REMOTE OUTDOOR FIRST AID

COURSE NOTES

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Introduction

What is a First Aider?

A First Aider is someone who has received training to treat a person who has been injured or suddenly taken ill (including medical conditions) before someone more experienced takes over.



The Aims of First Aid Training

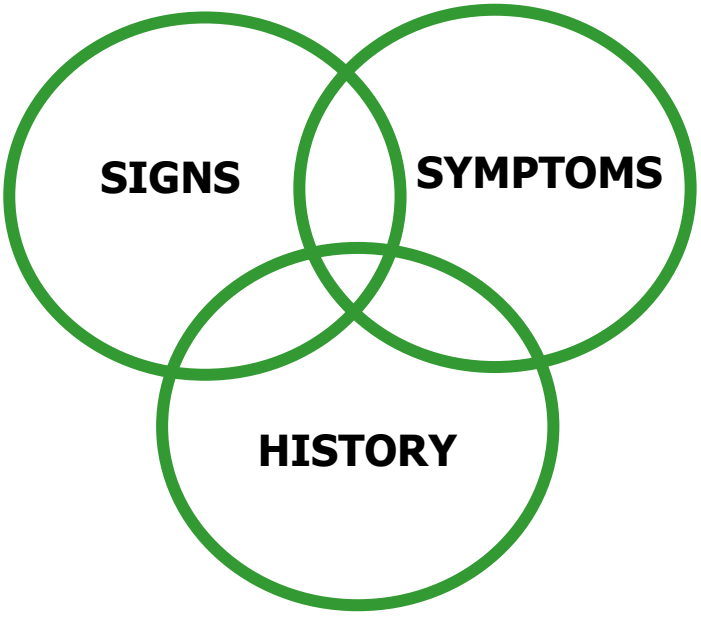
The Three Ps

P **Preserve Life.**

P **Prevent Worsening.**

P **Promote Recovery.**

To make decisions we rely on signs, symptoms, and history…



SIGNS What you can see, smell, feel, or hear.

SYMPTOMS What they can tell you about how they feel.

HISTORY The situation that occurred.

Symptoms can be difficult to recognise in children as they may not know about what they are trying to communicate to you.

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FIRST AID EQUIPMENT

BS-8599-1 is the British Standard for First Aid kits in the workplace. There are varying sizes available depending on the size of your setting.

<u>You may find the following in your First Aid Kits…</u>



You can add items to your kit, such as **ice packs** and **face masks**, however you should **not** add any medicines, creams, lotions, sprays, antiseptic wipes or tablets.

Surrey First Aid Resources:

The Birth of the First Aid Kit

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INCIDENT REPORTING

You may need to call the emergency services if a casualty's condition is serious. When on the phone to them, make sure you tell them how many casualties you have, what is wrong with the casualties and your exact location. When the emergency services arrive tell them what happened, when it happened and what treatment has been administered.

Accident records should be completed so that your setting has an accurate log of all accidents that take place.

RIDDOR stands for the **R**eporting of **I**njuries, **D**iseases and **D**angerous **O**ccurrences **R**egulations.

RIDDOR requires for work related accidents, diseases and dangerous occurrences to be written up or reported on when they occur. This is a legal requirement.

<u>A record form should be completed as soon as possible after the incident and should include as a minimum:</u>

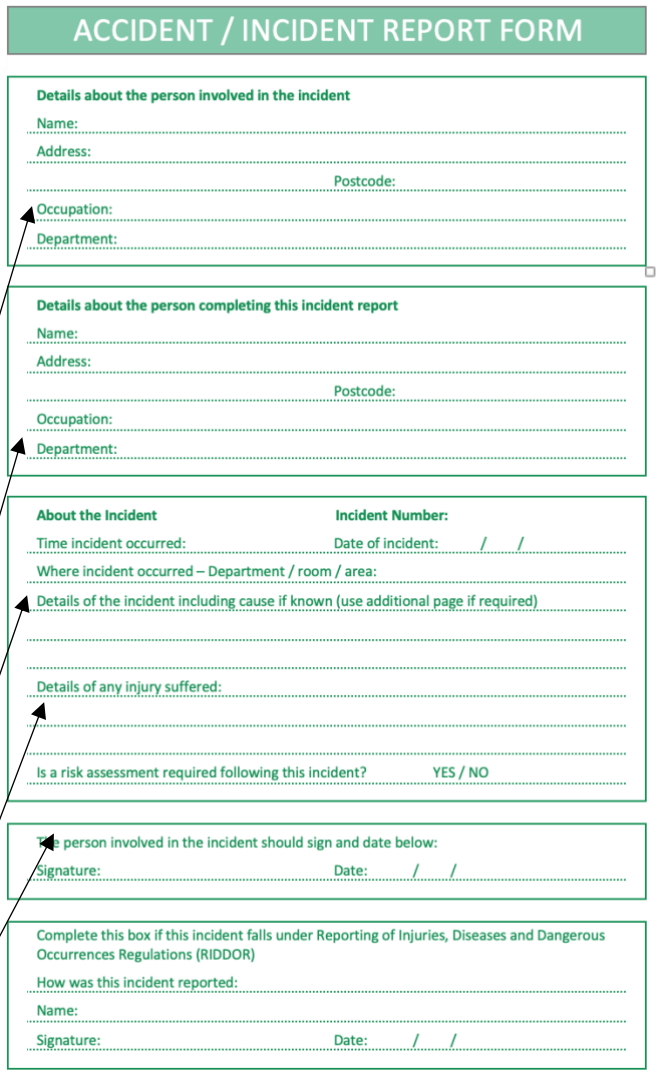
The **name**, **age**, and **address** of the **casualty**.

The **name**, **address** and **occupation** of the **first aider**/person completing the form.

When and **where** the incident happened including the **date** and **time**.

How the incident happened, with as much detail from **witness statements** as possible.

What **treatment** was given.



