Reference Guide

First Aid Manual: Emergency Preparedness in the Home

Guide prepared by McGill University Nursing Students to accompany First Aid Workshop in collaboration with Montreal City Mission (McM)

McGill | Ingram School of Nursing | École des sciences infirmières Ingram

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Chapter 1 – Introduction to First aid

This is a reference guide to accompany the First Aid Workshop provided through the Montreal City Mission (McM) given by McGill Nursing students. The information provided in this document is for general use and knowledge. It does not include information that may be relevant for every situation and should not be substituted for advice from medical professionals.

Introduction
What is first aid?
First aid is emergency help given to an injured or suddenly ill person using readily available materials. Those performing First Aid will be referred to as rescuers, those receiving First Aid will be referred to as casualty.

The three priorities of first aid:

- Preserve life
- Prevent the illness or injury from becoming worse
- Promote recovery

General Concepts
The procedures related to the provision of first aid and cardiopulmonary resuscitation (CPR) differ in some ways, depending on the age and size of the casualty.

In Canadian Standards:

- An **infant** casualty is under one year old
- A **child** casualty is from age one to age eight
- An **adult** casualty is over eight years of age

  *in case of doubt, treat someone who looks as if they have attained puberty as an adult. Keep in mind, these are general guidelines.

First Aid and the Law

Across Canada Good Samaritan laws protect first aiders from lawsuits. You are a Good Samaritan if you are a bystander who helps a person when you have no legal duty to do so. As a Good Samaritan, you give your help without being paid, and you give it in good faith. Whenever you help a person in an emergency situation, you should abide by the following principles:

✔ You identify yourself as a first aider and get permission to help the injured or ill person before you touch them—this is called **consent**

✔ You use **reasonable skill and care** in accordance with the level of knowledge and skill that you have

✔ You are not **negligent** in what you do

✔ You do not **abandon** the person

Consent
Always ask if you can help. If the casualty cannot answer, you have what is called **implied consent,** and you can help.

If the casualty is an infant or a young child, you must get consent from the child's parent or guardian. If there is no parent or guardian at the scene, the law assumes the casualty would give consent if they could, so you have implied consent to help.

A person has the right to refuse your offer of help. In this case, do not force first aid on a conscious casualty. If you do not have consent to touch the casualty, you can still call Emergency Medical Services (EMS or 911) for assistance.

Reasonable skill and care
As a Good Samaritan, when you give first aid you are expected to use reasonable skill and care according to your level of knowledge and skills.

Negligence
Give only the care that you have been trained to provide, and always act in the best interest of the casualty.

Abandonment
Never abandon a casualty in your care. Stay until:

– You hand them over to medical help

– You hand them over to another first aider

– They no longer want your help—this is usually because the problem is no longer an emergency, and further care is not needed

Giving first aid in Quebec
The Quebec Charter of Human Rights and Freedoms declares that any person whose life is in danger has the right to be helped. This means that you are required to help a person whose life is at risk, provided you do not put your own life, or anyone else's, in danger.

Chapter 2 – Emergency Scene Management

Securing the Scene

Personal Safety
Make sure the scene is safe to enter. Hazards can be anything from a dark room to objects obstructing the room. If there is a significant hazard (ie. fire, wire, glass, gas, people, poison, pets), do not enter the environment and call EMS.

- **Personal Protective Equipment** (PPE) is recommended for First Aid. This varies situation to situation given that if an emergency happens in your home, you may not wear the same PPE as if you are helping someone outside your household.
    - **Gloves**: Disposable nitrile (non-latex) gloves are recommended to protect yourself from bodily fluids
    - **Masks**: Masks are recommended to protect yourself from airborne pathogens. N95 masks provide the most protection, but surgical or cloth masks would be important to don.
    - **COVID-19**: In the context of COVID-19, Canada is recommending rescuers wear masks or face shields while performing first aid.

- If someone with more experience identifies themselves, at that point transfer care to that person. Stay on the scene to provide details to emergency dispatch if needed

Communication
Communication is key to any emergency situation. Communication can help diffuse stressful situations and ensures you are helping control the situation.

Calling EMS or 911
When calling 911 there are several important steps to take

- Identify yourself
- Identify the casualty with as many specific details as you can using the **MIST** acronym
    - **M**echanism of injury
    - **I**njury
    - **S**igns and **S**ymptoms
    - **T**reatment
- Know your exact location. If possible, have a bystander available to direct EMS to you.
- Ask for an estimated time of arrival (ETA)
- Remain calm
- Remember, EMS will stay on the phone with you (or a bystander at the scene) until their medical team has arrived on the scene.

