

Scottish Police Emergency Life Support

Police and the Community

Lesson Aim

To understand and demonstrate the principle techniques involved in basic life support.

Learning Outcomes

After this lesson you will be able to:—

- A** Explain the chain of survival.
- B** Administer basic life support to a casualty.
- C** Conduct a casualty assessment.
- D** Place a casualty in the recovery position.
- E** Recognise and treat a choking casualty.
- F** Recognise and treat a casualty who may be suffering from a heart attack.
- G** Describe the correct method to control external bleeding.
- H** Recognise and treat a casualty suffering from shock.
- I** Recognise and manage respiratory distress in a casualty.
- J** Recognise and treat a casualty who may suffer from a stroke
- K** Recognise and treat a casualty suffering from a seizure
- L** Describe an officer's actions at the scene of a water incident

Introduction

There may be occasions, during the course of your duties, where someone suffers an injury or illness which will require immediate attention. It is therefore advisable that you have a knowledge of basic life support techniques which can be employed whilst waiting the arrival of qualified medical staff. These notes have been included to provide you with such knowledge and follow the Scottish Police Emergency Life Support (SPELS) course.

On successful completion of this course, you will be able to perform basic life support techniques. This training does not qualify you to become a First Aider at Work under The Health and Safety (First Aid) Regulations 1981.

Part

A

Your Notes

SPELS



Health and Safety

Personal Hygiene

Rescuers should be aware of the potential dangers from contamination and always wear protective gloves. Rescuers should report and record any puncture wounds or contamination to skin, mouth or eyes. Rescuers should always cover any exposed cuts or abrasions.

The Chain of Survival

The chain of survival consists of 4 critical links:—

1. early recognition and access
2. early CPR
3. early defibrillation
4. early advanced care.

Early Recognition

Means recognising the signs of injuries or medical condition.

Early Access

Means early access to the emergency services by dialling 999 or other emergency number. The call for help initiates the chain of survival, beginning a procedure that could save a life.

Early CPR (Cardio Pulmonary Resuscitation)

Means to deliver oxygen to the brain and other vital organs and in so doing 'buy time' until the emergency services arrive. Providing it is safe to do so, CPR should be initiated as soon as possible and if practicable within 4 minutes to keep the brain and other vital organs supplied with oxygen. Casualties who have had a heart attack and who receive immediate CPR followed by advanced life support (ALS) have a greater chance of being resuscitated.

Early Defibrillation

This is considered to be the most important single factor in determining survival. The majority of all cardiac arrests result in a condition known as ventricular fibrillation (VF). During this state the heart does not pump rhythmically as normal; instead it 'quivers' a little like a shaking jelly performing only useless activity. The only treatment during this state is defibrillation or shocking the heart back into its normal rhythmic mode.

Early Advanced Care

With the heart rhythm restored the casualty is then transported to hospital for additional treatment and care. Additional advanced care including the administration of appropriate drugs, close monitoring on specialised units and the use of additional advanced skills, all help to prevent the recurrence of further cardiac arrests and so aid the recovery process.

Adult Basic Life Support

Sequence of Actions

We will now deal with the sequence of actions step by step in order of priority.

Danger

First aid cannot be provided if the environment in which the accident has taken place is not first made safe. You must at all times consider your own personal safety as the most important priority. Do not put yourself in danger. You are unlikely to provide much assistance to a casualty or casualties if you become one too.

Basic common sense and safety awareness is required, such as turning off items that are connected to electrical power, creating a safe environment either by moving the hazardous item from the casualty or from the casualty or in exceptional circumstances, moving the casualty from the hazard. Be alert to the risk of attack from the casualty or from others.

Don't:—

1. take unnecessary risks
2. try to do too much on your own.

Do:—

1. use other people to assist you where necessary, e.g. to make a call to the emergency services, to help keep others away from the scene, to control bleeding or to support a limb. This may help others to feel that they are assisting in a positive manner.
2. give clear instructions and always check that they have been carried out.

The following is the agreed sequence of actions that constitute the ERC's Guidelines for adult basic life support:—

Check Responsiveness

This is done by gently shaking the shoulders of the casualty and asking loudly, "Are you all right?"

1. If a **casualty responds** by answering or moving, try to find out what is wrong with them and get help if needed. Leave them in the position in which you have found them (provided that they are not in further danger). Reassess them regularly and offer reassurance.
2. If the **casualty does not respond** immediately shout/radio for help. Turn the casualty onto their back and open the airway (as below).

It is essential that the casualty has an open airway so that oxygen can

B

Part

A

Your Notes

Fig 1

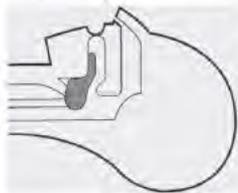


Fig 2



Fig 3



Fig 4



Open Airway

continue to get to the vital organs of the body, especially the brain.

