

Medical Emergencies in the dental clinic.

When dental treatment is planned at least two people should be available to deal with any medical emergency.

All members of staff must know their role if a patient collapses or has a medical emergency.

All members of staff must be trained and be prepared for medical emergencies.

Dental teams should practice regularly with simulated emergencies so they know exactly what to do.

It is important to try and recognise when a patient is becoming unwell so that early action can take place, help can be summoned and any equipment or drugs prepared ready for use.

YOU must be prepared to be the first responder and make a decision about what is wrong and be able to start treating the patient until help arrives.

Before making any assessment of the patient it is most important that you make an assessment of the surroundings to ensure that it is safe to proceed.

If the patient is conscious you must ask the patient “how are you” if they respond normally then they are breathing and their brain is getting oxygen.

If the patient is unconscious gently shake them and ask “are you alright”. If there is no response –**shout** for help



Ensure the airway is open –**head tilt back –lift chin** –quick check that no objects, blood mucous blocking the mouth –quick finger sweep or suction if required.

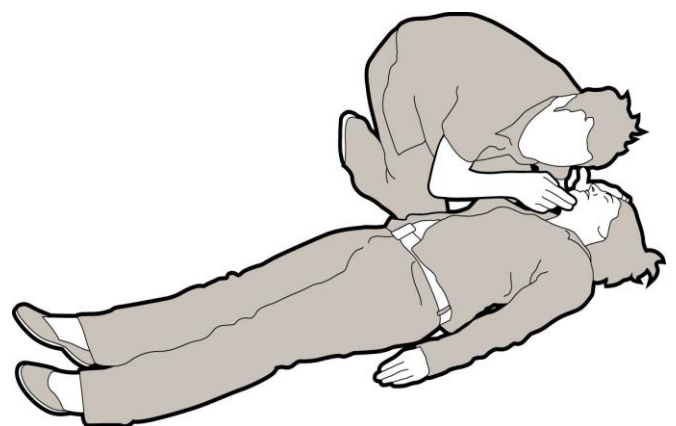
Breathing? **Look - Feel - listen**

Put your ear down to the patient’s mouth so you can **hear** if there is any breathing.

With your face close to their mouth you will **feel** any breathing.

You can look along the patient’s chest and **look** for any movement of the chest.

Do this for 10 seconds.



Start Compressions at a rate of 100 per minute. Count out loud as you give **30 compressions**. Then give **2 rescue breaths** then 30 compressions and continue until circulation returns

Remember that air only has 20% oxygen and the air you breathe out will only have 14% oxygen. If possible give Oxygen or use an ambu bag.

If 2 people are present one does the compressions as the other person holds the airway open. It is more important to get a good rhythm of compressions as this alone will force a little air in and out of the lungs.

Fainting is the commonest cause of a patient losing consciousness in the clinic. It is caused by a lack of blood to the brain. This can be caused by anxiety, hunger tiredness, too hot or after receiving local anaesthetic containing adrenaline(epinephrine).

When a patient has been given local anaesthetic the patient must be observed for several minutes to ensure there has been no injection of LA into a blood vessel. If a patient is lying flat in a chair (supine) there are much less likely to faint. Often the first sign that a patient may faint is their change in colour. Their skin will appear pale. The patient may see they do not feel well –they may say they feel sick. Do not put the chair up –but lay it as flat as possible with the feet higher than the head (this helps the blood flow to the brain to be increased). Cool the patient if possible – talk to them and re assure them. If they do loose consciousness it will only be for a few seconds – sometimes there can be tightening of the muscles and small movements.

After an extraction and with elderly patients who have been lying flat for some time put the chair upright and make the patient sit in this position for several minutes before allowing them to leave the chair. This ensures their blood pressure can adjust to standing up and get enough blood to the brain.

Some patients who are very nervous and anxious need to be observed for 10 minutes after leaving the chair as their body has produced so much adrenaline that when they stand up and move about they are liable to faint. (Always watch for the patient who wants to go immediately to the toilet after an extraction –they may want to go because they feel sick and faint in a locked toilet).