ACCIDENT / INCIDENT REPORT FORM

Details about the person involved in the incident

Name:

Address:

Postcode:

Occupation:

Department:

Details about the person completing this incident report

Name:

Address:

Postcode:

Occupation:

Department:

About the Incident — Incident Number:

Time incident occurred: Date of incident: / /

Where incident occurred – Department / room / area:

Details of the incident including cause if known (use additional page if required)

Details of any injury suffered:

Is a risk assessment required following this incident? YES / NO

The person involved in the incident should sign and date below:

Signature: Date: / /

Complete this box if this incident falls under Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)

How was this incident reported:

Name:

Signature: Date: / /

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Emergency Action Plan

INCIDENT MANAGEMENT

Priority of Treatment – Triage

Triage is the selection of the order and treatment of casualties in a multi-casualty situation…

PRIORITY 1

UNCONSCIOUS
SEVERE RESPIRATORY DISTRESS
SHOWING SIGNS OF SHOCK

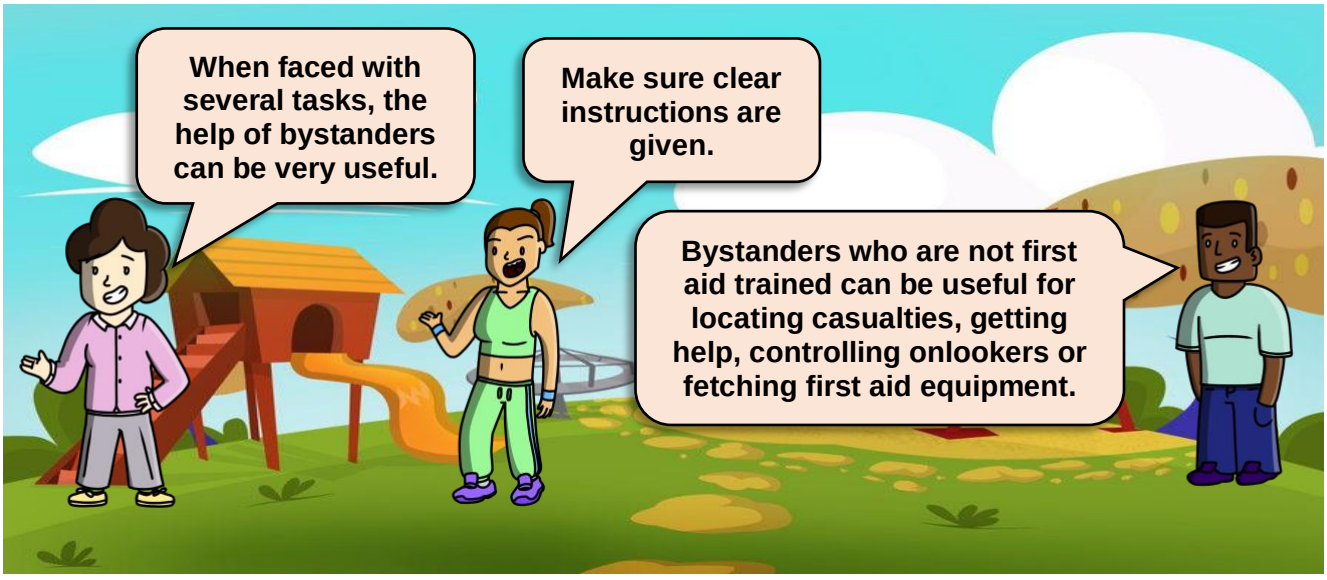
PRIORITY 2

UNABLE TO WALK
NO SIGNS OF SHOCK

PRIORITY 3

ABLE TO WALK
WOUNDED

Enlisting Help From Others



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PRIMARY SURVEY (DRAB)

D **Danger:** Check around you for any dangers to yourself and the casualty.

R **Response:** What stimuli does the casualty respond to? If no response, shout for help – do **not** leave the casualty.

A **Airway:** Make sure that the airway is open using chin lift and head tilt.

B **Breathing:** Is the casualty breathing? **Look**, **listen** and **feel** for up to **10 seconds**. If the casualty is **NOT** breathing normally, **CALL 999 (UK)/112 (EU) NOW**. (If casualty is a child or baby and you are on your own, resuscitate for 1 minute first)

Danger

Your priorities should be yourself, then other people and finally the casualty – appropriate help cannot be given if the first aider has been seriously injured.

It is strongly advisable that you wear



PROTECTIVE GLOVES



FACE SHIELD/ MASK

before commencing CPR to protect against communicable diseases.

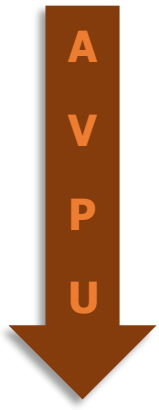
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Response

Now that you have confirmed that there are no dangers, and the casualty is safe to approach, you can measure the casualty's level of consciousness.

1. **Stabilise the head of the casualty.**
2. **Talk into both ears.**
3. **Introduce yourself, tell them you are there to help.**
4. **Ask them to open their eyes.**
5. **If unresponsive, tap their shoulders.**

<u>This simple technique will help you to determine the casualty's level of consciousness</u>



ALERT and Orientated

Responding to your VOICE

Responding to PAIN

UNRESPONSIVE

If they are **ALERT** and **ORIENTATED**, respond to **VOICE** or **PAIN** then continue to treat the casualty for life-threatening injuries by conducting the **Secondary Assessment**. If they do not respond to **PAIN** they are **UNRESPONSIVE** and airway management is your priority.

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Airway

The airway runs through a series of “pipes” from our nose and mouth to the lungs. If any part of the airway becomes obstructed this could cause serious harm to the casualty.

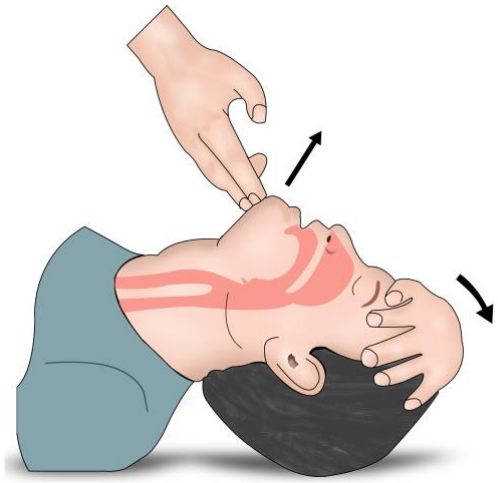
The most common obstruction is the **tongue**. During unconsciousness the muscles in the body become relaxed including the tongue, which will fall across the airway and block it.