Fig 1 shows a side view of a closed airway. Here the tongue is blocking the windpipe preventing air from reaching the lungs.

In Fig 2 the casualty's airway is open allowing normal breathing.

To open the airway (Fig 3):—

1. Remove any visible obstruction from the casualty's nose and mouth.
2. Place your hand on their forehead and gently tilt their head back.
3. With your fingertip(s) under the point of the casualty's chin, lift the chin to open the airway.

Keeping the airway open, look, listen, and feel for normal breathing (Fig 4):—

Check Breathing

1. Look for chest movement.
2. Listen at the casualty's mouth for breath sounds.
3. Feel air on your cheek.

In the first few minutes after cardiac arrest, a casualty may be barely breathing, or taking infrequent, noisy gasps. Do not confuse this with normal breathing.

Look, listen, and feel for **no more** than 10 sec to determine if the casualty is breathing normally. An inadequate respiration pattern, known as Agonal Breathing, is associated with extreme physiological distress. It can easily be confused with ordinary respiration. If you have any doubt whether breathing is normal, act as if it is **not** normal.

If they are breathing normally:—

1. Turn them into the recovery position.
2. Send or go for help, or call for an ambulance.
3. Check for continued breathing.

If they are **not** breathing normally:—

1. Ask someone to call for an ambulance, or if you are on your own, do this yourself; you may need to leave the victim. (Fig 5).
2. Kneel by the side of the casualty.
3. Place the heel of one hand in the centre of the casualty's chest.
4. Place the heel of your other hand on top of the first hand.
5. Interlock the fingers of your hands and ensure that pressure is not applied over the casualty's ribs. Do not apply any pressure over the upper abdomen or the bottom ends of the bony sternum (breastbone).
6. Position yourself vertically above the casualty's chest and, with your arms straight, press down on the sternum 5–6 cm (approximately one-third of the depth of the casualty's chest).
7. After each compression, release all the pressure on the chest without

losing contact between your hands and the sternum. Repeat at a rate of about 100–120 times a minute (a little less than 2 compressions a second).

8. Compression and release should take an equal amount of time.

Combine chest compression with rescue breaths

1. After 30 compressions open the airway again using head tilt/chin lift.
2. Pinch the soft part of the casualty's nose closed, using the index finger and thumb of your hand on his forehead.
3. Allow the mouth to open, but maintain chin lift.
4. Take a normal breath and place your lips around the mouth, making sure that you have a good seal.
5. Blow steadily into the mouth whilst watching for their chest to rise; take about one second to make the chest rise as in normal breathing; this is an effective rescue breath.
6. Maintaining head tilt and chin lift, take your mouth away from the casualty and watch for the chest to fall as air comes out.
7. Take another normal breath and blow into the casualty's mouth once more to give a total of two effective rescue breaths. Then return your hands without delay, to the correct position on the sternum and give a further 30 chest compressions.
8. Continue with chest compressions and rescue breaths in a ratio of 30:2.
9. Stop to recheck the casualty only if they start breathing normally; otherwise do not interrupt resuscitation.

If your rescue breaths do not make the chest rise as in normal breathing, then before your next attempt:—

1. Check the casualty's mouth and remove any visible obstruction.
2. Recheck that there is adequate head tilt and chin lift.
3. Do not attempt more than two breaths each time before returning to chest compressions.

If there is more than one rescuer present, another person should take over CPR about every 2 min to prevent fatigue. Ensure the minimum of delay during the changeover of rescuers.

Chest-compression-only CPR:—

1. If you are not able, or are unwilling to give rescue breaths, give chest compressions only.
2. If chest compressions only are given, these should be continuous at a rate of 100–120 a minute.
3. Stop to recheck the casualty only if they start breathing normally; otherwise do not interrupt resuscitation.

Continue resuscitation until:—

1. Qualified help arrives and takes over;
2. The victim starts breathing normally; or
3. You become exhausted.

When to get help

It is vital for rescuers to get help as quickly as possible.

Fig 5



Fig 6



Variation on technique

You may find that you will need to vary the method of compressions dependant upon:

- Age
- Size

E.g. When dealing with an elderly person you may find that you only need use one hand for compressions. However, an individual of a larger stature may require deeper compressions.

