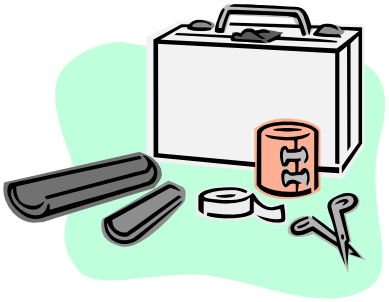
First Aid and CPR

Chapter 8



Chapter 8
First Aid and CPR

As a Huntmaster, you have responsibility to make sure all of the participants have a safe hunt. But accidents do occur and you need to be prepared for any emergency during the hunt. Many of the places where we hold activities are not near an emergency medical facility. In your risk assessment plan, you have identified the location and route to the nearest medical facility but you may have to perform lifesaving or first aid measures before you can transport the victim**. We strongly recommend you attend a basic Red Cross CPR and First Aid course. A sound knowledge of first aid is an important tool for you to have on your hunts.**

At each hunt, identify anyone who is trained in first aid. Ask the volunteers and parents if any are trained in first aid and are willing to act as the medic for the hunt. You should identify the location of the first aid kit to all participants. Tell all of the participants to notify you if they need any first aid care.

You have received health forms for all participants at the registration. Make sure you read each form and identify any possible medical conditions that may need attention during the hunt.

The following information is provided as a basic overview of CPR and First Aid measures.

CPR

According to recent statistics sudden cardiac arrest is rapidly becoming the leading cause of death in America. Once the heart ceases to function, a healthy human brain may survive without oxygen for up to 4 minutes without suffering any permanent damage. Unfortunately, a typical EMS response may take 6, 8 or even 10 minutes.

It is during those critical minutes that CPR (Cardio Pulmonary Resuscitation) can provide oxygenated blood to the victim's brain and the heart, dramatically increasing his chance of survival. And if properly instructed, almost anyone can learn and perform CPR.

HOW CPR WORKS

The air we breathe in travels to our lungs where oxygen is picked up by our blood and then pumped by the heart to our tissue and organs. When a person experiences cardiac arrest - whether due to heart failure in adults and the elderly or an injury such as near drowning, electrocution or severe trauma in a child - the heart goes from a normal beat to an arrhythmic pattern called ventricular fibrillation, and eventually ceases to beat altogether.
This prevents oxygen from circulating throughout the body, rapidly killing cells and tissue. In essence, Cardio (heart) Pulmonary (lung) Resuscitation (revive, revitalize) serves as an artificial heartbeat and an artificial respirator.

CPR may not save the victim even when performed properly, but if started within 4 minutes of cardiac arrest and defibrillation is provided within 10 minutes, a person has a 40% chance of survival.

The Circulatory System

Invented in 1960, CPR is a simple but effective procedure that allows almost anyone to sustain life in the first critical minutes of cardiac arrest. CPR provides oxygenated blood to the brain and the heart long enough to keep vital organs alive until emergency equipment arrives.
To make learning CPR easier, a system was devised that makes

remembering it as simple as A-B-C:

Airway
Breathing
Circulation

It is critical to remember that dialing 9-1-1 may be the most important step you can take to save a life.
If someone besides you is present, they should dial 9-1-1 immediately. If you're alone with the victim, try to call for help prior to starting CPR on an adult and after a minute on a child. Before we learn what to do in an emergency, we must first emphasize what NOT to do:

DO NOT leave the victim alone.
DO NOT try making the victim drink water.
DO NOT throw water on the victim's face.
DO NOT prompt the victim into a sitting position.
DO NOT try to revive the victim by slapping his face.

Provide 9-1-1 operator with:

- Location & phone number
- Type of emergency
- Victim's condition and age
- Always remember to exercise solid common sense. When faced with an emergency situation we may act impulsively and place ourselves in harm's way. Although time should not be wasted, only approach the victim after determining that the scene is safe: always check for cars, fire, gas, downed electrical lines, and any other potential hazards before attempting to perform CPR

CPR FOR ADULTS

American Heart Association's guidelines dictate that Adult CPR is performed on any person over the age of 8. The procedure outlined in the following lessons is similar to Children CPR and Infant CPR, although some critical differences apply.

- Before you start any rescue efforts, you must remember to check the

victim for responsiveness.

