POLICE SCOTLAND
POILEAS ALBA

PROBATIONER TRAINING PROGRAMME

Unit 1
Lesson 1
Conduct a Primary Survey

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 essential that you have the knowledge and skills to deal with situations which may require emergency life support techniques whilst waiting for the arrival of qualified medical staff.

On successful completion of this course you will be able to perform emergency life support techniques.

Note:- The training does not qualify you to the First Aid at Work or Emergency First Aid at Work standard under the Health and Safety First Aid regulations 1981.

Lesson Aim:

The learner will be able to conduct a primary survey

Learning Outcomes:

The learner can:-

1. Demonstrate the systematic assessment of a scene and casualty using the DRSAB mnemonic (pg. 3-8)
2. Explain the principle methods for the control of an external bleed with reference to the PEEP mnemonic (pg. 4-5)
3. Examine levels of consciousness when checking for a response from a casualty (as per AVPU scale) (pg. 6)

Health and Safety

HS

Officers/Staff should be aware of the potential dangers from contamination and always wear protective gloves. Face shields should be used if delivering rescue breaths to a casualty. Officers/Staff should report and record any puncture wounds or contamination to skin, mouth or eyes. The dangers of exposure to blood borne viruses such as HIV, Hepatitis B and Hepatitis C are considerable therefore officers must exercise extreme caution when dealing with casualties. Exposed cuts or abrasions should always be covered.

If you sustain a needle stick injury when treating or searching an individual, encourage the area to bleed and wash under running water if possible. Attend the nearest Emergency Department as soon as is practicable for a risk assessment to be made by medical staff; information they require is your hepatitis B vaccination status and (if available) the blood borne virus status of the source person. Antiviral drugs are remarkably effective in blocking the transmission of HIV (When given within 1-2 hours of injury and they are effective up to 72 hours post exposure).

For blood and blood-contaminated body fluid exposure to the eyes, mouth or open wounds, wash the area and attend the Emergency Department for risk assessment and initial management of exposure to blood borne viruses if required. All human bites that break the skin need evaluation for blood borne virus transmission and consideration of antibiotics. Saliva alone does not carry the risk of HIV transmission but can carry hepatitis B - vaccination will protect against infection; the risk of hepatitis C from saliva is thought to be extremely low.

Priorities of Treatment

To ensure that the casualty receives the most appropriate treatment as early as possible, officers should assess and treat conditions in order of severity:-

1. Catastrophic Bleeding
2. Airway
3. Breathing

Multiple Casualties

Should an officer attend at an incident at which the numbers involved overwhelms resources then a basic triage system should be adopted. If possible, all casualties should be assessed prior to beginning delivery of first aid in line with the priorities of treatment described above.

The Primary Survey

Humans require a constant supply of oxygen to survive. Brain cells can die within 3-4 minutes following oxygen starvation. The priority of treatment is therefore aimed at ensuring oxygen gets into the blood and circulates through the body, thereby sustaining life.

A primary survey should be conducted on all casualties who appear to be, or who are unconscious.

Before committing to an incident, an initial check for Danger must be conducted.

Following preclusion of, or stopping/controlling catastrophic bleeding, the useful mnemonic; **DRSAB** assists with the remembering the primary survey sequence.

Danger <Catastrophic Bleeding>

Response

Summon Help

Airway

Breathing

Catastrophic Bleeding

Catastrophic bleeding should be dealt with immediately, coming before the management of the airway and checking for breathing.

A wound can be defined as an abnormal break in the continuity of the tissues of the body. Any wound will result in bleeding, either internally or externally. If blood loss is severe, this could result in circulatory shock, so urgent treatment would be necessary.

The wearing of disposable gloves provides an element of protection from contamination.

Treatment

- Immediate direct pressure should be placed on the wound site utilising a bandage where possible, or even any clean material if necessary
- Call an ambulance
- Keep the casualty warm with a jacket, blanket or similar. It is important to stop hypothermia occurring as a 1ºC drop in body temperature reduces blood clotting capabilities. If the ground is cold, then items could be placed under them to insulate them from the ground

PEEP

A useful mnemonic for the treatment of bleeding is **PEEP**:-

- **P**osition - sit or lay the casualty down. Place them in a position that is appropriate to the location of the wound and the extent of their bleeding.
- **E**xamine - examine the wound. Look for foreign objects and note how the wound is bleeding. Remember what it looks like, so you can describe it to medical staff when it's covered with a bandage.
- **E**levate - The use of elevation for cases of significant bleeding from a limb can assist with slowing bleeding. Elevation uses the force of gravity to help reduce the blood pressure in the injured area and thus aids in slowing down the loss of blood through the wound opening. However, direct pressure must continue to be used.