Resuscitation for children and babies

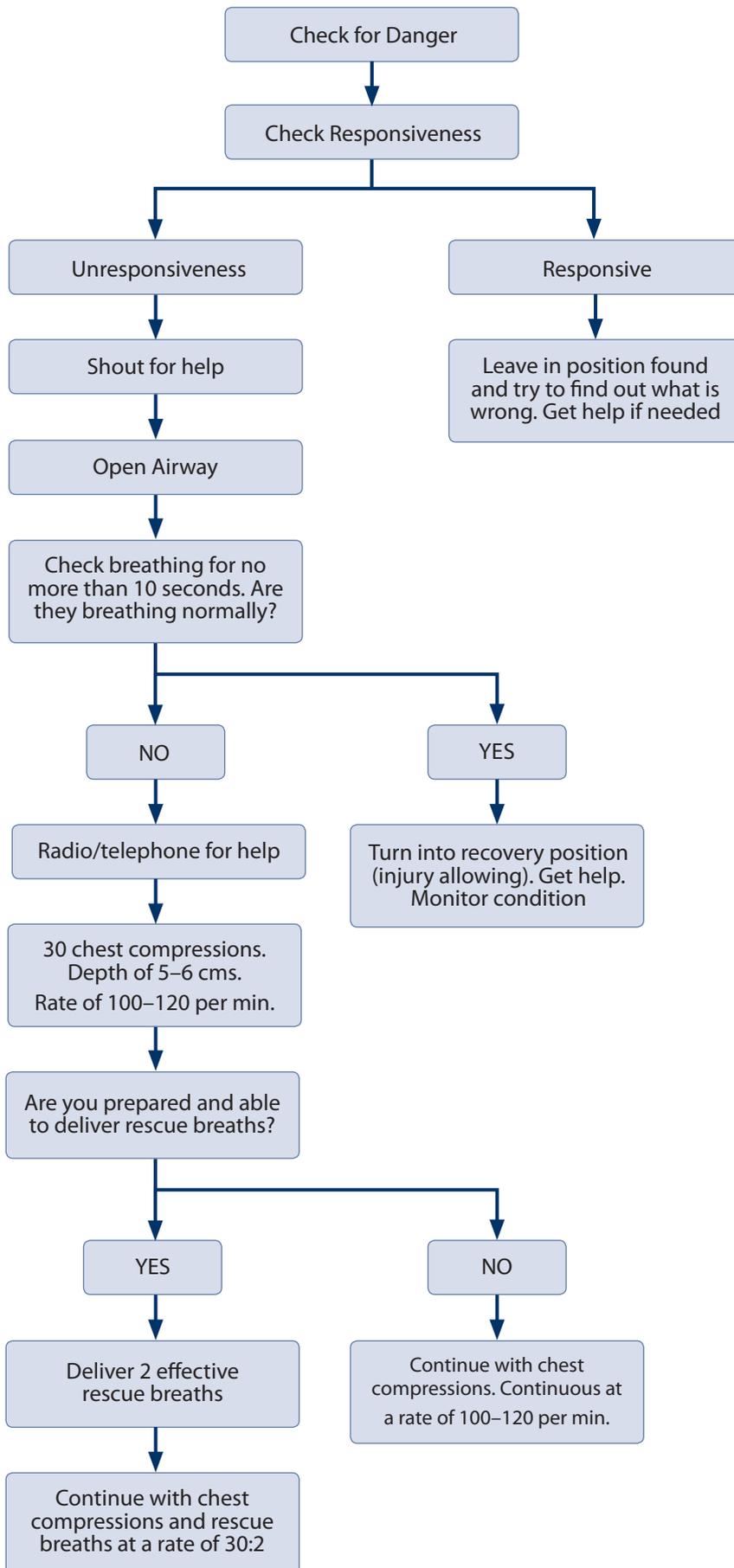
Recent studies have found that many children do not receive resuscitation because potential rescuers fear causing them harm. It is important to understand that it is far better to perform "adult style" resuscitation on a child than to do nothing at all.

When faced with a child or baby who is unresponsive and not breathing the following minor modifications to the adult sequence will make it even more suitable for use in children:

- Give five initial rescue breaths before starting chest compressions (then continue at the ratio of 30 compressions to 2 breaths).
- Compress the chest by about one-third of it's depth:
 - For a baby under 1, use two fingers
 - For a child over 1 year, use one or two hands (as needed) to achieve an adequate depth of compression (about one third of the depth)



European Resuscitation Council (ERC) Protocol for Adult Basic Life Support (BLS)—Summary



C

A

V

P

U

D

Casualty Assessment

Conduct an initial and rapid assessment of the casualty in order to identify and treat any condition posing a threat to life. Use DRS ABC.

Under response, an assessment should be made of a casualty's level of consciousness.

Try to note whether the casualty is **A**lert and aware of his/her surroundings or whether they are confused or disorientated. Do their eyes open spontaneously?

Does the casualty respond to **V**erbal stimulus? Is there movement when you speak to him/her? Does the casualty respond to commands such as 'open your eyes'?