Coping with Emergency Situations and Bystanders

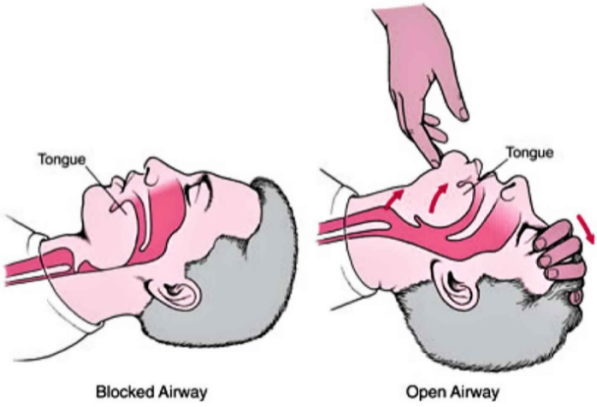
- Take charge! Emergency situations are difficult. Remain calm and composed while directing bystanders. Bystanders often want to help, but feel stressed and anxious, requiring guidance.
- Call out for help! If someone else can do one of your tasks, it helps you focus on the situation on hand. If there is someone available, have them call 911 for you.

Primary Survey

The primary survey is a quick assessment to find out if there is a life-threatening injury/condition that requires immediate treatment/intervention.

ABCs
ABCs help you decide if this is an emergency situation

Airway: are there any airway obstructions? If the casualty is unconscious, perform a head-tilt-chin-lift to determine if the airway is clear. This prevents the tongue from blocking the airway,



Breathing: Is the casualty breathing? While you are performing the head-tilt-chin-lift, check for breathing by observing the patient's chest rise/fall for 5-10 seconds. If there is no breathing for 10 seconds or if the breathing is ineffective (gasping, irregular, agonal) begin steps for CPR.
Normal Respiratory Rates for Various Ages

- Infant: normal 30-50 (dangerous below 25, above 60)
- Child: normal 20-30 (dangerous below 15 or above 40)
- Adult: normal 10-20 (dangerous below 10 or above 30)

Circulation: We no longer check for pulse during our breathing check for the primary survey. This will be performed during the secondary survey. Other circulatory issues can present as an emergency (such as excessive bleeding) may could require treatment prior to starting CPR.

Secondary Survey

Secondary surveys are appropriate for several situations: you have dealt with the emergency (ie. CPR has been performed and the patient is breathing again, you have managed the bleed effectively); the patient has multiple injuries; EMS will be delay by 20+ minutes; or you will be transporting your patient to the hospital as it's not an emergency

Continue your ABCs

Circulation: Begin by checking your casualty's pulse. Best check is radial for children and adults and brachial for infants

- Infant: normal is 120-150 beats per minute (BPM)
- Child: 80-150 BPM
- Adult: 60-100 BPM

Brachial

Circulation continued: Pulse is not the only important check for the circulatory system! Assess the casualty's skin for redness (erythema), pale (pallor), blue (cyanosis), swelling (edema), sunken

eyes or poor skin elasticity (skin turgor), temperature (cool or warm to touch), excess sweating (diaphoresis), signs of bleeding or fluid loss (ie. excessive vomiting or diarrhea)

Not an Emergency?
Some situations may not require an ambulance or immediate medical attention. People who have non life-threatening injuries should still be evaluated to make sure nothing else has been missed. Start by taking a **SAMPLE** of their medical issue

Signs and **S**ymptoms: Note observable signs related to the potential issue. Ask the casualty about symptoms they are experiencing.

Allergies: Verify if the casualty has any allergies, especially to medications.

Medications: Ask the casualty to list medications they take (prescribed, recreational drugs, over the counter medications or supplements). Ask specifically what they have taken in the last 48 hours.

Past/**P**resent Medical History: Ask about any conditions they may have. It could help eliminate some interventions or establish if the situation is more urgent than it appears.

Last meal: Ask about what the casualty has eaten recently

Events prior: What happened prior to the incident? What brought about the change in condition?

Shock
Shock is a medical emergency. It is a problem within your circulation whereby tissues are not getting blood circulated properly meaning that your tissues/organs are not getting adequate oxygen.