- **P**ressure - The best way to stem bleeding is by applying direct pressure over the wound. Immediate pressure can be applied with the hands, however you should take precautions to prevent yourself from coming into contact with the casualty's blood, preferably by wearing disposable gloves. The pressure should be continuous for 10 minutes. A firm bandage or pressure bandage is usually sufficient to stop bleeding from most wounds.

- **DO NOT** allow the casualty to eat, drink or smoke
- Embedded objects should not be removed. Pressure should be applied to the sides of the wound
- Monitor the casualty's signs, symptoms and levels of responsiveness (**A.V.P.U**)
- If the casualty becomes unconscious and stops breathing normally, begin **CPR** (**Lesson 2**)

After the preclusion of catastrophic bleeding and the maintenance of Airway and Breathing, non-catastrophic bleeding is the next priority in Basic Life Support.

Danger

Ensure that you, the casualty and bystanders are safe.

Examples of potential dangers at an incident may include; needles, people, sharp objects, vehicles, fire, water, unsafe structures, animals, gases or fumes and electricity.

Vital to the correct management of an injured person, an officer must give consideration or identify catastrophic bleeding as promptly as possible.

Response

The recognised method used to determine a casualty's consciousness level is to use the Alert, Voice, Pain, Unresponsive or **A.V.P.U** scale.

Use of the **A.V.P.U** scale will allow officers to quickly check to see if the casualty is conscious and determine the casualty's level of responsiveness.

If the casualty responds, leave them in the position found (provided they are not in any danger), find out what may be wrong and get help if needed.

It is important to regularly reassess a casualty as they may transition between varying levels of consciousness.

A.V.P.U

- **A** Is the casualty fully **ALERT**? Are they orientated and responsive?
- **V** Does the casualty respond to your **VOICE**? (e.g. do they utter sounds, open eyes, follow simple instructions?) Gently tap the casualty's shoulders and ask loudly "Are you alright?" It may be beneficial to identify yourself and state that you are there to help.
- **P** Does the casualty respond to **PAIN**? Do they respond when you squeeze/pinch the soft tissue at the shoulder? (e.g. a groan, flinch or gesture). Performing pain stimulus should be used with caution as this could be construed as a use of force.

  Note:- There are other variations of pain response methods that are inappropriate, such as 'sternum rub' or eye ball 'flick'.

- **U** If they have not responded to any of the previous steps, they are considered **UNRESPONSIVE** (no eye, voice or motor response to pain).

Summon Help

If there is no response, summon help immediately, but do not leave the casualty.

Note:- Provide as much information as you know regarding the casualty i.e. gender, age, etc.

Airway

It is essential that the casualty has an open airway so that oxygen can continue to pass into the lungs.

If the casualty is unconscious then the mouth should be checked for obstructions and removed safely if possible. Great care is required not to push an obstruction into the throat. No attempts should be made to remove an item from the mouth of a conscious casualty.

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:-

1. Place your hand on their forehead and gently tilt their head back.
2. With your fingertip(s) under the point of the casualty's chin, lift the chin to open the airway.

This is known as the 'head tilt/chin lift' technique for opening an airway.

Breathing

Keeping the airway open, check to see if the casualty is breathing normally. Look, listen and feel for no more than 10 seconds:-

1. Look for chest movement
2. Listen at the mouth for breathing sounds
3. Feel for air on your cheek

Note:- in the first few minutes after cardiac arrest, a casualty may be barely breathing or taking infrequent, noisy gasps which must not be confused with normal breathing. If you are not sure if the casualty is breathing normally, CPR should be commenced.

If the casualty is not breathing normally, ask someone to call for an ambulance and bring a defibrillator (AED) if available. If you are on your own, use your airwave terminal or phone to make the call. Only leave the casualty if there is no other way of obtaining help.

Immediately following cardiac arrest, blood flow to the brain is reduced to virtually zero, which may cause seizure-like episodes that may be confused with epilepsy. You should be suspicious of cardiac arrest in any patient presenting with seizures and carefully assess whether the casualty is breathing normally.