- If you suspect that the victim has sustained spinal or neck injury, do not move or shake him. Otherwise, shake the victim gently and shout "Are you okay?" to see if there is any response. If the victim is someone you know, call out his name as you shake him.
- If there is no response, immediately dial 9-1-1 and check the ABC's

AIRWAY

- "A" is for AIRWAY. If the victim is unconscious and is unresponsive, you need to make sure that his airway is clear of any obstructions. The breaths may be faint and shallow - look, listen and feel for any signs of breathing. If you determine that the victim is not breathing, then something may be blocking his air passage. The tongue is the most common airway obstruction in an unconscious person.
- With the victim lying flat on his back, place your hand on his forehead and your other hand under the tip of the chin . Gently tilt the victim's head backward. In this position the weight of the tongue will force it to shift away from the back of the throat, opening the airway
- If the person is still not breathing on his own after the airway has been cleared, you will have to assist him breathing.

BREATHING

- "B" is for BREATHING. With the victim's airway clear of any obstructions, gently support his chin so as to keep it lifted up and the head tilted back. Pinch his nose with your fingertips to prevent air from escaping once you begin to ventilate and place your mouth over the victim's, creating a tight seal.
- As you assist the person in breathing, keep an eye on his chest. Try not to over-inflate the victim's lungs as this may force air into the stomach, causing him to vomit. If this happens, turn the person's head to the side and sweep any obstructions out of the mouth before proceeding.
- Give two full breaths. Between each breath allow the victim's lungs to relax - place your ear near his mouth and listen for air to escape and watch the chest fall as the victim exhales.

- If the victim remains unresponsive (no breathing, coughing or moving), check his circulation

CIRCULATION

- "C" is for CIRCULATION. In order to determine if the victim's heart is beating, place two fingertips on his carotid artery, located in the depression between the windpipe and the neck muscles and apply slight pressure for several seconds. Do not use your thumb as it has its own pulse.
- If there is no pulse then the victim's heart is not beating, and you will have to perform chest compressions.

COMPRESSIONS

- When performing chest compressions, proper hand placement is very important. To locate the correct hand position for an adult, place two fingers at the sternum (the spot where the lower ribs meet) then put the heel of your other hand next to your fingers . For adults, place one hand on top of the other and interlace the fingers . (For children use one hand.) Lock your elbows and using your body's weight, compress the victim's chest. The depth of compressions should be approximately 1½ to 2 inches - remember: 2 hands, 2 inches (Figure 3). If you feel or hear slight cracking sound, you may be pressing too hard. Do not become alarmed and do not stop your rescue efforts! Damaged cartilage or cracked ribs are far less serious then a lost life. Simply apply less pressure as you continue compressions.
- Count aloud as you compress 30 times at the rate of about 3 compressions for every 2 seconds. Finish the cycle by giving the victim 2 breaths. This process should be performed two times - 30 compressions and 2 breaths - after which remember to check the victim's carotid artery for pulse and any signs of consciousness.
- If there is no pulse, continue performing 30 compressions/2 breaths, checking for pulse after every 2 cycles, one minute, until help arrives.
- If you feel a pulse (i.e. the victim's heart is beating) but the victim is still not breathing, rescue breaths should be administered, one rescue breath every five seconds (remember to pinch the nose to prevent air from escaping). After the first rescue breath, count five seconds, if the

First Aid

BITE

If the victim was bitten by an unprovoked undomesticated animal such as a raccoon or a squirrel, an immediate shot may be necessary to prevent the possibility of a rabies infection.

Contrary to common belief, a human bite can sometimes be more dangerous than that of an animal because human saliva contains many more types of bacteria which may cause infection.

A bite from a domestic pet can be painful but rarely requires a visit to the emergency room and unless obvious bodily harm was sustained, a simple precautionary treatment will suffice.

- Use anti-bacterial soap and water to thoroughly clean the bite wound.
- Apply antibiotic ointment such as Neosporin to prevent infection.
- If the injury resulted in broken skin, dress it with a sterile bandage and replace the dressing frequently.
- If the bite is deep, the victim may need to be treated for a puncture wound.

BROKEN BONE

A broken bone may not always be obvious as most breaks do not result in compound fractures (bone protruding through the skin). It is important not to misdiagnose a break and mistake it for a bruise or sprain. Typical symptoms of a broken bone are:

- Immediate and excessive swelling
- Injured area appears deformed
- The farthest point of the injured limb turns blue or is numb to the touch
- Even slight movement or contact to the injured area causes excessive pain

Dial 9-1-1 immediately and immobilize the broken bone with a splint. A functional splint can be made of almost any material (wood, plastic, etc.) as long as it is rigid and is longer than the broken bone.