Causes: bleeding, heart conditions, loss of body fluids (blood, severe burn, severe dehydration), severe infection, severe allergic reaction, spinal injury, diabetic coma, heart attack, intense trauma

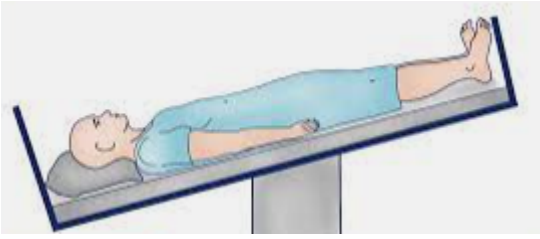
(MVA). This is not an exclusive list. Shock can be brought on by a variety of conditions.

Signs and Symptoms

- Fast pulse, weak pulse, radial or pedal (peripheral pulses) may not be palpable
- Pale, cold, clammy skin
- Grey-blue skin
- Sweating
- Fast, shallow breathing, irregular breathing, gasping
- Change in level of consciousness, not responsive
- In darker skinned individuals: ashen grey skin, it is important to check lips, gums, tongue, nail beds, palms, earlobes, inner eyelid as their overall tone may not reflect pallor
- Others: restless, anxious, disoriented, confused, afraid, dizzy, thirsty

Interventions

- Call 911
- Treat the injury or illness: compression for bleeding, EpiPen for anaphylaxis
- Remain calm and reassuring, be gentle in your assessments and treatment
- Loosen tight clothing at neck, chest and waist
- Provide blankets or coats, but do not overheat (no heated blankets for example); remove from cold environment; remove wet or damp clothes
- Put them in a comfortable position: debated here some say Trendelenburg, some say side lying recovery position



Trendelenburg

Elevate the casualty's feet above the level of the heart to increase blood pressure

Side Lying/Recovery

Pillows protect bony joints, fragile skin and promote proper alignment

- Some patients complain of extreme thirst: can moisten lips, do NOT provide drinks unless medical help would be delayed hours

Chapter 3 – Airway and Breathing Emergencies

Choking

Choking occurs when the airway is partially or completely blocked. This means there is no airflow to the lunches and the patient will have trouble breathing or cannot breathe at all. Clearly the airway requires immediate attention to prevent hypoxia. This can be caused by anything from inhaling food/fluid into your trachea or for children/infant tongue falling backwards and blocking airways

Signs and Symptoms

- Partial obstruction: often casualty will be coughing or can speak a tiny bit, noise can escape as it is a partial obstruction. Typically, people who are choking will do the universal choking sign which is where they are hold their throat with their hands

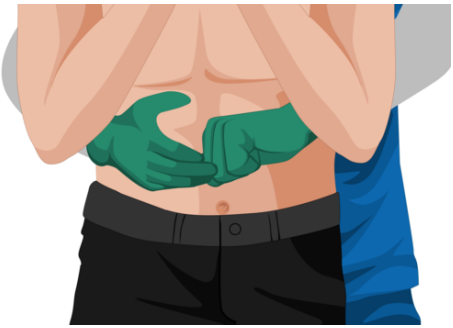
- Complete obstruction: No noise will escape from the patient's mouth, universal choking sign present, rapid pallor and cyanosis appear, frightened look in their eyes

Interventions

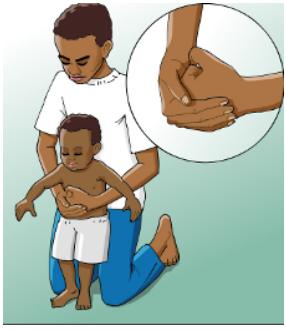
- Partial: With a calm and reassuring manner, introduce yourself and explain you are there to help. They can REFUSE your help, if not. Support them to lean forward and encourage them to keep coughing. If they are unable to clear the object, treat as unobstructed or contact 911 as they may have a condition preventing the blockage from coming out.
    - Contradictions: St John's Ambulance says to give back blows, Red Cross and Heart and Stroke say to encourage coughing

- Complete: With a calm and reassuring manner, introduce yourself and offer to help. With consent, provide abdominal thrusts by:

Standing behind the casualty, put your feet shoulder width apart to support yourself. It is no longer recommended to place your leg/knee between the casualty's legs.



Place your dominant hand in a fist just above the patient's bellybutton and the palm of your non dominant hand over your fist, pull sharply inwards and upwards (on an angle).