Other obstructions may include **foreign bodies**, **vomit** and **swelling** of the airway caused by an allergic reaction. A common sign for a partially blocked airway is a **snoring sound**.

To check and clear an airway obstruction, you must perform the

HEAD TILT, CHIN LIFT METHOD

1. **Stabilise the head.**
2. **Lift the chin.**



This technique involves pulling the tongue forward thus opening the airway.

If the airway is blocked by vomit, the casualty should be pulled over to allow gravity to do most of the work.

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Breathing

Whilst maintaining a chin lift the casualty's breathing can be checked. Look, listen and feel for breathing for up to 10 seconds. In that time a normal breathing rate should be heard.

ASK YOURSELF…

1. **Do both sides of the chest rise and fall symmetrically?**
2. **Is there any noise or pain, and is the casualty taking enough breaths?**



ADULT
12-20



CHILD
20-30



INFANT
30-40

In the first few minutes after a cardiac arrest, a casualty may be barely breathing or taking infrequent, slow and noisy gasps.

Do not confuse this with normal breathing.

IF YOU ARE IN ANY DOUBT PREPARE TO COMMENCE CPR

If the casualty is breathing sufficiently then they can be placed in the recovery position and you can complete the head to toe survey.

If the casualty is **NOT** breathing normally you must send for help.

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Call for Mountain Rescue

1. **Dial 999 and put the phone on SPEAKERPHONE.**
2. **Ask the operator for the POLICE.**
3. **Give necessary DETAILS (LIONEL) and ask for MOUNTAIN RESCUE.**



The Information to Give:

L **Location:** Where are you?

I **Incident:** Who is involved?

O **Other Services:** Do you need police or fire service?

N **Number:** Number of casualties?

E **Extent:** Extent of the injuries?

L **Location:** Repeat, where are you?

Other methods of attracting attention could be used such as the distress signal using a whistle or torch.

Give six long blasts or flashes over a one minute period, until help arrives.

If someone else is available send them to get an AED.

If you are on your own do not leave the casualty and commence CPR.

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Cardio Pulmonary Resuscitation (CPR)

Following your PRIMARY ASSESSMENT, this is the procedure for CPR.

POSITION HAND FOR CHEST COMPRESSION

1. **Find the <u>MIDDLE OF THE CHEST</u> under the armpit and across the centre of the breastbone.**
2. **Apply the heel of the other hand on the breastbone. This is the point at which you will <u>APPLY PRESSURE WITH JUST ONE HEEL</u>.**
3. **<u>LIFT YOUR FINGERS</u> to ensure that you do not apply pressure to casualty's ribs.**
4. **For infants, use <u>TWO FINGERS</u> for compressions to avoid applying too much pressure.**



CALL 999 AFTER THE FIRST 30 CHEST COMPRESSIONS

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1 CHEST



2 BREATHS



x30 CHEST COMPRESSIONS

- PLACE HAND CENTRALLY ON THE CHEST.
- INTERLOCK FINGERS.
- PRESS DOWN 1/3 CHEST DEPTH AT A RATE OF 100-120 PER MINUTE.

x2 RESCUE BREATHS

- USE HEAD TILT AND CHIN LIFT.
- PINCH NOSE.
- GIVE EACH BREATH OVER A SINGLE SECOND.
- THE CHEST SHOULD RISE AND FALL.

REPEAT UNTIL

- SIGNS OF LIFE ARE SHOWN
- EXPERT HELP ARRIVES
- YOU BECOME EXHAUSTED

© Surrey First Aid Training 2021

- **THE RATIO FOR CPR IN CHILDREN IS 5:30:2**
- **DO NOT REPEAT THE INITIAL 5 RESCUE BREATHS IN SUBSEQUENT CYCLES.**

Resuscitation Council UK

Click HERE to find out how to safely perform CPR during the COVID-19 Pandemic.

Surrey First Aid Resources:

The Importance of Learning CPR
Changes to Resuscitation Guidelines

© Surrey First Aid Training 2021

Automated External Defibrillator (AED)

The AED is designed to stop **ventricular fibrillation**, which is when then heart goes into a spasm and no longer pumps blood, allowing the natural pacemaker to reset the rhythm of the heart.

1 **TURN AED ON AND TAKE OUT**



2 **REMOVE TOP LAYER CLOTHING**



3 **PUT PADS ON CHEST**



4 **FOLLOW PROMPT ON AED**



When using the AED it will give you both visual and audio prompts.

It is crucial that before delivering a shock that everyone, including you, is clear of the casualty.

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Do NOT use an AED on an infant unless specifically instructed by a health professional!



Click HERE for a short film about Public Access Defibrillators.

Click HERE to find out where your nearest AED is.

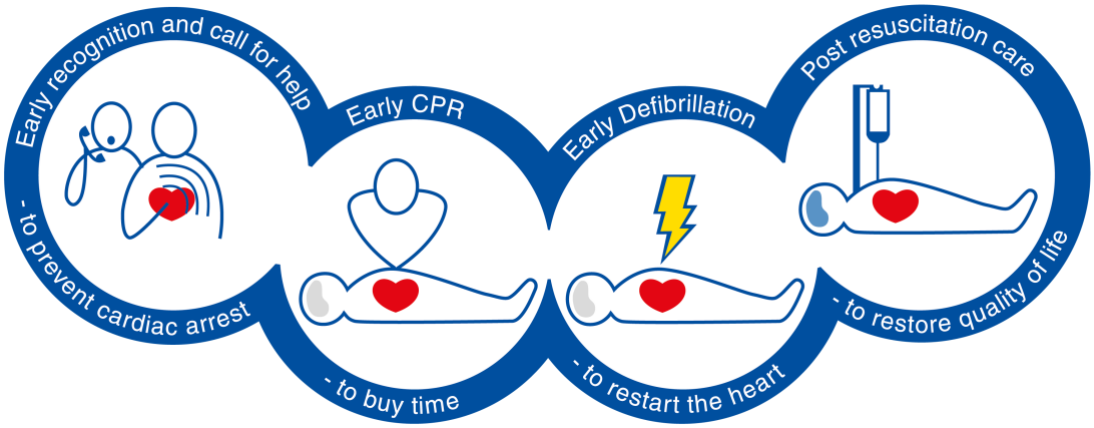
Surrey First Aid Resources:

AED Awareness Training
Defibrillators in Schools
AED Guide for Schools
Public Access Defib App

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CHAIN OF SURVIVAL

This concept is directed at witnessed **heart attacks** (myocardial infarction), which can lead to **cardiac arrest** (the heart stopping).