Does the casualty respond to **P**ain? A suitable means of attempting to obtain a response to pain may be to apply light pressure to the bony ridge above the eye (located close to the eyebrow) or to apply light pressure to the nailbeds of the fingers or toes. (Do not use any other method.)

Does the casualty remain completely **U**nresponsive making no response either through movement, speech or by opening their eyes?

It is important to regularly reassess a casualty as they may drift in and out of any of these stages.

Immediately after your rapid initial assessment—**TREAT ANY CONDITION POSING A THREAT TO LIFE.**

The Recovery Position

All unconscious casualties should be placed in the recovery position, providing their injuries permit.

If you suspect that the casualty has a back or neck injury ensure that the head and neck are supported and aligned whilst the casualty is turned into the recovery position. Support the casualty until help arrives.

This position is useful in maintaining an open airway, by preventing the tongue from falling to the back of the throat and in the case of vomiting allows any fluids to drain away and thus reduces the risk of further injury through inhalation.

1. the casualty should be in as near a true lateral position (on their side) as possible with the head positioned to allow free drainage of fluid.
2. the position should be stable.
3. any pressure on the chest that impairs breathing should be avoided.
4. it should be possible to turn the casualty onto their side and to return them to their back easily and safely having particular regard to the possibility of cervical spine injury.
5. good observation of and access to the airway should be possible
6. the position itself should not give rise to any injury to the casualty.

A description of the recovery position procedure now follows:—

Fig 7



Fig 8



1. remove the casualty's spectacles if being worn and any sharp objects from pockets.
2. open the airway by tilting the head and lifting the chin.
3. place the arm nearest to you out at right angles to the casualty's body, elbow bent with the hand palm uppermost (Fig 7).
4. bring the far arm across the chest and hold the back of the hand against the casualty's nearest cheek (Fig 8).
5. with your other hand, grasp the far leg just above the knee and pull it up, keeping the foot on the ground.
6. keeping the casualty's hand pressed against their cheek, pull on the leg to roll the casualty towards you onto their side (Fig 9).
7. tilt the head back to make sure the airway remains open.
8. adjust the upper leg so that both the hip and knee are bent at right angles (Fig 10).
9. adjust the hand under the cheek, if necessary, to keep the head tilted.
10. check breathing regularly.



Fig 9



Fig 10

If the casualty has to be kept in the recovery position for more than 30 minutes, turn them to the opposite side to relieve the pressure on the lower arm.

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, blueness, 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 summarised in the table overleaf. It is important to ask the conscious casualty "Are you choking?"

General Signs of Choking	
<ul style="list-style-type: none"> ▪ Attack occurs while eating ▪ Casualty may clutch their neck 	
Signs of Mild Airway Obstruction	Signs of Severe Airway Obstruction
Response to question "Are you choking?" Casualty speaks and answers yes. Other Signs Casualty is able to speak, cough and breathe.	Response to question "Are you choking?" <ul style="list-style-type: none"> ▪ Casualty unable to speak. ▪ Casualty may respond by nodding. Other Signs <ul style="list-style-type: none"> ▪ Casualty unable to breathe. ▪ Breathing sounds wheezy. ▪ Attempts at coughing are silent. ▪ Casualty may be unconscious.

E

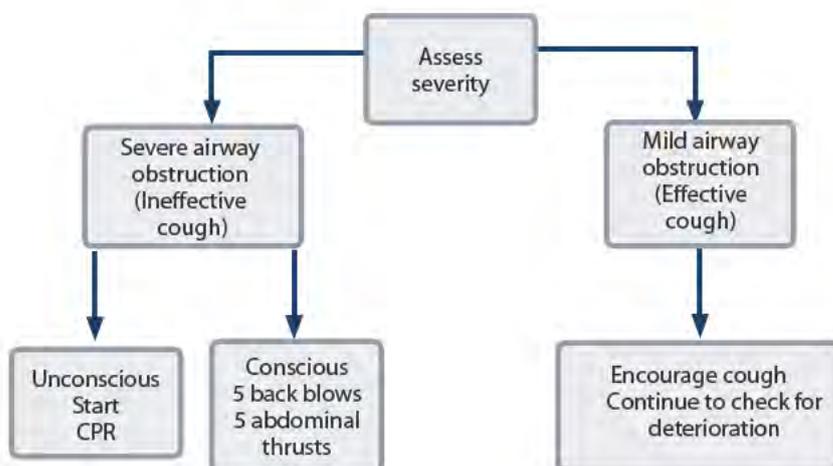
Fig 11



This sequence is also suitable use in children over the age of 1 year:—

1. If the casualty shows signs of mild airway obstruction encourage them to continue coughing, but do nothing else.
2. If the casualty shows signs of severe airway obstruction and is conscious:—
 - Give up to five back blows
 - Stand to the side and slightly behind the casualty.
 - Support the chest with one hand and lean the casualty well forward so that when the obstructing object is dislodged it comes out of the mouth rather than going 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 (Fig 11).
 - Stand behind the casualty and put both arms round the upper part of their abdomen.
 - Lean the casualty forwards.
 - Make a fist with one hand and place it just above the belly button (below the ribs) with your thumb inwards.
 - 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.
3. If the casualty becomes unconscious:—
 - Support the casualty carefully to the ground.
 - Begin CPR.