If the casualty is breathing normally, and when life threatening problems have been ruled out or treated, the primary survey is complete. (Lesson 2 will cover CPR and AED)

Review:

- You can demonstrate the systematic assessment of a scene and casualty using DRSAB mnemonic ☐
- You can explain the principle methods for the control of an external bleed with reference to the PEEP mnemonic ☐
- You can examine levels of consciousness when checking for a response from a casualty (as per AVPU scale) ☐

Learning Log:

How will what you have learned in this module impact your day-to-day role?

Are there any skills or knowledge you would like to develop further following this module?

End of Module

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Unit 1
Lesson 2
Cardiopulmonary Resuscitation and Automated External Defibrillator

Lesson Aim:

The learner will be able to deliver cardiopulmonary resuscitation and demonstrate the use of an Automated External Defibrillator (AED)

Learning Outcomes:

The learner can:-

1. Identify when to administer cardiopulmonary resuscitation (pg. 1)
2. Deliver effective chest compressions (pg. 2)
3. Deliver effective rescue breaths (pg. 2-3)
4. Summarise both the preparation and use of an AED (pg. 4-5)

Cardiopulmonary Resuscitation (CPR)

CPR should be used when a person stops breathing and their heart has stopped beating. CPR keeps oxygenated blood flowing to the brain and heart until a defibrillator or emergency team arrives to get the heart beating normally. When started immediately following cardiac arrest, CPR can double or triple the victim's chance of survival.

Chest Compressions

The importance of good chest compressions for maintaining circulation in a casualty cannot be over-emphasised.

It should be noted that effective chest compressions are likely to result in the occurrence of rib fracture(s). This should not distract the officer from carrying on chest compressions to the standard required.

Performing Chest Compressions

To perform Chest Compressions:-

1. Kneel by the side of the casualty
2. Place the heel of one hand on the centre of the casualty's chest
3. Place the other hand on top, or interlock the fingers
4. Position yourself vertically above the casualty's chest, keeping the arms locked out, press down on the casualty's sternum (breastbone) forcefully enough to depress the chest 5-6cm, or to 1/3 of its depth
5. After each compression, release all the pressure on the chest without losing contact between your hands and the casualty's chest
6. Continue compressions at a rate of 100-120 times a minute
7. Compression and release should take an equal amount of time

CPR with Rescue Breaths

1. After 30 chest compressions, open the airway using the head tilt/chin lift technique
2. Pinch the soft part of the casualty's nose tightly closed
3. Allow the casualty's mouth to open, by maintaining 'chin lift'
4. Take a normal breath and place your lips around the casualty's mouth, ensuring a good seal
5. Blow steadily into the casualty's mouth, watching for their chest to rise. An effective rescue breath should take about 1 second to deliver
6. Maintaining an open airway, move your face away from the casualty and watch their chest fall as air comes out

7. Take another normal breath and deliver a second rescue breath
8. Return your hands to the casualty's chest without delay. Deliver 30 more chest compressions
9. Continue with chest compressions and rescue breaths at a ratio of 30:2
10. Do not interrupt resuscitation unless you believe the casualty has started breathing normally

Ineffective Rescue Breaths

If the rescue breaths are not making the casualty's chest rise, then:-

- Check the casualty's mouth and remove any obstruction
- Ensure that the airway has been opened sufficiently
- Ensure that you have created a good seal around the casualty's mouth

More Than One Rescuer

To minimise fatigue, the person delivering CPR should be switched every 2 minutes. Alternatively, one person can take responsibility for chest compressions, whilst the other performs the rescue breaths. In either case, there should be no delay in CPR between changeovers.

Chest Compression Only Resuscitation

If you are not able, or are unwilling to perform rescue breaths, then resuscitation should be continued with chest compressions only. If so, compressions should continue at a rate of 100-120 a minute. Do not interrupt resuscitation unless you believe the casualty has started breathing normally.

