

FIRST AID LEVEL 1

SECTION 9: MEDICAL CONDITIONS

Exit Outcomes

At the end of this section you will be able to:

- *Explain what will happen if a casualty with hypoglycaemia is not treated.*
- *Name three steps a family member can do if a casualty is having a seizure, to prevent further injury.*

9.1 FAINTING

Fainting is the temporary loss of consciousness caused by the decreased blood flow to the brain caused by:

- Heat exhaustion
- has not eaten/drunk enough (low Blood Sugar/ dehydration)
- Suddenly stands after squatting or bending down (low Blood Pressure)
- Receives bad news
- If the casualty is in severe pain

First Aid Treatment for Fainting

- HHHHCPR.
- Check that the casualty's airway is open.
- Let the casualty sit with their head down or lie down. Raise legs to improve blood flow.
- Offer a cup of sweetened tea/water once they regain consciousness, as long as it was not related to injury.

9.2 LOW BLOOD SUGAR (HYPOGLYCAEMIA)

Hypoglycemia is caused by an inadequate supply of glucose, as fuel, to the brain. This results in impairment of brain function (neuroglycopenia). Symptoms can range from vaguely "feeling bad" to coma and (rarely) permanent brain damage or death.



The most common forms of moderate and severe hypoglycemia occur as a complication of treatment of **diabetes mellitus** with insulin or certain oral medications.

If a Diabetic has taken too much insulin by mistake, has eaten too little food, missed a meal or if exercise has burned-up their sugar, the concentration of sugar in the blood falls. Low blood sugar will affect the brain function and, if very low, will result in unconsciousness and even convulsions.



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HIGH AND LOW BLOOD SUGAR SIGNS AND SYMPTOMS

Identification	Hyperglycaemia (High blood sugar)	Hypoglycaemia (Low blood sugar)
Classification	Insulin dependent diabetic	Non-insulin dependent
Onset	Slow (24-48 hours)	Sudden
Elimination	Increased urination	Decreased urination
Hydration	Increased thirst	Decreased thirst
Breath	Smells fruity	smells like acetone
Skin condition/ Treatment	Hot and dry – insulin I cry	Cold and wet – Sugar I get

First Aid Treatment for Hypoglycaemia

1. HHHH CPR.
2. Let the casualty sit quietly.
3. If the casualty is **conscious** give them fluids to drink containing sugar (Fruit juice, carbonated drink) or eat a packet of crisps, sugar.
4. If the casualty is **unconscious**, phone for emergency medical assistance immediately.

9.3 EPILEPSY AND CONVULSIONS (SEIZURE DISORDER)

Amongst the reasons for convulsions are Epileptic seizures, brain tumours, strokes, high fever (especially in children), meningitis, injury to the brain, dehydration, poisoning and oxygen deprivation. **Epilepsy** is a common chronic neurological (brain) disorder that is characterized by recurrent unprovoked seizures. These seizures are due to abnormal activity in the brain.

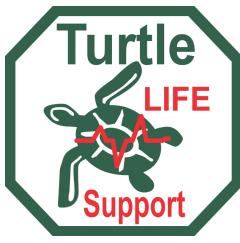
Types of Epilepsy

1. Petit mal seizures (Partial) - Typical in children 12yrs and younger. Brief in duration, and often barely noticeable. Child seems to day dream, stare into space.
2. Grand mal seizures (Generalized) - Whole body affected by jerking movements.
3. Status epilepticus (Generalized) - Condition where one seizure follows another which affects the diaphragm and breathing.

Environmental factors leading to an increased likelihood of seizures in someone with epilepsy:

- Pain and sleep deprivation.
- Constipation.
- Stress or anxiety.
- Alcohol consumption.
- The transition between sleep and wakefulness,
- Illness.
- Flashing pictures.





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First Aid Treatment for Convulsions

1. HHHHCPR.
2. Prevent the casualty from injuring themselves by moving away sharp edges e.g. tables, chairs, rocks, machinery.
3. Place something soft beneath the casualty's head.
4. Once the seizure has stopped, carefully roll the casualty into the recovery position to avoid choking.

The DO NOT'S for treating Convulsions

- **Do not** place objects in a casualty's mouth during a seizure as this could result in serious injury to you and it may cause the casualty to bite their tongue or break their teeth.
- **Do not** hold the casualty down while they are convulsing as it will do more harm.