The survival rate if no help given is 0%.

Defibrillation within **3-5 min** of collapse can produce survival rates as high as **50-70%.**

Each minute of delay to defibrillation reduces the probability of survival to hospital discharge by **10%**.

In the UK, **fewer than 2%** of victims have an AED deployed before the ambulance arrives.

Click HERE for a short video on the difference first aid makes to the chain of survival.

Images and information courtesy of Resuscitation Council (UK).

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Unconsciousness

SECONDARY SURVEY

SAMPLE

The **SAMPLE** survey is used to get as much history and information about the casualty, and is required so the correct treatment can be given. If the casualty is a child, this information must be obtained by a parent or carer.

S **Signs & Symptoms:** What can the casualty tell you, what is it you can see that is wrong?

A **Allergies:** Any known allergies? Remember: latex, plasters, and even paracetamol can trigger an allergic reaction.

M **Medication:** Is the casualty taking any medication?

P **Past Medical History:** Has this happened before? Or does the casualty have another condition? Look for 'med alerts' around neck or wrist.

L **Last Oral Intake (Eating):** When did the casualty last eat or drink and what have they consumed? This is important when treating diabetics or if the casualty requires an anaesthetic upon arrival to hospital.

E **Events:** Before the accident did the casualty feel dizzy, faint, or have chest pains? How did the accident occur?

Vital Signs

Vital signs help the first aider identify problems and changes in the casualty's condition.

These should be monitored and recorded every 3-5 minutes. This information can then go with the casualty when a transfer of care is made.

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1 Level of Consciousness

We can use the **AVPU** scale to note the casualty's level of consciousness.

2 Breathing

Breathing in a healthy human should be regular, rhythmic, painless, quiet and effortless.

To assess breathing, the first aider should **LOOK** at the chest rise and fall, **LISTEN** to the sounds of breathing, and **FEEL** by placing a hand on the casualty's abdomen.

Adults should take **12-20 breaths per minute**, children in the range of **20-30 breaths per minute**, and infants **30-40 breaths per minute**.

3 Pulse

In adults the normal resting pulse rate is **60-80 beats per minute**. In children it is faster - usually **80-140 beats per minute** and an infant **110-160 beats per minute**.

Pulses can be felt at the neck (**CAROTID**) and wrist (**RADIAL**). The **CAROTID** pulse should be used when assessing an **unconscious** child's pulse.

CAROTID



Place the pads of the first two fingers in the hollow of the neck between the windpipe and the large neck muscle.

RADIAL



Place the pads of the first two fingers just below the base of the thumb. The pulse should be strong, rhythmic, and have a regular rate.

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4 Pupils

These should be equal and reactive to light (**PEARL**). Unequal pupils may indicate a head injury.

P **Pupils are**

E **Equal**

A **And**

R **Reactive to**

L **Light**

5 Temperature

This is not always an accurate vital sign as thermometers are sometimes unreliable, especially in an outdoor environment. Normal body temperature should be 37°C.



Remember the casualty's level of consciousness may be reduced, so pain or tenderness may only present itself by facial expressions.

Keep an eye on the face to determine the site of an injury.

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RECOVERY POSITION

The recovery position is also referred to as the **safe airway position**. The aim of the recovery position is to prevent the airway becoming compromised by the tongue and to allow free drainage of vomit.

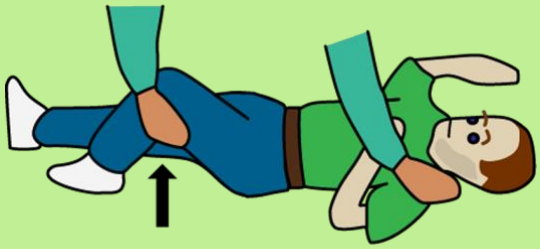
1 POSITION ARM & STRAIGHTEN LEGS

- **Kneel beside the casualty.**
- **Remove glasses and bulky objects from their pockets.**
- **Straighten their legs.**
- **Place the arm nearest to you at a right angle to the casualty's body, with the elbow bent and palm facing upwards.**



2 POSITION FAR ARM, HAND, AND KNEE

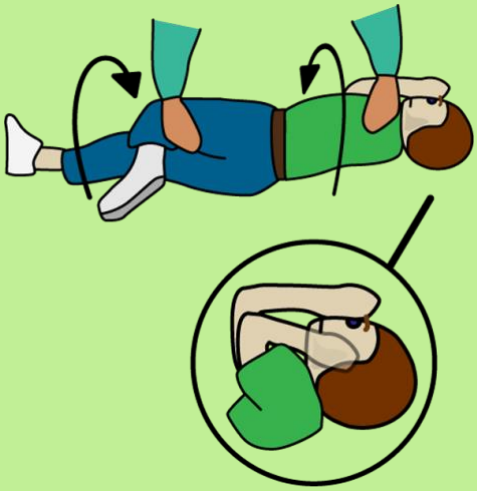
- **Bring the arm furthest from you across the casualty's chest.**
- **Hold the back of their hand against the cheek nearest to you**
- **Using your other hand, grasp the far leg just above the knee and pull it up until the foot is flat on the floor.**



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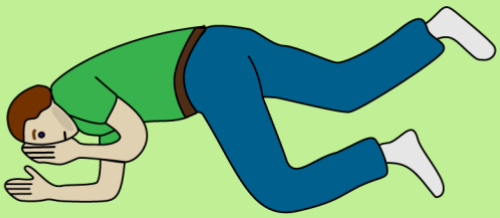
3 ROLL CASUALTY TOWARDS YOU

- **Keeping the casualty's hand pressed against their cheek, pull on the far leg and roll them towards you and onto their side.**
- **Adjust the casualty's upper leg so that both the hip and the knee are bent at right angles.**
- **Tilt their head back to ensure that the airway remains open.**



4 DIAL 999 FOR AN AMBULANCE

- **Monitor and record vital signs (level of response, pulse, and breathing).**
- **Keep the temperature regulated.**
- **Talk to the casualty to reassure them.**



For infants (under one year), hold the baby in your arms with their head tilted downwards. This will keep their airway open to prevent choking.

