

POCKET GUIDE ON FIRST AID

INTRODUCTION

“First aid is the provision of initial care for an illness or injury. It is usually performed by a lay person to a sick or injured patient until definitive [medical](#) treatment can be accessed. Certain self-limiting illnesses or minor injuries may not require further medical care past the first aid intervention. It generally consists of a series of simple and, in some cases, potentially life-saving techniques that an individual can be trained to perform with minimal equipment.”

WHAT IS THE AIM OF FIRST AID?

The key aims of first aid can be summarised in three key points

Preserve life is the overriding aim of all medical care, including first aid, is to save lives

Prevent further harm also sometimes called preventing the condition worsening, this covers both external factors, such as moving a patient away from a cause of harm, and applying first aid techniques to prevent worsening of the condition, such as applying pressure to stop a bleed becoming dangerous.

Promote recovery – first aid also involves trying to start the recovery process from the illness or injury, and in some cases might involve completing a treatment, such as in the case of applying a plaster to a small wound.

First aid training often also incorporates the prevention of initial injury and responder safety, as well as the treatment phases.

What are the Key Skills Required?

Certain skills are considered essential to the provision of first aid and are taught ubiquitously. Particularly, the “ABC”s of first aid, which focus on critical life-saving intervention, must be rendered before treatment of less serious injuries. ABC stands for Airway, Breathing, and

Circulation. The same mnemonic is used by all emergency health professionals. Attention must first be brought to the airway to ensure it is clear. Obstruction (choking) is a life-threatening emergency. Following evaluation of the airway, a first aid attendant would determine adequacy of breathing and provide rescue breathing if necessary. Assessment of circulation is now not usually carried out for patients who are not breathing, with first aiders now trained to go straight to chest compressions (and thus providing artificial circulation) but pulse checks may be done on less serious patients.

Some organizations add a fourth step of “D” for Deadly bleeding or Defibrillation, while others consider this as part of the Circulation step. Variations on techniques to evaluate and maintain the ABCs depend on the skill level of the first aider. Once the ABCs are secured, first aiders can begin additional treatments, as required.

Some organizations teach the same order of priority using the “3 Bs”: Breathing, Bleeding, and Bones. While the ABCs and 3Bs are taught to be performed sequentially, certain conditions may require the consideration of two steps simultaneously. This includes the provision of both artificial respiration and chest compressions to someone who is not breathing and has no pulse, and the consideration of cervical spine injuries when ensuring an open airway.

Preserving life

As the key skill to first aid is preserving life, the single most important training a first aider can receive is in the primary diagnosis and care of an unconscious or unresponsive patient. The most common mnemonic used to remember the procedure for this is ABC, which stands for Airway,

Breathing and Circulation.

In order to preserve life, all persons require to have an open airway – a clear passage where air can move in through the mouth or nose through the pharynx and down in to the lungs, without obstruction. Conscious people will maintain their own airway automatically, but those who are unconscious (with a GCS of less than 8) may be unable to maintain a patent airway, as the part of the brain which autonomously controls in normal situations may not be functioning.

If an unconscious patient is lying on his or her back, the tongue may fall backward, obstructing the oropharynx (sometimes incorrectly called “swallowing” the tongue). This can be easily rectified by a first aider tipping the head backwards, which mechanically lifts the tongue clear.

If the patient was breathing, a first aider would normally then place them in the recovery position, with the patient leant over on their side, which also has the effect of clearing the tongue from the pharynx. It also avoids a common cause of death in unconscious patients, which is choking on regurgitated stomach contents.

The airway can also become blocked through a foreign object becoming lodged in the pharynx or larynx, commonly called choking. The first aider will be taught to deal with this through a combination of ‘back slaps’ and ‘abdominal thrusts’.

Once the airway has been opened, the first aider would assess to see if the patient is breathing. If there is no breathing, or the patient is not breathing normally, such as agonal breathing, the first aider would undertake what is probably the most recognized first aid procedure – Cardiopulmonary resuscitation or CPR, which involves breathing for the patient, and manually massaging the heart to promote blood flow around the body.