Casualties with a persistent cough, difficulty swallowing, or with the sensation of an object being still stuck in the throat should therefore be referred for a medical opinion.



Heart Attack

The heart muscle needs its own blood supply. This is obtained from the *coronary arteries* that run over the surface of the heart.

The coronary arteries divide and subdivide like the branches of a tree. If one of these branches becomes blocked the part of the heart muscle that is supplied by the artery is deprived of oxygen resulting in damage.

Where a small part of the heart muscle dies it is said to have undergone a change called "infarction". The medical term for a heart attack therefore is *myocardial infarction* (myo = muscles, cardial = heart).

Signs and Symptoms

1. severe chest pain or discomfort (often described as a weight or tightness).
2. the pain may radiate across the chest up into the jaw or down the left arm.
3. a white person may be pale or ashen.
4. a black or dark skinned person may be ashen-grey.
5. the skin feels cold or clammy.
6. the casualty may feel sick or vomit.
7. the casualty may be forced to sit down or lean against a wall for support.
8. breathlessness is common.
9. the casualty may become unconscious.

Treatment

The main aim is to reduce the work of the heart:—

1. call an ambulance.
2. if conscious allow the casualty to sit in the position that they find most comfortable—usually sitting down with the knees raised (Fig 12).
3. if the casualty is safe they should be left in this position.
4. loosen tight clothing.
5. reassure the casualty.
6. if breathing and heartbeat stop commence CPR.

Fig 12



Bleeding

Blood loss

The body can afford to lose up to a pint, (500 ml), of blood, as in the case of blood donations with little or no effect. However, if larger quantities of blood are lost there is a danger that a casualty may develop signs and symptoms of shock, such as:—

1. sweating.
2. cold skin.
3. clammy skin.
4. pale appearance.
5. blue discolouration of the periphery, e.g. ear lobes, lips and fingertips—a black or dark skinned person will not appear blue, there may however be some discolouration of the lips, tongue,



Health and Safety

Personal Hygiene (Reminder)

Rescuers should be aware of the potential dangers from contamination and always wear protective gloves. Rescuers should report and record any puncture wounds or contamination to skin, mouth or eyes. Rescuers should always cover any exposed cuts or abrasions.

conjunctiva of the eyes, palms or soles of the feet.

Continued blood loss will result in a fall in blood pressure.

Treatment of Bleeding

Do not delay treatment. After maintenance of the **Airway** and **Breathing**, bleeding is the next most important life threatening scenario to deal with in Basic Life Support.

Aim

Your principle aim has to be to try and control the bleeding. This will help to minimise shock and reduce the risk of infection. A useful mnemonic to remember for the treatment of severe bleeding is **PEEP**.

- **Position**—lie the casualty down, providing that his/her condition will allow, preferably with the head lower than the rest of the body (this will help minimise the condition of shock).
- **Examine/Expose** the wound—check that the wound has no embedded object in it, e.g. pieces of glass that could harm you.
- **Elevate** the limb—if the bleeding is from an arm or leg, elevate the limb to reduce the flow of blood.
- **Pressure**—apply direct pressure to the wound with a sterile dressing or clean absorbent pad (in the absence of such material, direct pressure with the palm of the hand can be applied to the wound).

Arrange transport to the hospital and continue to reassure the casualty.

Shock

Shock is a life-threatening condition and should be treated as a top priority, second only to safety, an obstructed airway, absence of breath, cardiac arrest or severe life threatening bleeding. Shock is a condition whereby the circulatory system fails depriving the brain and other vital organs of an adequate blood supply. If not treated swiftly it can result in death.

The body responds to shock by shutting down the circulation system to the periphery (the surface of the skin) and re-diverting the flow of blood to the vital organs such as the brain, heart, lungs, liver and kidneys.

Shock will deepen and seriously threaten life if the cause is not treated especially if caused by bleeding.

Signs and Symptoms

1. a white person may appear pale or ashen.
2. a black or dark skinned person may appear ashen-grey.
3. the skin will feel cold and clammy to the touch.
4. the casualty appears faint and weak.
5. the casualty may complain of thirst.
6. the casualty may complain of feeling sick with possible vomiting.

