth-to-tracheostomy ventilation may be used for a victim with a tracheostomy tube or tracheal stoma who requires rescue breathing.

**Barrier devices for use with rescue breaths**

Barrier devices decrease transmission of bacteria during rescue breathing in controlled laboratory settings. Their effectiveness in clinical practice is unknown.

If a barrier device is used, care should be taken to avoid unnecessary interruptions in CPR. Manikin studies indicate that the quality of CPR is improved when a pocket mask is used, compared to a bag-mask or simple face shield during basic life support.

**Compression-only CPR**

CPR providers trained and able to perform rescue breaths should perform chest compressions and rescue breaths as this may provide additional benefit for children and those who sustain an asphyxial cardiac arrest or where the EMS response interval is prolonged.Only if rescuers are unable to give rescue breaths should they do compression-only CPR.

The Resuscitation Council (UK) has carefully considered the balance between potential benefit and harm from compression-only CPR compared to standard CPR that includes ventilation. Our confidence in the equivalence between chest-compression-only and standard CPR is not sufficient to change current practice. The Resuscitation Council (UK), therefore, endorses the ILCOR and ERC recommendations that CPR providers should perform chest compressions for all patients in cardiac arrest. CPR providers trained and able to perform rescue breaths should perform chest compressions and rescue breaths as this may provide additional benefit for children and those who sustain an asphyxial cardiac arrest or where the EMS response interval is prolonged.

When an untrained bystander dials 999, the ambulance dispatcher should instruct him to give chest-compression-only CPR while awaiting the arrival of trained help. Further guidance on dispatcher-assisted CPR is given in the [Prehospital resuscitation guidelines](https://www.resus.org.uk/resuscitation-guidelines/prehospital-resuscitation/).

**Use of an automated external defibrillator**

AEDs are safe and effective when used by laypeople, including if they have had minimal or no training. AEDs may make it possible to defibrillate many minutes before professional help arrives. CPR providers should continue CPR with minimal interruption to chest compressions both while attaching an AED and during its use. CPR providers should concentrate on following the voice prompts, particularly when instructed to resume CPR, and minimising interruptions in chest compression.

**Public access defibrillation (PAD) programmes**

Public access AED programmes should be actively implemented in public places with a high density and movement of people such as airports, railway stations, bus terminals, sport facilities, shopping malls, stadiums, centres, offices, and casinos – where cardiac arrests are frequently witnessed and trained CPR providers can quickly be on scene. AEDs should also be provided in remote locations where an emergency ambulance response would be likely to be delayed (e.g. aircraft, ferries and off-shore locations).

Registration of defibrillators with the local ambulance services is highly desirable so that dispatchers can direct CPR providers to the nearest AED.

When implementing an AED programme, community and programme leaders should consider factors such as the development of a team with responsibility for monitoring and maintaining the devices, training and retraining individuals who are likely to use the AED, and identification of a group of volunteer individuals who are committed to using the AED in victims of cardiac arrest. Funds must be allocated on a permanent basis to maintain the programme.

The Resuscitation Council (UK) and British Heart Foundation have produced information endorsed by the National Ambulance Service Medical Directors Group about AEDs and how they can be deployed in the community – [A guide to Automated External Defibrillators](https://www.resus.org.uk/publications/a-guide-to-aeds/).

**Risks to recipients of CPR**

It is extremely rare for bystander CPR to cause serious harm in victims who are eventually found not to be in cardiac arrest. Those who are in cardiac arrest and exposed to longer durations of CPR are likely to sustain rib and sternal fractures. Damage to internal organs can occur but is rare.The balance of benefits from bystander CPR far outweighs the risks. CPR providers should not, therefore, be reluctant to start CPR because of the concern of causing harm.

**Risks to the CPR provider**

CPR training and actual performance is safe in most circumstances. Although rare occurrences of muscle strain, back symptoms, shortness of breath, hyperventilation, pneumothorax, chest pain, myocardial infarction and nerve injury have been described in rescuers, the incidence of these events is extremely low. Individuals undertaking CPR training should be advised of the nature and extent of the physical activity required during the training programme. Learners and CPR providers who develop significant symptoms (e.g. chest pain or severe shortness of breath) during CPR training should be advised to stop and seek medical attention.

Although injury to the CPR provider from a defibrillator shock is extremely rare, standard surgical or clinical gloves do not provide adequate electrical protection. CPR providers, therefore, should not continue manual chest compressions during shock delivery. Avoid direct contact between the CPR provider and the victim when defibrillation is performed. Implantable cardioverter defibrillators (ICDs) can discharge without warning during CPR and rescuers may therefore be in contact with the patient when this occurs. However, the current reaching the rescuer from the ICD is minimal and harm to the rescuer is unlikely.

Adverse psychological effects after performing CPR are relatively rare. If symptoms do occur the CPR provider should consult their general practitioner.

# Adult basic life support algorithm

UNRESPONSIVE?

Shout for help

Open airway

NOT BREATHING NORMALLY?