Normally 3-5 thrusts will dislodge the object, but if not continue until the object is dislodged or patient falls unconscious. Follow up with a doctor is a good idea as thrusts can be quite painful. Same principle for child or adult. If the child is very small, kneel to perform your interventions. Your abdominal thrusts should not lift the child's feet off of the floor.

Infant choking: may present differently including difficulty breathing (dyspnea), coughing, gagging, high pitched or noisy breathing. Even if its a mild obstruction, you can let the child try to clear their airways for a couple minutes but if they cannot cough forcefully or cannot breathe (or the high pitched breath sounds start, cyanosis occurs) begin your interventions.

Remove the object with your finger ONLY if you can see it

Place the infant stomach-down across your forearm and give five quick, forceful blows on the infant's back with heel of your hand

If there is no object, begin by delivering 5 **back blows**.

Secure infant between your forearms (protecting airways and supporting their head) lower the baby's head lower than their body, use the heel of your palm to give 5 forceful back blows between shoulder blades

Place two fingers in the middle of the infant's breastbone and give five quick downward thrusts

If the back blows do not dislodge the object, delivery 5 **chest thrusts**

Turn baby over (support head and neck) and perform check thrusts (directly between the nipples using two fingers, go

to a depth of ⅓ of the baby's body) and give 5 chest thrusts

Alternate 5 back blows and 5 chest thrusts until the object becomes dislodged or the baby falls unconscious

Special Considerations

Morbidly obese: If you are unable to wrap your arms around the person's abdomen, place your hands on the person's sternum and perform compressions from there. This are less effective at dislodging the object from the trachea.

Pregnant: If a woman is obviously pregnant or in later stages of pregnancy, perform sternal compressions instead of abdominal thrusts.

Anaphylaxis

Allergic reactions are caused by triggers that cause the immune system to react to the trigger once it enters the body. Most are mild or annoying at best, but some can cause a severe allergic reaction which can be life threatening. It can occur quickly (within seconds) or even be delayed by hours. Typically, the faster the reaction occurs, the more intense the reaction is.

- Common allergens for anaphylactic shock include medications, insect bites or stings, food, environmental triggers

Signs and Symptoms

- Patient can go into shock
- Obstructed airways: swollen tongue or throat, angioedema, wheezing, dyspnea, rapid shallow breathing
- Weak and rapid pulse
- Nausea, vomiting, diarrhea
- Dizziness or fainting

Interventions

If the patient has a known anaphylactic reaction to something, they should have an EpiPen prescribed. It is important to take a moment to verify the device: expired products can be used if you cannot find an unexpired one, but if you can see the fluid inside the auto injector, it should be CLEAR.

- If the patient does not have a known anaphylactic trigger but came in contact with a common one (for example: first time bee sting and the child's airway has swollen and become obstructed), use an EpiPen if available
    - Hold the EpiPen firmly with the orange tip down
    - Remove the blue cap
    - Find the fleshy part of the mid-outer thigh (it can be given through some fabric, i.e.. jeans or leggings or single layer pants, but not snow pants or thick sweatpants)
    - Press the orange part firmly against the outer thigh until it activates
    - Hold it in place for 10 seconds and pull out

- Do not massage the area
- Keep the patient warm and comfortable, in a position lying down on the ground, flat (the medication will cause hypotension and cause a risk of fainting/falling if standing up or sitting upright)
- Always call 911 immediately after giving a dose (it wears off in 10 -20 minutes)
- If there is no improvement in 5 minutes or the patient deteriorates, you can provide a second dose
- If you are accidentally injected, contact 911 immediately, and lie down
- Put the EpiPen in a storage container (hard plastic) and send it to the hospital with EMS
- ****some children require Twinject for serious anaphylaxis (double doses), they will have a needle that can be exposed NEVER place your finger or hand of the grey cap

Asthma

Asthma is a common respiratory illness in children. It can range from a mild attack easily managed at home to a severe attack requiring EMS. Asthma has several different triggers: smoke, dust, pollution, cold, pets, mold, insects, cleaning products etc. These triggers cause an asthmatic person's airways to spasm, swell, or produce mucous which blocks their airways and impedes their breathing

Signs and Symptoms

- Difficulty breathing, short of breath
- Coughing and wheezing
- Fast shallow breathing
- Tripod or upright position trying to catch breath

- Cyanosis
- Fast pulse, weak pulse
- Symptoms of shock
- Restlessness initially and than fatigue