The progression of symptoms may be rapid depending on the seriousness of the cause, e.g. the amount of blood loss. Without treatment the casualty may become unconscious or die. If the casualty has bleeding from any orifice, cover the orifice, do not plug.

Treatment

Make use of the remaining blood in the system.

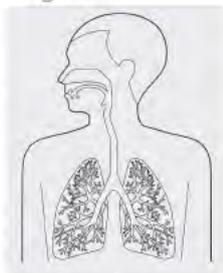
Do Not:—

1. apply any form of localised heat, e.g. a hot water bottle, this will only make shock worse by drawing the circulating blood away from the vital organs and back to the surface of the skin
2. give anything to drink (the lips may be moistened).

Do:—

1. treat the casualty with gentleness and reassurance
2. lay the casualty down, if possible raise the legs and support them
3. loosen any tight clothing
4. cover and protect the casualty with a light blanket, if possible put a blanket underneath the casualty if lying on cold ground
5. observe the casualty's signs, symptoms and levels of response and record them accurately
6. contact the ambulance service and arrange for early transportation
7. be prepared to resuscitate the casualty if the condition of shock worsens before the ambulance arrives.

Fig 13



The Respiratory System

This section briefly deals with anatomy of the respiratory system and the signs/symptoms and management of respiratory distress. It is not intended to cover specific causes of respiratory distress.

The Airway

The airway consists of a passageway of tubes (Fig 13).

During inspiration, oxygen is drawn through these tubes into the lungs. In the lungs oxygen is absorbed into the blood.

During expiration, carbon dioxide passes from the blood to the airway and is expelled in the air we breathe out.

An Open/Closed Airway

It is vital to life that a casualty has an open airway at all times. If the airway is closed or obstructed a state of suffocation or asphyxia rapidly develops causing breathing to stop.

Inspiration

During inspiration the rib cage moves upwards and outwards and the diaphragm (a strong sheet of dome shaped muscle resting between the chest and abdominal cavities), moves into a flatter position to increase the volume within the chest, drawing air in.

Expiration

During expiration the muscles relax, the rib cage returns to a normal resting position and the diaphragm takes on its normal dome shaped position. This process of relaxation causes air that is in the lungs to be forced out. Expiration is a passive process after which there is a short pause before the whole procedure starts again.

Signs and Symptoms of Respiratory Distress

1. Difficulty in breathing.
2. Distress/anxiety.
3. Difficulty speaking.
4. Blue/grey/ashen skin.

Management

1. Loosen tight clothing.
2. Help the casualty into a position they find most comfortable.
3. Reassurance.
4. Keep victim warm.
5. Permit self-administration of prescribed medication to persons with a pre-diagnosed medical condition.
6. Monitor condition.

Positional Asphyxia

A potential problem that can occur in detainees is positional asphyxia.

The death of persons in custody have been attributed to this condition. In otherwise healthy individuals it can occur where an individual is held down or placed in a prone (face down) position. Although instances are comparatively rare risks may be increased where the detainee is obese, drugged or intoxicated.

Most recent medical opinion suggests that it is restraint and the exertion against such restraint that may result in death, rather than the casualty's position. Some doctors put forward the view that the condition may exist exclusively in intoxicated and obese persons, particularly those persons with a 'beer belly'. The term Restraint Associated Death (RAD) may give a more accurate description of this condition.

Stroke

The most common type of stroke (over 80% of cases) is caused by a blockage. This is called an **ischaemic stroke**, which happens when a clot blocks an artery that carries blood to the brain.

The second type of stroke (up to 20% of cases) is caused by a bleed, when a blood vessel bursts, causing bleeding (haemorrhage) into the brain. This is called a **haemorrhagic stroke**.

A stroke is sudden and the effects on the body are immediate. The sooner someone receives treatment, the better their chance of recovery. A useful mnemonic to remember is **FAST**.

- **Facial weakness:** Can the person smile? Has their mouth or an eye drooped?
- **Arm weakness:** Can the person raise both arms?
- **Speech problems:** Can the person speak clearly and understand what you say?
- **Time to call 999.**

If you see any one of these signs get medical help.

Signs and Symptoms

1. Gradual or sudden loss of consciousness.
2. Lowered levels of response.
3. Agitation or aggression.
4. Slow, deep, noisy breathing.
5. Unequal pupil size.
6. Flushed, dry skin.
7. Numbness, weakness or paralysis on one side of the body (signs of this may be a drooping arm, leg or lower eyelid, or a dribbling mouth).
8. Slurred speech or difficulty finding words or understanding speech.
9. Sudden blurred vision or loss of sight.
10. Confusion or unsteadiness.
11. Vomiting or incontinence.
12. A severe headache.