Surrey First Aid Resources:

[Unconscious Infant (Under 1 Year) Recovery Position]

© Surrey First Aid Training 2021

CHOKING

An object stuck in the throat can block the airway and result in choking. The casualty may lose consciousness if the blockage remains.

Treatment

1. **Encourage the casualty to <u>COUGH</u>.**
2. **Give <u>5 BACK BLOWS</u> by slapping sharply between the shoulder blades with the flat of your hand, supporting them with your other <u>ARM ACROSS THEIR CHEST.</u>**
3. **Give <u>5 ABDOMINAL THRUSTS</u> by grasping your fist with the thumb tucked inside and pulling inwards and upwards.**

Repeat Steps 2 and 3. If after <u>3 CYCLES</u> the casualty is still choking <u>SEND FOR HELP</u>.

<u>If the casualty loses consciousness commence CPR. Continue to check airway to see if the object has been dislodged.</u>

If abdominal thrusts have been used it is important that the casualty goes to hospital to be checked for internal organ damage.

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Treatment for Babies

1. **Hold the baby OVER YOUR KNEE. Remember to SUPPORT THE JAW gently.**

2. **CHECK THE MOUTH between each back blow. If the back blow does not work after 5 ATTEMPTS, you will need to give 5 CHEST THRUSTS.**

3. **Face the baby TOWARDS YOUR FEET IN AN UPSIDE DOWN POSITION and give TINY THRUSTS.**

Click HERE for a video on how to stop a child aged 4 choking.

Surrey First Aid Resources:

Choking is a common accident
Choking on food
History of Choking Technique

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Major Injuries

SERIOUS BLEEDING

Blood can be lost from the following wounds…

Laceration

A wound that is irregular in shape caused by crushing or ripping forces. The risk of infection is high.

Clean thoroughly and seek medical advice if necessary.

If they are bitten by an animal or other child, they will need booster vaccinations to eliminate any risk of catching an infectious disease.

Incised Wound

An injury caused by a sharp object. Blood vessels are cut straight across and bleeding will be severe. Tendons and muscles may also be damaged.

Do NOT attempt to remove the object, treat the cut seriously using the steps above.

Embedded Objects

If there is an embedded object in the wound, it should **NOT** be removed.

Use dressings and bandages to build up around the object to apply pressure around the wound and support.

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Puncture Wound

A wound caused by e.g. standing on a nail. It causes a small entry site but a deep track of internal bleeding.

Treat the external site entry and then seek medical advice.

Amputation

When a whole or part of a limb has been removed, causing profuse bleeding.

With figures and toes, treat the bleed with STEP and then wrap the digit in plastic like cling film and place onto a bed of ice.

Your priorities are to stop any bleeding, carefully preserve the amputated body part and reassure the casualty.

Take the amputated part to hospital.

Closed Wound

Internal injury. The skin remains unbroken. Hard to recognise, look for bruising, tenderness, swelling to the area injured.

Call 999 and report your concerns.



INTERNAL BLEEDING: Suspect internal bleeding after an accident if the signs of shock develop, but there is no other obvious cause (such as external bleeding). Call 999 immediately.

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Types and Severity of Bleeding

The amount of blood loss from a wound will depend on which blood vessels have been damaged.

Arterial

The loss of blood from an artery. The most severe and hardest to control type of bleeding. Bright red highly oxygenated blood which "spurts" out in time with each heartbeat.

Venous

The loss of blood from a vein. Blood "gushes" rather than spurts as the blood is under less pressure as it returns to the heart. Easier to control than Arterial bleeding.

Capillary

The loss of blood from the smallest blood vessels, the capillaries. The least severe type of bleeding. Blood "oozes" at the site of the wound. Usually stops quickly.

Click HERE to learn more about dressing a wound.

Surrey First Aid Resources:

Wound Management
First Aid for Stab Wounds

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HYPOVOLAEMIC SHOCK

In order to function, the body requires an adequate supply of oxygen. The most common cause of shock is **severe blood loss** (blood being the mode of transport for oxygen). If blood loss exceeds around **1 litre (15%-30%)** hypovolemic shock will occur.

This loss of blood may be due to an external wound or could be a hidden cause such as bleeding from the internal organs. A loss of body fluids can also cause shock e.g. **diarrhoea**, **vomiting** or **severe burns**.

Blood Loss	Signs and Symptoms
<15% **Up to 750ml**	Little or no effect.
15%-30% **750ml-1500ml**	Sweating, anxiety, nausea. Pulse and respiratory rate increase. Capillary refill is slow as blood is being diverted to vital areas.
30%-40% **1500ml-2000ml**	Skin pale and sweaty, anxiety, drowsiness or aggression. Shallow, rapid breathing and heart rate >100 bpm.
>40% **Over 2000ml**	Mental confusion. Skin is pale, cold and clammy. Coma leading to death.

Treatment

1. **Treat the <u>CAUSES OF SHOCK</u> that you can detect.**
2. **<u>RAISE THE CASUALTY'S LEGS</u> to improve blood flow to organs and loosen tight clothing.**
3. **Send for <u>HELP</u>. Keep warm, monitor, and record vital signs.**

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FRACTURES, SPRAINS AND STRAINS

Fractures

A fracture is when there is a disruption in the continuity of a bone. A fracture will cause pain, swelling, deformity and loss of function. There may also be considerable blood loss.

There are three categories of fractures:

Open fracture	An open wound over the fracture site.
Closed fracture	A fracture which leaves skin intact.
Green Stick	One side of the bone is fractured, whereas the other side is merely bent.
Complicated	When major blood vessels have been affected by a fracture.

Treatment

1. **Dress any open wounds.**
2. **Splint (immobilise) the wound.**
3. **Treat for shock and protect casualty from environment.**

© Surrey First Aid Training 2021

When immobilising a fracture you should "**bind it as you find it**" and avoid movement. This may mean a sling may not be the most appropriate treatment, instead **KISS** the fracture.