- To apply the splint simply lay it along the broken bone and wrap it against the limb with gauze or a length of cloth, starting at a point farthest from the body. Do not wrap it too tight as this may cut off blood flow.
- If the break is in the forearm, loosely wrap a magazine or a thick newspaper around the break and use a sling fashioned from gauze or a strip of cloth to keep the elbow immobilized.
- A break in the lower part of the leg requires two splints, one on each side of the leg (or at least the chin). If suitable material is not available, you can use the victim's healthy leg as a makeshift splint.

As much as possible, keep the victim from moving and until an ambulance arrives, remember ICE:

- "I" is for ice - if possible apply an ice pack or ice cubes to the injured area. This will keep down the swelling and reduce pain.
- "C" is for compression - if the wound is bleeding, apply direct pressure with a clean cloth to reduce blood flow.
- "E" is for elevation - try to keep the injured area as high above heart level as possible. This will reduce blood flow to the injury and minimize swelling.

BRUISE

A typical bruise is a contusion caused by traces of blood escaping from small vessels that lie close to the skin's surface. Since our blood vessels become more fragile with age, the elderly tend to bruise easier than healthy adults and children. Conversely, if a child sustains excessive bruising, it may be an indication of a more serious injury and should be treated accordingly. If the bruise is on the victim's head, he may've have sustained and should be checked for head trauma.

- To reduce the bump and minimize the pain, have the victim elevate the injured area and apply a commercial ice pack or ice cubes wrapped in a towel for 30 to 45 minutes. Depending on the extent of the injury, this process should be repeated for a few days or until the swelling and the pain begins to dissipate.

BURN

A burn victim will require different type of care depending on the type and extent of his injury. Burns vary greatly from common, fairly harmless sunburn to a potentially life-threatening 3rd degree burn caused by open flames or electrocution. Here's how to distinguish the three different types of burn injuries and how to care for each:

- 1st degree burns are usually accompanied by redness and some swelling of the skin.
    - Treat a minor burn by first cooling the affected area. If possible, keep the injury under cool running water for at least 10 minutes. If running water is not available place the burn in a container of cold water such as a bucket, tub or even a deep dish. Using a cool, wet compress made of clean cloth will also work if nothing else is available. Keeping the burn cool will reduce pain and minimize the swelling. If the injury is on the part of a body where jewelry or snug clothing is present, carefully remove them before it begins to swell. Apply a moisturizing lotion or Aloe Vera extract and dress the burnt area with loosely wrapped sterile gauze.

- 2nd degree burns will result in deeper, more intense redness of the skin as well as swelling and blistering.
    - This type of burn should be treated just as a 1st degree burn but because the damage to the skin is more extensive, extra care should be taken to avoid infection and excessive scarring. Replace the dressing daily and keep the wound clean. If a blister breaks use mild soap and warm water to rinse the area. Apply antibiotic cream such as Neosporin to prevent infection before redressing in sterile gauze.

- 3rd degree burns may appear and feel deceptively harmless as the victim may not feel much pain due to complete destruction of all layers of skin and tissue as well as nerve endings. The damaged area may appear charred or ash-color and will instantly start to blister or "peel".

- If the victim's clothing is on fire, douse him with non-flammable liquid. Dial 9-1-1. Do not remove burnt clothing from the victim as this will expose open wounds to the elements and potential infection. If possible, cover the victim's injuries with wet sterile cloth to reduce the pain and swelling. If you notice that the victim is going into shock and loses consciousness, you will need to perform CPR.

CHOKING

Choking is usually caused by a piece of foreign matter such as food becoming lodged in a person's windpipe. Because a choking victim is fully aware that he cannot breathe normally, a sense of panic may overcome them, making assessing the situation and rescue efforts difficult. It is important to try and keep the victim calm in order to determine whether your assistance is truly necessary or if the victim's own coughing reflex is sufficient.

- Start by asking the person if he is choking. This simple step can be deceptively effective - the victim may be coughing violently or even gasping for air, but if he is able to answer then he is probably not choking.
- A choking victim will not be able to speak since oxygen cannot reach his lungs. But if after asking the person if he's choking all he can do is gesture or point to his throat and you notice his face starting to turn blue, then he is most likely choking and you will need to perform the Heimlich Maneuver immediately.