Call 999

30 chest

compressions

2 rescue breaths

30 compressions

# 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.

Foreign bodies may cause either mild or severe airway obstruction. The signs and symptoms enabling differentiation between mild and severe airway obstruction are summarized in the table below. It is important to ask the conscious victim ‘Are you choking?’

|  |
| --- |
| **General signs of choking** |
| * Attack occurs while eating
* Victim may clutch their neck
 |
| **Signs of severe airway obstruction** | **Signs of mild airway obstruction** |
| *Response to question ‘Are you choking?’** Victim unable to speak
* Victim may respond by nodding

*Other signs** Victim unable to breathe
* Breathing sounds wheezy
* Attempts at coughing are silent
* Victim may be unconscious
 | *Response to question ‘Are you choking?’** Victim speaks and answers yes

*Other signs** Victim is able to speak, cough, and breathe
 |

# Adult choking treatment algorithm

Assess severity

**Severe**

airway obstruction

(ineffective cough)

**Mild**

airway obstruction

(effective cough)

**Unconscious**

**Conscious**

**Encourage cough**

Start CPR

5 back blows

5 abdominal thrusts

Continue to check for

deterioration to ineffective cough or until obstruction relieved

**Sequence for the treatment of adult choking**

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

### If the victim shows signs of mild airway obstruction:

* + Encourage them to continue coughing, but do nothing else.

### If the victim shows signs of severe airway obstruction and is conscious:

* + Give up to five back blows.
		- Stand to the side and slightly behind the victim.
		- Support the chest with one hand and lean the victim well forwards so that when the obstructing object is dislodged it comes out of the mouth rather than goes further down the airway.

 Give **up to** five sharp blows between the shoulder blades with the heel of your other hand

* + Check to see if each back blow has relieved the airway obstruction. The aim is to relieve the obstruction with each blow rather than necessarily to give all five.
	+ If five back blows fail to relieve the airway obstruction give up to five abdominal thrusts.
		- Stand behind the victim and put both arms round the upper part of his abdomen.
		- Lean the victim forwards.
		- Clench your fist and place it between the umbilicus (navel) and the bottom end of the sternum (breastbone).
		- Grasp this hand with your other hand and pull sharply inwards and upwards.
		- Repeat up to five times.
	+ If the obstruction is still not relieved, continue alternating five back blows with five abdominal thrusts.

### If the victim becomes unconscious:

* + Support the victim carefully to the ground.
	+ Call an ambulance immediately.
	+ Begin CPR (from 5B of the adult BLS sequence). Healthcare providers, trained and experienced in feeling for a carotid pulse, should initiate chest compressions even if a pulse is present in the unconscious choking victim.

Following successful treatment for choking, foreign material may nevertheless remain in the upper or lower respiratory tract and cause complications later. Victims with a persistent cough, difficulty swallowing, or with the sensation of an object being still stuck in the throat should therefore be referred for an immediate medical opinion. Resuscitation of children and victims of drowning

Both ventilation and compression are important for victims of cardiac arrest when the oxygen stores become depleted: about 2 - 4 min after collapse from ventricular fibrillation (VF), and immediately after collapse for victims of asphyxial arrest. Previous guidelines tried to take into account the difference in causation and recommended that victims of identifiable asphyxia (drowning; trauma; intoxication) and children should receive 1 min of CPR before the lone rescuer left the victim to get help. But most cases of sudden cardiac arrest out of hospital occur in adults and are of cardiac origin due to VF (even though many of these will have changed to a non-shockable rhythm by the time of the first rhythm analysis). These additional recommendations, therefore, added to the complexity of the guidelines whilst applying to only a minority of victims.

Many children do not receive resuscitation because potential rescuers fear causing harm. This fear is unfounded; it is far better to use the adult BLS sequence for resuscitation of a child than to do nothing. For ease of teaching and retention, laypeople should be taught to use the adult sequence for children who are not responsive and not breathing normally, with the single modification that the chest should be compressed by one third of its depth. However, the following minor modifications to the adult sequence will make it even more suitable for use in children:

* + Give 5 initial rescue breaths before starting chest compressions (adult BLS sequence of actions 5B).
	+ If you are on your own, perform CPR for 1 min before going for help.
	+ Compress the chest by one third of its depth. Use two fingers for an infant under 1 year; use one or two hands for a child over 1 year as needed to achieve an adequate depth of compression.

The same modifications of five initial breaths, and 1 min of CPR by the lone rescuer before getting help, may improve outcome for victims of drowning. This modification should be taught only to those who have a specific duty of care to potential drowning victims (e.g. lifeguards). If supplemental oxygen is available and can be brought to the victim and used without interruption in CPR (e.g., by attaching to a resuscitation face mask), it may be of benefit.

Drowning is easily identified. It can be difficult, on the other hand, for a layperson to recognise when trauma or intoxication has caused cardiorespiratory arrest. If either cause is suspected the victim should be managed according to the standard BLS protocol.

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