K **Keep**

I **It**

S **Still and**

S **Supported**



Sprains and Strains

A sprain is an injury affecting the ligaments of a joint. A strain is muscle or tendon damage due to abnormal stretching.

Recently the way we deal with soft tissue injuries like strains and sprains has changed…

Treatment

REST It is important when a soft tissues injury is suspected we encourage the casualty to rest.

This is because without an x-ray we cannot confirm that a fracture to the bone has not occurred.

Keeping the injury still will also prevent it from getting worse.

ICE Ice wrapped in a compress, such as a bag or towel, will help reduce swelling, which is the body's natural response to trauma of soft tissue.

ELEVATION Raising the injury slightly will aid the flow of blood back to the heart which will help the body's ability to compensate for an injury and assist in the healing process.

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WE NO LONGER COMPRESS AN INJURY by wrapping it up, doing so can artificially minimise the flow of blood to the area which the body will do naturally. Too much restriction may unnecessarily kill soft tissue cells and restrict blood flow to uninjured areas.



The only way to tell the difference between a green stick fracture and a soft tissue injury is an X-Ray.



Click HERE for a video on Fractures, Sprains and Strains.

© Surrey First Aid Training 2021

MAJOR CHEST, SPINAL AND HEAD INJURIES

With any major trauma you should be prepared to treat for shock, give CPR and evacuate to hospital by summoning the EMS. From the time of injury the casualty has a “Golden Hour” to be under the knife on a surgeons table. Survival rates are extremely low outside of these 60 minutes.

Chest Injuries

There are four chest injuries this booklet is concerned with:

Pneumothorax

Haemothorax

Tension pneumothorax

Flail segment

A **Pneumothorax** is an injury caused to the chest that allows air to enter the pleural cavity which then may **collapse the lung**. This may be caused by a **spontaneous tear in the chest wall** or it may be a **penetrating wound** caused by a pointed object such as an ice axe.

A **Haemothorax** causes the same problems for the lungs and in turn, breathing. However, instead of air, blood enters the pleural cavity. Chest injuries are recognised by **sudden shortness of breath and chest pain**. Anyone with a chest injury needs to be evacuated as soon as possible and treated for shock.

For an open pneumothorax a large hole will cause air to be sucked in and out of the pleural cavity. The opening should be covered with a **non-permeable dressing which should only be sealed on three sides**. This will allow a valve effect to take place allowing air to escape but not to be sucked in. The casualty should be inclined to injured side.

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There is not much that a first aider can do in the event of a **Tension Pneumothorax**. Pressure builds up in the chest cavity due to air not being able to escape. This will cause **collapse of the lungs** and **death will follow**.

A **Flail Segment** is caused by **multiple rib fractures**. A mobile piece of chest wall moves in opposing directions to that of normal breathing (**paradoxal breathing**). This causes intense pain and a reluctance to breathe normally. Pain relief should be offered to the casualty. Allow them to sit or lay down in a comfortable position. The mobile segment should then be immobilised by **splinting**, taking caution not to inhibit breathing more. Immediate evacuation is required.

Abdominal Injuries

Recognition of an abdominal injury may come from "**reading the wreckage**". The casualty may locate pain at the injury site. Vomiting may be present and in later stages the casualty will show signs of shock.

Lay the casualty down with their legs raised slightly to ease muscle tension in the abdomen.

Penetrating injuries should be covered with a **sterile dressing** such as cling film to limit infection and fluid loss. Evacuation is the key to better survival rates as shock will occur.

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Head Injuries

Concussion

This condition is not life-threatening but it could develop into **cerebral compression**.

A brief lapse in consciousness occurs in concussion through a blow to the head.

Symptoms include a **mild headache**, **dizziness**, **pale skin**, **clammy**, **confused**, **nausea**, and **disorientation**.

The casualty may have **forgotten** the events leading up to the incident.



Because of the blow to the head, head and spine injuries should be considered. Vital signs should be carefully monitored and the casualty should be taken to see a doctor.

Cerebral Compression

Cerebral compression is the build-up of blood pressure on the brain following a head injury or a stroke. It may develop immediately after a head injury, or it may present itself days after a head injury.

The casualty's level of **consciousness will be decreased**.

There may also be an **intense headache**, **noisy breathing**, **low pulse** and **breathing rate**.

The casualty may also have **unequal pupils** and they may be **aggressive or out of character**.

The casualty may be **red**, **flushed**, **hot** and have a **high temperature**.

There may be **paralysis down one side** of the face or body.

Getting them to hospital quickly is essential as the pressure does not relieve itself, so surgery is required. Vital signs should be recorded at frequent intervals. If the casualty is still conscious try and keep them upright.

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IF THE FACE IS RED, RAISE THE HEAD.
IF THE FACE IS PALE, RAISE THE TAIL.

Skull Fracture

Upon discovering a head wound, a skull fracture should be suspected. A fracture may indicate possible brain damage. Also suspect spinal injuries.

A skull fracture may present itself with **bruising around the eyes**.

Swelling behind an **ear**.

Cerebral Spinal Fluid (yellowish, water substance) coming from **ears or nose**.

The white of the eye may have **specks of blood** in them.

Distortion of the face and a **reduced level of consciousness** may also be present.

If you suspect a skull fracture you should monitor vital signs and control any bleeding.

It is important that when putting the casualty into the **recovery position**, the Cerebral Spinal Fluid should be allowed to drain from the ear, as pressure may build up if it drains into the ear.

Click HERE to access some head injury treatment resources from NICE.

Surrey First Aid Resources:

Advice on treating a baby or child with a suspected head injury
Head Injury Assessment Tool for Schools

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Spinal Injuries

In the event of a spinal injury the head, neck and navel should be kept in alignment. The airway, if needed, should be opened using the jaw thrust. Call 999/112 immediately.

If you are a lone rescuer then the casualty, if required, should be carefully placed into the recovery position.

If there is more than one rescuer then the casualty can be moved into the recovery position using the spinal log roll:

Treatment

1. **Position helpers alongside casualty whilst you remain to hold the head in alignment.**
2. **The person at the leg end grasps clothing at the ankle and elbow.**
3. **The person at the trunk end grabs clothing at the wrist and shoulder.**
4. **Helpers should carefully shuffle back.**
5. **On your command ("Ready, Brace, Roll") the team roll the casualty onto their side.**
6. **The helpers then position the arm and leg in order to support the casualty (as in the normal recovery position).**
7. **You must remain holding the head in alignment until help arrives. You can carefully swap the person at the head end.**

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Other Serious Injuries

DROWNING

Drowning is the most common fatal accident among children playing outdoors. Water in the lungs replaces oxygen and causes death through **asphyxiation**.