Continuing Resuscitation

Resuscitation attempts should continue, without pauses or breaks until either:-

1. Qualified help arrives and take over
2. The casualty starts breathing normally
3. You become too exhausted to continue

Resuscitation for Children and Infants

When faced with a child or infant who is unresponsive and not breathing, the following minor adjustments to the adult sequence will make it more suitable for use on children:-

- Deliver 5 initial rescue breaths before starting chest compressions. Thereafter, continue at a ratio of 30 compressions to 2 rescue breaths
- Compressions should be delivered to 1/3 of the depth of the casualty's chest
- For a child over the age of 1 - Either one or two hands can be used to deliver chest compressions to the appropriate depth (1/3)
- For an infant under the age of 1 - compressions should be delivered using 2 fingers, placed on the nipple line

Automated External Defibrillator (AED)

In many cardiac arrests, the heart goes into a chaotic rhythm called 'ventricular fibrillation'. The best chance of restarting the heart is by using a defibrillator; indeed survival rates of up to 75% are noted. However, the chances of survival drop by up to 10% for every 1 minute delay in delivering a defibrillating shock. AEDs are very safe, reliable, computerised devices that analyse heart rhythms and enable non-medically trained rescuers to deliver a lifesaving shock.

The use of an AED is not recommended in children less than 1 year old but is quite appropriate in older children and teenagers.

Standard adult defibrillator pads are suitable for use in children older than 8 years old. In younger children (between 1 and 8 years), special Paediatric defibrillator pads should ideally be used, however in the absence of Paediatric pads, adult pads should be used. If the pads risk touching each other, such as with a small child or an infant, place one pad in the middle of the child's/infant's chest and the other pad on the child's/infant's back, between the shoulder blades.

Preparation of the AED

- CPR should be started as soon as possible and should not be interrupted until the AED is ready for immediate use
- Switch on the AED and follow the voice prompts
- Attach the leads to the AED if necessary and attach the pads to the casualty's bare chest. You may need to dry or shave the chest to ensure that the pads adhere properly
- Peel the backing from one pad at a time and place firmly in position in accordance with the visual image on the pads
- Place one pad below the casualty's right collarbone
- Place the other pad on the casualty's left side, over the lower ribs
- Whilst the AED analyses the heart rhythm - stop CPR and ensure that no one touches the casualty

If a shock is advised:-

- Ensure that nobody is in contact with the casualty
- Push the shock button as directed by the visual and verbal prompts (fully automated AEDs will deliver the shock automatically)
- Continue as directed by the visual and verbal prompts
- Minimise, as far as possible, interruptions in chest compressions

If a shock is not advised:-

- Immediately resume CPR
- Continue as directed by the visual and verbal prompts

Review:

- You can identify when to administer cardiopulmonary resuscitation ☐
- You can deliver effective chest compressions ☐
- You can deliver effective rescue breaths ☐
- You can summarise both the preparation and use of an AED ☐

Learning Log:

How will what you have learned in this module impact your day-to-day role?

Are there any skills or knowledge you would like to develop further following this module?

End of Module

Unit 1
Lesson 3
The Recovery Position

Lesson Aim:

The learner will be able to place a casualty in the recovery position

Learning Outcomes:

The learner can:-

1. Approach a casualty, assess circumstances and place the casualty in the recovery position (pg. 2-3)

Introduction

When a person is unconscious but is breathing and has no other life-threatening conditions, they should be placed in the recovery position.

If left lying on their back unconscious, the airway can become compromised by the tongue touching the back of the throat or through vomit in the mouth.

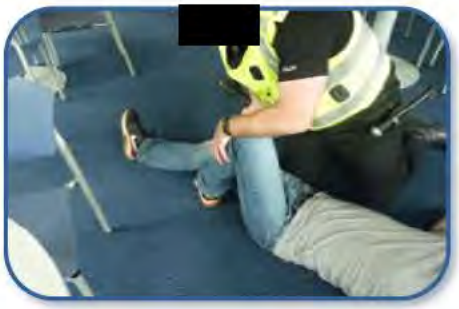
Placing a casualty in the recovery position protects the airway from both of these dangers, as the tongue will not fall to the back of the throat and vomit will drain out of the mouth and away from the airway.

The Recovery Position

To place a casualty in the Recovery Position:-

1. Remove the casualty's glasses (if worn) and straighten both legs
2. Move the nearest arm outwards, elbow bent with palm uppermost

3. Grasp the far leg and pull it up, keeping their foot on the ground



4. Bring the far arm across the chest and place the back of their hand against their cheek. Keep your hand pressed against theirs to maintain control of the head