If a patient faints in the waiting room or corridor – lay them flat – put them in the recovery position and ensure their airway is open (chin lift) loosen any tight clothing around the neck, check their pulse and if they do not recover within a few seconds get help and check for signs of life and re-assess the situation.

Epilepsy or seizures are caused by a change in the normal brain activity. Patients may have a seizure and loose consciousness without suffering from Epilepsy.

Patients may give a brief warning let out a cry and loose consciousness (fall to the ground if standing)
rigid with arched back breathing may cease(lips become blue) jaw may be clenched breathing may
be noisy may loose bladder and bowel control may have jerking of all limbs and head
convulsions may be followed by a deep sleep.

During a convulsion remove all dangers from the area note the time the seizure started support
and protect the patients head get help if required clear away other people place in the
recovery position when convulsions have stopped.

Call an ambulance if the seizure does not stop within 5 minutes, a second seizure follows quickly after, or the patient stays unconscious for more than 10 minutes.

Diabetes is an illness when the body does not make enough insulin. (Insulin controls how much glucose is in the blood –all cells need glucose to survive). Some people have to control their blood glucose levels by having injections of insulin, by taking tablets or by controlling their diet and how much glucose they consume.

If the blood sugar level falls below normal levels the brain is rapidly affected. **Hypoglycaemia**

Caused by too much insulin too little food or missed meal unplanned exercise

Large amounts of alcohol.

Signs and symptoms can appear very rapidly and unless quick action is taken to raise blood sugar levels the patient may become unconscious.

Shaking and trembling sweating headache aggression or confusion slurring of speech

When the patient is conscious and co-operative give oral glucose or sugar solution, tablets or gel. This may be repeated after 10-15 minutes if required.

If patient is unable to co-operate then give 1mg Glucagon intra- muscular injection.

Anaphylactic shock is a very serious condition caused by an extreme allergic reaction to some material. This may be to drugs like antibiotics, local anaesthetic, vaccines: food such as peanuts and shell fish: insect bites or to latex or other materials.

Signs of anaphylaxis Itching and tingling around the face swelling of the throat and difficulty in breathing wheezing abdominal pain, vomiting loss of consciousness.

Call an ambulance immediately give oxygen give 0.5ml of 1:1000 adrenaline intra-muscularly- a further 0.5ml can be given after 5 minutes if no improvement. Be prepared to give basic life support.

Angina is a sudden severe pain in the chest because the heart muscle does not have enough of a blood supply. This is usually something the patient will have felt before and may have some medication from their doctor for this. The pain is usually increased with exercise or stress.

Signs of Angina a gripping severe chest pain often spreading to the left arm and jaw shortness of breath weakness.

Help the patient to a comfortable sitting position give Glyceryl Tri-Nitrate (GTN) spray or tablets re-assure the patient call an ambulance if pain and discomfort still lasts 10 minutes after medication and rest as it may be a heart attack.

Heart Attack (Coronary or Myocardial infarction) is when the blood supply to the heart is suddenly stopped, usually by a blood clot or fatty deposit blocking a blood vessel and damaging a section of heart muscle - it is not usually linked to strong exercise.

Signs of a heart attack increasing severe crushing chest pain in the centre and across the front of the chest pain may spread to shoulders down the arm and into the jaws skin becomes pale and clammy nausea and vomiting are common shortness of breath pain is not relieved by rest

Call for an ambulance immediately make the patient comfortable in half sitting position loosen any tight clothing give Glyceryl Tri-Nitrate spray (GTN) 300mg of crushed or chewed aspirin give oxygen (25% of patients with a heart attack will proceed to a full cardiac arrest) be prepared to start basic life support.

Asthma is a condition that causes patients to have difficulty breathing. This is usually caused by irritants in the air, cold, hot or moist air, exercise or stress.

Signs of asthma are difficulty in talking rapid short breaths increased heart rate patient uses all the muscles in their neck to try and breathe exhaustion and confusion

Sit patient comfortably re-assure them loosen tight clothing let patient use their own inhaler (normally blue for salbutamol) if patient does not improve rapidly or there are signs of severe asthma then call an ambulance.