Treatment

- Maintain airway and breathing.
- Help the casualty into a position they find most comfortable, if laying down keep head and shoulders raised.
- Place an unconscious casualty in the recovery position.
- Reassure the casualty – do not assume that they do not understand.
- Monitor breathing and levels of response.

Epilepsy and Seizures

A person diagnosed with epilepsy has a tendency to have repeated seizures that arise from a disturbance in the brain. The result is like an electrical storm that causes a temporary overload in part of or all of the brain.

There are however, many different causes of seizure (including epilepsy), such as hypoxia, stroke, head injury or even the body's temperature becoming too high. One person in 20 will have a seizure at some point in their life but this does not mean that they have epilepsy.

Some seizures end in seconds while others may last several minutes. People's awareness of what is happening or where they are can range from being fully aware to being totally unaware. This depends on how much of the brain is affected by the electrical storm (seizure).

Although seizures can appear dramatic and frightening to an observer, it is important to realise that the person affected normally feels no pain during a seizure and may have no memory of it afterwards.

Most seizures are not harmful to the brain and the person affected usually recovers quickly. Each person's experience of epilepsy is unique.

Further reading regarding different seizures can be found in Appendix A.

What to do during the seizure:

- Help the patient to the floor to avoid injury if possible.
- Cushion the person's head with whatever is available.
- Loosen any tight clothing round the neck and gently remove glasses (if worn).
- Clear a space around the person and prevent people from crowding round.
- If you are concerned about the Airway, roll the casualty onto their side.
- Note the time the seizure starts and how long it lasts.
- Watch the seizure carefully and if possible let it run its natural course.

Call for medical assistance if:

- The seizure lasts more than 5 minutes.
- The patient's level of response does not improve after the seizure within 10 minutes.
- One seizure follows another without any recovery in between.
- The person has been badly injured.
- You are unsure.

There is no need to call an ambulance unless it is the person's first seizure.

As soon as the seizure stops:

- Check and monitor Airway and Breathing. Resuscitate if necessary.
- Place the person into the recovery position.
- Keep the patient warm (unless temperature caused the seizure).
- Check levels of response regularly.

What not to do

- Do not try to lift or move the person while the seizure is happening unless there is an immediate danger.
- Do not try to stop the jerking or restrain the person.
- Do not put anything in the person's mouth or between their teeth.
- Do not offer the person something to drink until they are fully conscious.
- Do not fuss around the person while they are recovering from the seizure.

Non-Convulsive Seizures

Non-convulsive seizures are any other seizures that don't involve an element of rhythmic jerking (clonic movements). They include the partial (focal) seizures mentioned earlier and some other generalised seizures where the whole of the brain is affected and there is complete loss of consciousness (however brief).

What to do

- Remove any sources of danger.
- Help the patient sit down in a quiet place and reassure them.
- If consciousness is impaired stay with the person and protect from dangers, offering reassurance until they are fully alert.
- If the patient is unaware of their condition advise them to see a doctor.

Water Safety

Water incidents can vary depending on the location and the body of water. These may be:

- Still Water - such as reservoirs, ponds, lochs and canals.
- Flowing water - such as rivers and sea.

Regardless of the location you must at all times consider your own personal safety as the most important priority. Do not put yourself in danger. You are unlikely to provide much assistance to a casualty or casualties if you become one too.

Actions

There is no requirement for officers to enter the water to affect the rescue of persons who have found themselves in difficulty, despite the expectations of some members of the public. The decision to enter water is an individual choice and should be a last resort. In the first instance you should:

- Contact ACR and provide them with details of:
- Personnel in attendance
- Location
- Details of incident (numbers of persons etc)
- Any actions taken or to be taken by officers and other agencies

Further action will be dependant on the circumstances, equipment available and skills of the officer concerned. You should consider:

- Shouting
- Signalling
- Reaching
- Throwing a life line

Throwing Lines

The Balcan Emergency Life Line, or BELL for short, is specifically designed to allow a person of any age to throw it with great accuracy up to its full length of 40 metres, without preparation.

Its principle is simple – the faster and easier the person in the water can be connected to a rescuer in a place of safety, the greater the chance of a successful rescue being achieved.

Use

1. Remove the blue cap.
2. Hold the grip.
3. Pull out a few feet of line.
4. Throw the capsule towards and past the victim who either grabs the capsule or the line whilst being hauled to safety.

REMEMBER – REACH OR THROW – DON'T GO!