Promoting recovery

The first aider is also likely to be trained in dealing with injuries such as cuts, grazes or broken bones. They may be able to deal with the situation in its entirety (a small adhesive bandage on a paper cut), or may be required to maintain the condition of something like a broken bone, until the next stage of definitive care (usually an ambulance) arrives.

When First Aid is Required ?

Altitude sickness, which can begin in susceptible people at altitudes as low as 5,000 feet, can cause potentially fatal swelling of the brain or lungs.

Anaphylaxis, a life-threatening condition in which the airway can become constricted and the patient may go into shock. The reaction can be caused by a systemic allergic reaction to allergens such as insect bites or peanuts. Anaphylaxis is initially treated with injection of epinephrine.

Battlefield First aid – This protocol refers to treating shrapnel, gunshot wounds, burns, bone fractures, etc. as seen either in the ‘traditional’ battlefield setting or in an area subject to damage by large scale weaponry, such as a bomb blast or other terrorist activity.

Bone fracture, a break in a bone initially treated by stabilizing the fracture with a splint.

Burns, which can result in damage to tissues and loss of body fluids through the burn site.

Choking, blockage of the airway which can quickly result in death due to lack of oxygen if the patient’s trachea is not cleared, for example by the Heimlich Maneuver.

Childbirth.

Cramps in muscles due to lactic acid build up caused either by inadequate oxygenation of muscle or lack of water or salt.

Joint dislocation.

Diving disorders resulting from too much pressure.

Near drowning or asphyxiation.

Gastrointestinal bleeding.

Gender-specific conditions, such as dysmenorrhea and testicular torsion.

Heart attack, or inadequate blood flow to the blood vessels supplying the heart muscle.

Heat stroke, also known as sunstroke or hyperthermia, which tends to occur during heavy exercise in high humidity, or with inadequate water, though it may occur spontaneously in some chronically ill persons. Sunstroke, especially when the victim has been unconscious, often causes major damage to body systems such as brain, kidney, liver, gastric tract. Unconsciousness for more than two hours usually leads to permanent disability. Emergency treatment involves rapid cooling of the patient.

Heat syncope, another stage in the same process as heat stroke, occurs under similar conditions as heat stroke and is not distinguished from the latter by some authorities.

Heavy bleeding, treated by applying pressure (manually and later with a pressure bandage) to the wound site and elevating the limb if possible.

Hyperglycemia, or diabetic coma.

Hypoglycemia, or insulin shock.

Hypothermia, or Exposure, occurs when a person's core body temperature falls below 33.7°C (92.6°F). First aid for a mildly hypothermic patient includes rewarming, but rewarming a severely hypothermic person could result in a fatal arrhythmia, an irregular heart rhythm.

Insect and animal bites and stings.

Muscle strain.

Poisoning, which can occur by injection, inhalation, absorption, or ingestion.

Seizures, or a malfunction in the electrical activity in the brain. Three types of seizures include a grand mal (which usually features convulsions as well as temporary respiratory abnormalities, change in skin complexion, etc) and petit mal (which usually features twitching, rapid blinking, and/or fidgeting as well as altered consciousness and temporary respiratory abnormalities).

Sprain, a temporary dislocation of a joint that immediately reduces automatically but may result in ligament damage.

Stroke, a temporary loss of blood supply to the brain.

Sucking chest wound, a life threatening hole in the chest which can cause the chest cavity to fill with air and prevent the lung from filling, treated by covering with an occlusive dressing to let air out but not in.

Toothache, which can result in severe pain and loss of the tooth but is rarely life threatening, unless over time the infection spreads into the bone of the jaw and starts osteomyelitis.

Wounds and bleeding, including laceration, incision and abrasion, and avulsion.