9.4 SHOCK

Shock is a serious and life-threatening medical condition where insufficient blood flow reaches the body tissues thus affecting their proper functioning. The average adult has about 5 liters of blood in their body. (calculated as 7% of body weight) The volume, quality and pressure at which the blood is circulated around the body are precisely balanced. Severe blood loss interferes with the proper functioning of the circulatory system, either by reducing the pressure level in the system or, by starving certain parts of the body of oxygen with resultant tissue damage.

At the onset of shock, the body attempts to compensate for the loss of fluid volume by increasing the heart rate. This adjustment can aggravate the condition as the increased heart rate only causes more blood and thus heat to be lost. This in turn causes the heart rate to increase further. If shock is allowed to develop unhindered it will lead to cardiac arrest and death of the casualty. There is always a degree of medical shock with every injury.

Types of shock

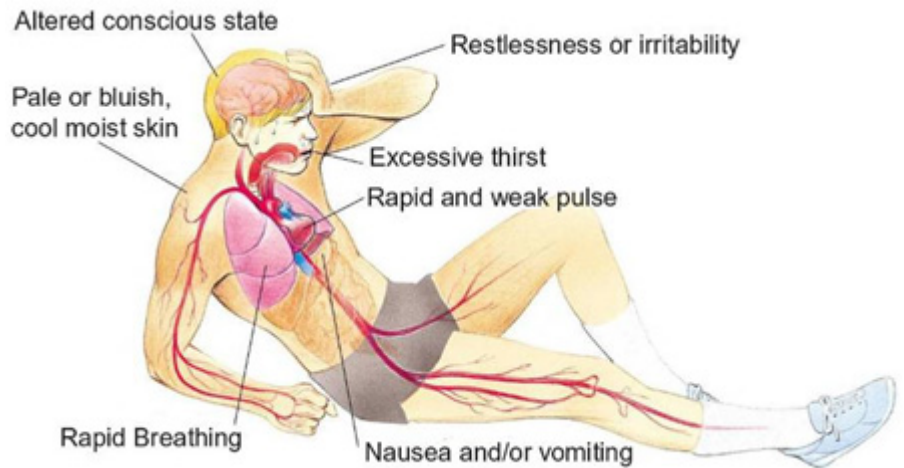
Hypovolaemic shock	Occurs when there is a decreased volume in the blood vessels due to loss of blood or plasma from bleeding, burns, vomiting or diarrhoea.
Cardiogenic shock	Occurs when the heart can no longer pump or function properly e.g. Heart attack, infections or injury to the heart.
Neurogenic shock	Occurs when there is injury to the nervous system (spinal cord) that affects the function of the blood vessels and causes all the blood vessels to relax (dilate).
Septic Shock	Caused by an overwhelming infection leading to vasodilatation, such as by Escherichia coli bacteria.
Anaphylactic shock	Caused by a severe allergic reaction to an allergen, drug or foreign protein. This in turn causes the release of histamine which results in widespread vasodilatation, leading to hypotension.



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Signs and Symptoms of Shock

- Anxiety, restlessness, confusion.
- Low blood pressure (hypovolaemic shock).
- A rapid, weak pulse that will disappear if not treated.
- Rapid and shallow respirations.
- Low body temperature, Cool, clammy skin due to vasoconstriction.
- Thirst and dry mouth, due to fluid depletion.
- Fatigue due to inadequate oxygenation.
- Distracted look in the eyes or staring into space, often with pupils dilated.
- High body temperature (fever), due to overwhelming bacterial infection. (Septic shock)
- Skin rash and large welts, weak rapid pulse. (Anaphylactic shock)
- Localized oedema (swelling), especially around the face. (Anaphylactic shock)
- Breathlessness due to narrowing of airways and swelling of the face. (Anaphylactic shock)
- In neurogenic shock, the skin is warm and dry.



First Aid Treatment for Shock

1. HHHH CPR.
2. Let the casualty sit quietly or lie down. Continue to observe casualty's condition.
3. Stop any bleeding and splint any fractures if necessary.
4. Cover casualty with blanket as loss of body heat will result through blood loss. If no pain in legs, raise legs above the level of the casualty's heart.
5. Do not give anything to eat or drink as casualty may need surgery.
6. If casualty is unconscious and breathing, open the airway and place casualty in the recovery position as long as a spine or neck injury is not suspected.

End of Section 9.