1. **Do <u>NOT</u> put yourself at risk – "Reach or Throw, Don't Go"**
2. **Keep the casualty horizontal and turn their head on one side if possible to allow water to drain out.**
3. **Check airway and breathing, resuscitate if necessary. Call 999/112.**

NEAR DROWNING

Casualties who experience near drowning accidents should always receive expert medical attention. The casualty may also need treatment for **hypothermia**. Exhaustion can complicate immersion accidents.

If there is even a small amount of water that entered the lungs during the initial accident, the airways and lungs could swell several hours after. This is known as **secondary drowning**.

1. **Check airway and breathing. If the casualty is breathing then place them in the recovery position and treat for hypothermia.**
2. **Call 999. Be prepared to commence CPR.**
3. **If a pulse is present, rescue breaths should be given.**

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BURNS AND SCALDS

A burn is an injury to tissues caused by excessive heat or cold, the sun, acids and chemicals, friction, radiation and electrical current. Burns are often associated with other serious injury e.g. Fractures caused by jumping from a burning building.

There are three burn categories: **SUPERFICIAL**, **PARTIAL-THICKNESS** and **FULL-THICKNESS**.

Superficial Burn

This type of burn affects just the epidermis (outermost layer of skin) and is characterised by redness, swelling and tenderness. Healing should take 5-10 days and leave no scarring.

FIRST DEGREE BURN

Partial-Thickness Burn

A partial-thickness burn affects the dermis (second layer of skin) and the skin becomes red and raw. Blisters form over the injury site. A 1% partial-thickness burn would require medical attention and would normally heal in 10-20 days.

SECOND DEGREE BURN

Full-Thickness Burn

All layers of skin are affected with this type of burn. There may even be damage to nerves, fat tissue, muscles and blood vessels. The skin may look pale and waxy or be charred.

THIRD DEGREE BURN



A burn is measured by using a percentage of the body area affected. The casualty's hand equates to 1% of their body's surface.

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Treatment

1. **Treat the AIRWAY as appropriate and monitor for signs of SHOCK.**
2. **Cool the burn gently with TEPID WATER for a MINIMUM OF 20 MINUTES. Do NOT apply creams or ice.**
3. **Carefully remove loose clothing. DO NOT REMOVE CLOTHING THAT IS STUCK TO THE BURN!**
4. **Cover the burn using a STERILE DRESSING or CLING FILM if you are transporting the child to hospital.**
5. **If the burn does not seem to be cooling after 10 MINUTES then call 999/112.**

Seek medical advice if…

The casualty is a **baby** / The burn is larger than **1-inch square** / The burn goes **all the way around the limb** / The burn involves **hands**, **feet**, **genitals** or the **face** / Any part of the burn appears to be **full thickness**.

Click HERE for a video on treatment of burns in children.

Surrey First Aid Resources:

Acid Attacks – First Aid Response
Treating a burn at home
Bonfire Night Safety
Halloween, Fireworks, and First Aid

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HEAT EXHAUSTION

Heat exhaustion normally occurs in people who lose large amounts of sweat while exercising. Core temperature is normally **between 38°C and 40°C**. If adequate water and electrolytes, needed for hydration, have not been consumed during a hard day then this will lead to heat exhaustion.

Recognising Heat Exhaustion

Clammy skin. Often pale and shaky.

Temperature and pulse rate slightly raised.

Nausea.

Weakness, dizziness.

Thirst.

Headache, confused.



Treatment

1. **Get the casualty into a shaded area.**
2. **Small sips of fluid should be given.**
3. **Give salty foods or drinks to replace electrolytes such as salty crisps. Observe once recovered.**

Surrey First Aid Resources:

Heat Exhaustion or Heat Stroke?

© Surrey First Aid Training 2021

HEAT STROKE

People exercising in warm weather that they are not accustomed to may develop heat stroke. This is a life-threatening condition as the body's temperature rises above 41°C. Sweating will be absent due to the fact the gland in the brain regulating temperature will have failed and the brain begins to swell.

Recognising Heat Stroke

Irrational behaviour.

Unconsciousness.

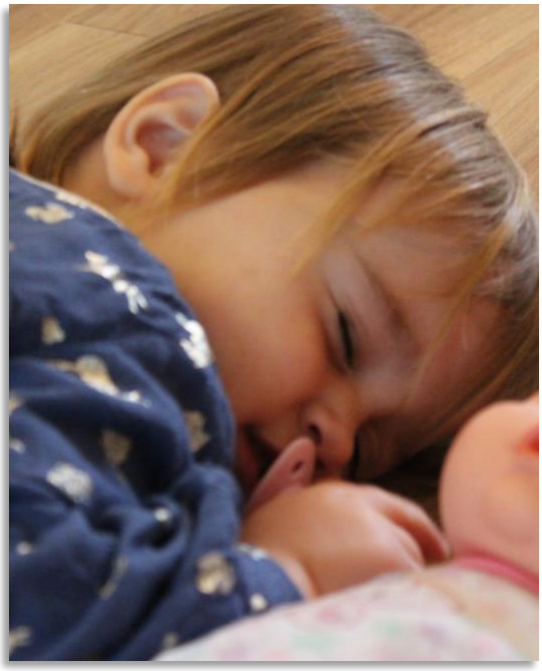
Red, dry, hot skin.

Difficulty walking, drowsy, low levels of consciousness.

Increased pulse rate.

Nausea and weakness.

Signs and symptoms persist after treatment has begun.



Treatment

1. **Decrease body temperature immediately by:**
   - **Loosening clothing.**
   - **Moving to a cooler environment.**
   - **Cooling with water or wet clothes.**
2. **Monitor and record vital signs.**
3. **Give sips of water to a conscious casualty.**
4. **CALL 999 AND GET THE CASUALTY TO HOSPITAL.**

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HYPOTHERMIA & FROSTBITE

The casualty should be protected from further heat loss by insulating from the ground, replacing wet for dry clothing and given hot food and drink. Descent from the mountain is the best option as it only gets colder the higher you go (lapse rate).