FIRST AID FOR FRACTURES

1. Try to maintain the patient still and composed. Prevent unnecessary movement arising out of anxiety or fear.
2. Examine the person closely for the presence of other injuries and call for medical help. If medical help is quickly available, handover the patient to them for further treatment.
3. If there is a break in the skin surface, it can be rinsed to remove any visible dirt or other potential contamination. However, vigorous flushing or scrubbing of the wound should be avoided.
4. The broken bones can be immobilised with either a splint or string. Rolls of newspaper or strips of wood can be used. It is important to immobilize the area both above and below the injured bone.
5. Ice packs can be applied to reduce pain and swelling (Not to be placed directly over the wound).

FIRST AID FOR POISONING

Definition

Poisoning caused by swallowing, injecting, breathing in, or otherwise being exposed to a poisonous substance.

Considerations

1. The first aid you give before getting medical help can save a victim's life. In a poisoning emergency, immediate first aid is critical.
2. It is important to note that the absence of a warning on a package label does not necessarily mean that the product is safe.
3. Suspect poisoning if someone suddenly becomes sick for no apparent reason.
4. Suspect inhalation poisoning if the victim is found near a furnace, a car, a [fire](#), or in an area that is not well ventilated.
5. Symptoms of poisoning may take time to develop. However, if poisoning is suspected, do not wait for symptoms to develop before getting medical help.

Causes

Common causes include:

- Medicines (such as an aspirin overdose)
- Household detergents and cleaning products
- Carbon monoxide gas (from furnaces, gas engines, fires, space heaters)
- Household plants (eating toxic plants)
- Paints (swallowing or inhaling fumes)
- Insecticides
- Cosmetics (incorrectly used)
- Illicit drug overdose (accidental or intentional)
- Occupational chemical exposures
- Food poisoning (such as botulism)
- Animals (exposure to the toxic substances produced by some animals)

Symptoms

Symptoms vary according to the poison, but may include:

- Abdominal pain
- Bluish lips
- Chest pain
- Confusion
- Cough
- Diarrhea
- Difficulty breathing
- Dizziness

- Double vision
- Drowsiness
- Fever
- Headache
- Heart palpitations

ALWAYS CALL YOUR LOCAL DRUG INFORMATION CENTER AND FOR ADVICE!

For poisoning by swallowing:

1. Check and monitor the victim's airway, breathing and circulation. If necessary, begin rescue breathing and CPR.
2. Try to make sure that the victim has indeed been poisoned. It is not always obvious. Some signs include chemical-smelling breath, burns around the mouth, difficulty breathing, vomiting, or unusual odors on the victim. If possible, identify the poison.
3. Only induce vomiting if the poison control center tells you to do so.
4. If the victim vomits, protect the airway. If you must clear the victim's airway, wrap a cloth around your fingers before cleaning out his or her mouth and throat. If the victim has vomited a plant part, save the vomitus as it may allow identification by an expert who can then determine an antidote.
5. If the victim starts having convulsions, protect him or her from injury and give convulsion first aid.
6. Reassure the victim and keep him or her comfortable. Position the victim on their left side while getting or awaiting medical help. If the poison has spilled on the victim's clothes, remove the clothing and flush the skin with water.

For inhalation poisoning:

1. Call for emergency help. Never attempt to rescue a victim without notifying others first.
2. If it is safe to do so, rescue the victim from the danger of the gas, fumes, or smoke. Hold a wet cloth over your nose and mouth. Open windows and doors to remove the fumes.
3. Take several deep breaths of fresh air, then hold your breath as you go in.
4. Avoid lighting a match as some gases may ignite.
5. After rescuing the victim from danger, check his or her airway, breathing, and circulation. If necessary, perform rescue breathing and CPR.
6. As necessary, perform first aid for skin burns, eye injuries (eye emergencies), or convulsions.
7. If the victim vomits, protect his or her airway.
8. Even if the victim seems perfectly fine, get medical help.

Do Not

- DO NOT give an unconscious victim anything by mouth.
- DO NOT induce vomiting unless you are told to do so by the doctor. A strong poison that burns on the way down the throat will also do damage on the way back up.
- DO NOT try to neutralize the poison with lemon juice or vinegar, or any other substance, unless you are told to do so by a doctor.
- DO NOT use any "cure-all" type antidote.
- DO NOT wait for symptoms to develop if you suspect that someone has been poisoned.