    - Start by finding the proper stance - behind the victim with one of your feet planted firmly between the victim's feet.
    - Wrap one of your arms around the victim and place your hand in a closed fist just slightly above his belly button.
    - Place your other hand directly on top of the first.
    - Squeeze the victim's abdomen in quick upward thrusts as many times as it is necessary to dislodge the object in his windpipe.
    - If you fail to clear the victim's air passage, dial 9-1-1 immediately and continue to perform the Heimlich Maneuver until help arrives.

CUTS & SCRAPES

The first and possibly most important step when treating minor cuts and scrapes is to thoroughly clean the wound with mild anti-bacterial soap and water. You can use sterilized tweezers to remove any debris that remains embedded in the wound after rinsing. This will reduce the risk of an infection and possible complications. If the debris is abundant or can't be removed for some other reason, a trip to the emergency room will be necessary.

Water may induce bleeding by thinning the blood. If while rinsing the wound you notice increased blood flow, use gauze or a clean cloth to apply gentle, continuous pressure until the blood clots.

Although hydrogen peroxide is commonly used as a disinfectant for minor cuts and scrapes, it is actually not very effective and may even delay the healing process by irritating a person's living cells. You can use hydrogen peroxide but apply it around the open wound, not directly to it. An antibiotic ointment such as Neosporin is a better alternative - it will keep the wound from getting infected and speed up the healing process.

- Dress the wound with a bandage or sterile gauze to keep dirt and bacteria out. Change the dressing frequently and rinse the wound as often as necessary to keep it free of dirt.

- Continue to monitor the wound for several days. If the injured area turns red or puffy, or if excessive pain persists, then it may've become infected and will require a physician's attention. Do not simply dismiss cuts as minor injuries as some may be quite serious if not tended to by a professional. If the wound is very deep or the bleeding is profuse, it may require stitches in order to heal properly.

HEAD INJURY

Although most minor head injuries caused by a fall or a strike to the head may result in a bruise or a bump and are not dangerous, it is extremely important to pay close attention to the following symptoms:

- Excessive bleeding from an open wound
- Loss of consciousness

- Interruption of breathing
- Prolonged disorientation or apparent memory loss

If you detect any of the above, the victim may have sustained serious head trauma and will require professional medical attention. If that's the case, dial 9-1-1 immediately. Until the ambulance arrives:

- If possible, place the victim in a dim, quite area.
- Lay the victim down with his head and shoulders slightly elevated.
- If the wound is bleeding, dress it with gauze or clean cloth.
- Do not leave the victim unattended.
- If the victim loses consciousness, you may need to perform CPR.
- If the injury does not appear serious or extend beyond minor bruising, it should be treated accordingly.

NOSEBLEED

A human nose is rich with small fragile blood vessels which are susceptible to damage. A nosebleed may be caused by a fall, a strike to the nose, or even from breathing excessively dry air.

If the nosebleed is not a symptom of a more serious injury, it is rarely dangerous and can usually be stopped by applying continuous pressure.

- Do NOT tilt the victim's head backward.
- Have the victim sit or stand upright to slow down the flow of blood.
- Loosen any tight clothing around the victim's neck.
- If possible, have the victim spit out excess saliva - swallowing may disturb the clot and cause nausea.
- Pinch the nostrils shut and press the tip of the nose against the bones of the face.
- Maintain pressure for 5 to 10 minutes.
- Once the bleeding has stopped, the victim should avoid blowing his nose or otherwise straining himself for at least an hour.

If the victim's nose continues to bleed or if the blood flow appears to be excessive, or if the victim feels weak or faint, the damage may be more serious than it appears. You should call 9-1-1 or take him to the nearest

emergency room as soon as possible.

PUNCTURE WOUND

Unlike a cut, a puncture wound does not typically result in profuse or excessive bleeding and although painful, may look harmless as the skin around the wound simply closes. But puncture wounds carry a risk of infection and if left unattended can result in serious complications. Injuries sustained by stepping on a nail that punctures through a shoe are especially prone to infection. If the injury is caused by stepping on a nail or a shard of glass that's been exposed to the elements, it is a good idea to consult a physician who may recommend a tetanus shot or booster.