Further Information

- The Stroke Association - www.stroke.org.uk
- Epilepsy Scotland - www.epilepsyscotland.org.uk
- British Heart Foundation - www.bhf.org.uk
- HSE - www.hse.gov.uk/firstaid
- European Resuscitation Council - www.erc.edu

Part

A

Your Notes

Appendix A

Seizures

Partial (Focal) Seizures

Simple Partial (Focal) seizure – there is no loss of awareness and the person will remember the event afterwards. Only a very small part of the brain (focus) is having an "electrical storm" (seizure) therefore the vast majority of the brain is unaffected. The symptoms will vary depending on which part of the brain is affected. This can range from jerking or twitching of a particular part of the body, numbness, tingling or some sort of sensory hallucination such as seeing coloured shapes or experiencing a strange taste or smell. It can also affect the emotions such as feeling frightened or elated.

Complex Partial (Focal) seizure – affects a larger area of the brain and the person may experience strange or unusual feelings. It is accompanied by impaired awareness. The patient may appear awake but lose contact with their environment and does not respond normally to instructions or questions. Patients usually stare or remain motionless or engage in repetitive semi-purposeful behaviour called automatisms, including facial grimacing, gesturing, lip-smacking, chewing, fiddling with objects or clothing, repeating words or phrases, grunting, walking, running or even undressing. The patient will not remember behaving in this manner. If restrained they become hostile or aggressive. These seizures typically last less than 3 minutes.

Partial seizures can spread to become generalised and will usually take the form of a tonic clonic seizure.

Generalised Seizures

These are seizures where the whole of the brain is affected by an electrical storm (seizure). There is total loss of awareness during the seizure, however the duration may be very brief to several minutes long and can take many forms.

Generalised seizures can be convulsive or non-convulsive.

Convulsive Seizures

Also known as "tonic-clonic" or "grand mal" seizures, convulsive seizures are the most widely recognised as epilepsy. The person will fall stiffly to the ground (tonic phase) if standing, then start rhythmic jerking (clonic phase).

Possible Signs and Symptoms

A tonic-clonic seizure usually goes through the following phases:

Aura – If a patient has had seizures before they may recognise when they are about to have another one. They may call this their seizure "warning" or "aura." What they are experiencing is a simple partial seizure that spreads to become a tonic-clonic seizure. What they experience depends on where the seizure starts in the brain. The aura experienced can range from being very brief to quite prolonged. It may give the patient a chance to seek help or lie down before they fall.

Not everyone having tonic-clonic seizures will experience an aura as not all tonic-clonic seizures start from a focus.

Tonic phase – Every muscle in the body suddenly becomes rigid. The patient may let out a cry and fall stiffly to the floor. The muscles that control breathing are also affected and so the patient holds their breath. This may result in the lips going blue. This phase usually lasts less than 10 seconds. The patient is now unconscious and will not remember the event.

Clonic phase – The limbs of the body will start to make rhythmic jerking (convulsive) movements that tend to increase in intensity. The patient is still unconscious. The eyes may roll, the teeth may be repeatedly clenched in rhythm to the jerking. Some people may drool profusely from the mouth (sometimes blood-stained as a result of biting the tongue). Breathing returns but is abnormal and noisy and not very effective resulting in further deterioration in their pallor. The patient may lose control of their bladder and/or bowel.

This jerking can last for just a few seconds, although in most cases usually stop by themselves within a couple of minutes.

Recovery phase – The seizure has stopped when the jerking stops and the body relaxes. Breathing returns but can be sound like loud snoring. As a consequence of the breathing being more effective, the patient's colour usually improves. The patient may sleep for a short time before appearing to be aware again. Their level of response is likely still to be altered and it may take up to an hour before the patient is fully recovered. During this period of confusion after the seizure, the patient may be agitated and disorientated and they will have no memory of the event. They will be unaware of their actions and could display some unusual behaviour such as taking off their clothing, exposing themselves, urinating in public or becoming aggressive if attempts are made to restrain them. During this phase they need to be protected from the environment as they will be unaware of any of the hazards around them e.g. traffic.

The patient may feel groggy, sleepy and confused for some time afterwards and have a headache or aching limbs. How long it takes to recover varies from one person to the next and also depends on the intensity of the seizure.

Non-Convulsive Seizures- brief episodes usually lasting 4 or 5 seconds when a person loses contact with their surroundings, but can last up to 30 seconds. The person may appear to be daydreaming but is totally unresponsive during the episodes. Eye-blinking and lip-smacking may also be present. They can be very frequent and can be subtle to detect. They tend to be more common in children.

Tonic seizure – are brief episodes where all the muscles of the body go stiff (as in tonic clonic seizures). If standing, the person tends to fall backwards stiffly like a tree being felled. The seizure usually lasts less than 10 seconds with injuries to the back of the head being common.

Atonic seizure – produces a sudden loss of muscle tone causing the person to fall to the ground "like the strings of a puppet being cut." The seizures are very brief with facial injuries being common.

Myoclonic seizure – are brief single contractions of a muscle or group of muscles causing a jerk, either singly or in clusters. In some cases it may make the patient fall to the ground.