IF SOMEONE HAS BEEN POISONED, YOU SHOULD CALL IMMEDIATELY FOR EMERGENCY MEDICAL ASSISTANCE.

Prevention

- Be aware of poisons in and around your home. Take steps to protect young children from toxic substances. Store all medicines, cleaners, cosmetics, and household chemicals out of reach of children, or in cabinets with childproof latches.
- Be familiar with plants in your home, yard, and vicinity. Keep your children informed, too. Remove any noxious plants. Never eat wild plants, mushrooms, roots, or berries unless you know what you're doing.

- Teach children about the dangers of substances that contain poison. Label all poisons.
- Don't store household chemicals in food containers, even if they are labeled. Most non-food substances are poisonous if taken in large doses.
- If you are concerned that industrial poisons might be polluting nearby land or water, report your concerns to the local health department or the state or federal Environmental Protection [Agency](#).

FIRST AID FOR CUTS

What is Cut?

An injury due to opening in the skin

Minor Cuts / Scrapings

No treatment required

Care required to prevent infection

Treatment for Minors

Clean wound with water

Avoid soap

Remove dirt/debris in the wound

Apply antibiotic ointment

Dress/ bandage the wound

Change dressing daily

Minor cuts stop bleeding in 10 min

Apply gentle pressure if bleeding persists

Deep cuts

May bleed heavily

May expose underlying tissues

Treatment For Deep Cuts

May require stitching

Requires Tetanus Toxoid (TT) if:

a. Cut is dirty or has debris

b. TT taken 5 years ago

Consult a doctor in case of:

a. Delayed wound- healing

b. Pus Discharge

c. Fever

Points to note

*Do not try to clean a major wound

*Do not remove deeply- lodged debris

* Do not breathe on an open wound

*Do not push back exposed body parts

first aid for burns

burns are extremely painful. Formerly classified as 1st, 2nd and 3rd degree, that has since been changed to partial-thickness and full-thickness. With respect to burn first aid treatment, the two major aspects which need addressing are pain control and infection control. The majority of burns encountered in the home or when out camping are partial-thickness burns, evidenced by reddened areas that are tender to touch. Partial-thickness burns can also blister. Full-thickness burns involve muscle as well as skin, and are extremely painful.

Basic first aid treatment for burns: Cool water is helpful to ease the pain, as well as Aloe Vera gel or Aloe directly from the plant can be used on partial-thickness burns, which has been shown to ease the pain. NEVER put ice on a burn as ice is a vasoconstrictor and burns do need blood flow. Wet cool compresses are helpful in alleviating pain. Acetaminophen (Tylenol) and Ibuprofen (Advil/Motrin) are generally good pain reducers.

The age old question which comes into play which is still debated among healthcare providers is, should the blisters be debrided or taken off? In talking to a few burn experts in the Midwest and ER physicians, we have come to the following consensus: If in the outdoors and you are greater than 24-48 hours from medical attention, leave the blisters on. They make great protective barriers and help prevent infection. Urgent care clinics will routinely debride the blisters since all wounds need air to heal, and after debridement, Silvadene ointment is generally applied. In the home, since you can get medical attention fairly quickly, go ahead and make pain control your greater priority and transport to an urgent care clinic or ER.

Covering and wrapping burns

Clearly one wants to use a nonstick or non-adherent dressing. You do not want to use gauze. Telfa is an excellent choice along with a loosely bound wrap. Ace wrap works well over that. In the outdoors, when you are 48 hours or greater from medical attention, it is wise to have an antibiotic cream or topical ointment that you can apply to the burn, and then transport. Please be advised that around 10-12% of the population is allergic to Neomycin which is found in Neosporin, as well as triple antibiotic ointment. We strongly advise against using that topical antibiotic ointment due to running the risk of an allergic dermatitis.