A bite from a household pet or another person that results in a puncture wound should be considered and treated as serious injury. If the bleeding is heavy or the item that caused the wound appears unsanitary, thoroughly clean the injured area with mild anti-bacterial soap and water and seek professional medical assistance as soon as possible.

If the injury is minor, clean it with soap and water and apply an antibiotic ointment such as Neosporin to prevent infection. Dress the wound with sterile bandage and replace the dressing frequently. It is prudent to keep a close eye on the wound for several days to prevent an onset of an infection from any debris that may've lodged itself deep in the wound. If you notice persistent redness or puffiness or if the wound starts to ooze pus, have the victim consult a doctor right away.

Ever tried to call 911 from the woods?

By Blair Doyle

Well that's easy, just call on the shoe phone! The cell phone has come on strong and allowed us that quick call luxury. But, even those that use cells regularly around town will question their reliability. Get them out of the urban core and they are even less so. Add in a fading battery or leaning over and accidentally dropping it in the lake then stepping on it trying to find it. "You shouldn't put all your eggs in one basket" I heard someone say one day. After you make the call, now what? Where exactly are you in the woods? "Next to the big white tree, adjacent this rock right here sir"! Unlike all of N.S., Winnie the Pooh hasn't got a civic address. Who's coming to get you? When? How? You clearly have to know more, preparation and awareness is the key.

I have found the majority of us take our access to 911 and the many resources that can be scrambled to a scene for granted. With all the modern equipment and training that has come along Joe and Josephine citizen should be able too. The vast majority of calls are for those folk that are very near pavement. That is why our basic and even advanced Pre hospital Emergency Care (First Aid) protocols are set up around the urban-based assumption that we have rapid access to ambulance and medical services in virtually every populated area of Canada and short term management of illness and injury. Interestingly enough in N.S. anywhere that it takes an ambulance more than 30 min to respond is considered rural and remote. Take those protocols and apply them to a simple broken ankle while on a hiking excursion in the backcountry of one of our National Parks, and then add in wind, a heavy rain and eventually nightfall. Or maybe you are a Ground Search and Rescue Team Captain and one of your crew at night while searching a shoreline 8 km from the nearest house lobs off into the water, add in the month of February and a, now, wet radio. You may have some more decisions to make and you won't find it referenced adequately in a traditional First Aid text or program. These two situations are distinct from regular First Aid dilemmas in that you have a Time and Place concern. You are going to be spending a lot more TIME than 15 min. with the injury and the injured; and given the PLACE your evacuation will not be happening quickly or easily. The Golden Hour may become the Golden Day!

Wilderness and Remote First Aid programs have been available all across North America and have recently become mainstream and available in Nova Scotia. Everyone that has a First Aid qualification at any level will find that they may want gain a different mind set when treating injuries and the injured far from the roadside. The principles still

apply, but just differently. I have seen some very skilled Medical Professionals realize that all their capability becomes very challenged when you haven't got a $30,000 rescue rig to draw from. There is only so much room in those backpacks and kayaks. Calling 911 is one of those First Aid principles. Ensuring access to 911 or just help, for that matter, involves a lot more preparation in the "back of beyond". Set yourself up for a home run not a strike. Let someone know where you are going. That's why planes file flight plans. If you don't return you will be sought after within a certain time. Search and Rescue are not looking for you by the way. They instead are seeking clues. Statistically there are more clues than you, therefore be sure to leave lots. You can use cell phones, radio, satellite distress beacons, and flares. Just don't rely on one form of getting help and be aware of your resources limitations. Electrical devices are not fool proof. Anyone involved in Search and Rescue is well aware that three of anything is the international sign of distress. (i.e. Three whistle blasts, three shotgun blasts, three rocks or logs on a beach, three flashes from a flashlight) The Canadian Coast Guard has just decommissioned use of S.O.S. or Morse code, but if you know it, use it. Be sure to have a sense for your location, otherwise your help will be an even longer arriving. There are a lot of Long Lakes in this province. Which one are you on? A lot of unanswered questions get asked in First Aid courses on how to access 911 when you are far from anything. A Wilderness and Remote First Aid Training program will give you a better sense for how to do that and just who is coming to help you. As well it will empower you to treat when injuries go well beyond the "Golden Hour".

Blair Doyle is a Wilderness & Remote First Aid Instructor Trainer for the Nova Scotia Division of the Red Cross and Internal Training Officer with Halifax Regional Search and Rescue