Frostbite is the condition when the tissues freeze and ice crystals form between cells. It is caused by poor circulation (a boot tied too tight), cold and windy weather, and contact with cold metal or ground.

Treatment

1. **Warm the part by putting it inside your armpit or groin.**
2. **Change wet for dry clothes.**
3. **Hypothermia should be suspected with frostbite.**
4. **Direct heat should not be used and the part should NOT be rubbed.**

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Other Medical Conditions

ASTHMA

Asthma is the narrowing of the airways caused by an irritant such as dust, exercise or smoke. People who know that they suffer from asthma normally carry an **inhaler**.

There will be difficulty in breathing, a wheezy cough, difficulty talking in sentences, anxiety, and possibly **hypoxia/cyanosis** (causing a blue tinge to the lips).

Treatment

1. **Reassure the child. Allow the child to take their RELIEVER INHALER. This can be repeated every few minutes if the attack does not ease.**
2. **Let the child adopt the most comfortable position and get them to CONCENTRATE ON THEIR BREATHING.**
3. **Try BREATHING EXERCISES such as copycat breathing or counting.**
4. **If the attack lasts longer than 5 MINUTES or seems to be getting worse, DIAL 999. Be prepared to begin CPR.**

Some children may need a 'spacer' to take their inhaler if they can't take it all in one breath. Use one if available.

Surrey First Aid Resources:

Asthma – Is it really life threatening?
Asthma in Winter

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ANAPHYLACTIC SHOCK

Anaphylactic shock is caused by the body's over-production of the chemical **histamine** in reaction to an irritant such as a wasp sting, nuts or animal hair. Those who know they suffer from this condition may carry an auto-injector of **adrenaline** (Epinephrine).

The child may be anxious, have a fast pulse rate, have severe respiratory distress and have a rash on their skin. Their face and neck could be swollen, and they will be hot and red initially but will deteriorate quickly.

Treatment

1. **Ensure an AMBULANCE has been called, stating ANAPHYLAXIS.**
2. **Administer MEDICATION and MONITOR carefully.**
3. **Be prepared to commence CPR.**

Click HERE for more information on Anaphylaxis.

Surrey First Aid Resources:

Auto-Injectors to be held in all schools
Severe Allergic Reactions
Do you Risk Assess your Paint?

© Surrey First Aid Training 2021

DIABETES

Diabetes is a condition where blood sugar levels cannot be controlled by the body.

There are two types of diabetic episode:

Hypoglycaemia

Low Blood Sugar

Too **MUCH** Insulin

Hyperglycaemia

High Blood Sugar

Too **LITTLE** Insulin

Hypoglycaemia

Hypoglycaemia can be very serious within minutes and often **dangerous within an hour**.

The casualty may be **confused** and have a **lowered level of consciousness**.

Cold, clammy skin may also be present.

The pulse will be **strong** and the **breathing shallow**.

Aggression is another sign of hypoglycaemia.

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Treatment

1. **If the casualty is conscious, give them a sugary drink or sugary food. Aim to give 15-20g of glucose for adults (10g for children).**
2. **If they respond, give them more and stay with them until they feel better.**
3. **If they do not respond within 15 minutes, call 999.**
4. **If they become unconscious, maintain the airway and place them into the recovery position and call 999.**



There is about 10g of glucose in 100ml of pure fruit juice, 75ml of Lucozade original, 100ml of fizzy drink (not diet) or 2 teaspoons of sugar in water.

Hyperglycaemia

In this form of diabetes the casualty will have an **increased thirst** and will be passing a lot of **urine**.

They will feel **weak** and **nauseous**, with **dry warm skin**.

Their breathing may be **heavy** and **laboured**.

There may also be a smell of **acetone** on their breath.

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Treatment

1. **A First Aider must <u>NEVER</u> attempt to administer drugs or insulin in this situation without thorough and well-structured training and action plans by a qualified medical professional.**

2. **Help should be summoned as soon as possible via 999 and vital signs should be carefully monitored.**



A 'hyper' can take 12 hours or longer to develop.

Surrey First Aid Resources:

Diabetes

EPILEPSY

An epileptic seizure is caused by disturbed electrical activity in the brain. Epileptic seizures may be sudden and dramatic (**Convulsive**) or minor, when the casualty looks like they are daydreaming (**Absence**). In absence seizures the eyes may turn upwards and eyelids flutter.

Treatment

1. **Protect the casualty from further injury.**
2. **Stand back, clear other people, and time the seizure.**
3. **Once the seizure is over, place the casualty in the recovery position. Monitor and record vital signs.**
4. **Reassure the casualty.**

You should NEVER attempt to stop a seizure by restraining the casualty, or attempt to put anything in their mouth.

<u>Call an ambulance if…</u>

They fit for longer than 3 minutes.

They do not show signs of response within 10 minutes.

The casualty seems to doing well, but fits again.

<u>If you are in doubt or have previous knowledge of seizures call 999/112 regardless.</u>

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BITES AND STINGS

Bites

Bites can be very painful. The best treatment is to…

Clean the bite.

Elevate it.

Apply an ice pack for 10 minutes.

Stings

Stings can also be very sore. To treat a wasp or hornet sting…

Elevate it.

Apply an ice pack to the skin for 10 minutes.

Embedded Stings

When a bee stings someone it leaves the stinger embedded in the skin because of the shape of the stinger. This will need to be removed…

Do <u>NOT</u> squeeze as this can break the stinger in two and make it harder to remove.

Instead use an object which allows you to flick or scrape, such as a credit card.

Gently place it on the skin under the stinger and scrape or flick until the stinger is removed from the skin.

Apply ice and carefully watch for symptoms of an allergic reaction even if they have been stung before.

If any signs appear dial 999.



Watch out for the symptoms of an <u>ANAPHYLACTIC REACTION</u>!

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For more information on any of the above details please call 01483 238268

Or email enquiries@surreyfirstaid.com

Resources of Interest:

www.meningitis.org

www.diabetes.org.uk

www.anaphylaxis.org.uk

www.epilepsy.org.uk

www.capt.org.uk

www.surreyfirstaid.com

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