Interventions

- Place the patient in the most comfortable position for breathing: sitting upright with arms resting on the table to promote lung expansion.
- Assist patient to take their asthma inhaler. Most patients understand their medication
    - Metered Dose Inhaler (MDI): Shake, remove cap, spray away from patient's face, with patient's face

turned away tell them to FULLY EXHALE, put MDI to patient's lips (good seal), inhale, hold breath for 10 seconds. Wait 1-2 minutes (or as prescribed) before second dose (Always follow prescription)

- MDI with aerochamber: same principle as MDI

- Diskus: Hold inhaler away from mouth, EXHALE FULLY, put lips on mouth piece, breathe in steadily and deeply through inhaler only, remove inhaler, hold breath for 10 seconds, slowly exhale
- Turbohaler: unscrew the cap by turning anticlockwise and lift off, hold it upright, twist it clockwise until you hear a click, EXHALE FULLY (away from the inhaler), put lips on mouth piece and inhale deeply, hold breath 10 seconds and breathe out

Chapter 4 – Cardiovascular Emergencies and CPR

Cardiovascular Disease

What's happening? Cardiovascular disease is a leading cause of death for adults in Canada. Cardiovascular diseases take their toll on your circulatory system over the years. High blood pressure constantly puts pressure against the walls of your blood vessels. This means that blood vessels (arteries, veins, capillaries) become thick and hard. They lose their elasticity and have trouble adapting to the naturally fluctuating pressures. This eventually leads to heart muscles becoming enlarged. Atherosclerosis is where plaque (fatty deposits) build up inside the blood vessels. This can happen in vessels that bring blood to important organs. The more buildup, the more narrow the blood vessels are meaning they are bringing less oxygen to the organs in questions (CAD in coronary arteries becoming blocked, blocked vessels to the brain etc,,,).

- It can lead to angina attacks, heart attack, stroke/TIA, or cardiac arrest.

Angina

Blood supply to the heart muscle is limited (due to narrowed, damaged, blocked arteries). During activity (running, shoveling etc…) oxygen demand from the heart exceed oxygen supply from the blood vessels.

Signs and Symptoms

- Chest Pain: pain or discomfort in the chest that can radiate to neck, jaw, shoulders, and arms. It is short in durations and will be relieved by rest or by taking prescribed medication. Pain is described as heavy, tight, pressure, squeezing or crushing. Sometimes it is sore shoulders or arms, or even an aching jaw.
- Some people report indigestion or nausea as well.
- Pale ashen skin

- Sweating cold and clammy to the touch
- Shortness of breath

Intervention

- Be calm and reassuring, have the patient rest
- Administer nitroglycerin as prescribed (patient must be sitting down, can cause severe hypotension its a strong vasodilator). Can be in several fast delivery forms (sublingual tab or spray). Administer one dose, if the symptoms are not relieved after 5 minutes administer a second dose, if they are not relieved after another 5 minutes, administer a third and call 911 when giving the third dose
    - Patient must be sitting down
    - Patient may complain of medication tingling or stinging, this is ok (means it is still stable/not expired)
    - Patient may complain of a headache (very common side effect that resolves quickly), flushing to the face (resolves in minutes to hours), and palpitations (resolves within minutes)
    - Contraindications: if patient has consumed alcohol within the last 24 hours can further lower blood pressure (still ok to give, risk of fainting/falls). Patient CAN NOT take nitroglycerin if they have taken erectile dysfunction drugs within the last 24 hour (it is fatal)

Heart Attack

Heart attack occurs when heart muscles received no oxygen and some of the cardiac tissue has begun dying. It can feel exactly the same as angina, except that pain will not be relieved with medications or rest. A heart attack could mean that electrical impulses in the cardiac muscles no longer work, which could lead to cardiac arrest.

Signs and Symptoms

- Same as Angina

- Anxiety, sense of impending doom
- Denial
- Central back pain
- Women can often present with more nausea, indigestion, vomiting compared to chest pain

Interventions

- Ask questions to establish whether it is a heart attack or angina. Can you show me where it hurts? Has this happened before? Do you have medications for this pain?
- Place the patient in a semi-sitting position and reassure them, remain calm
- If the patient is not known for angina/does not have nitroglycerin available, assist the patient in taking chewable ASA (1 regular dose, or 2 low dose or baby aspirin) if on hand.
    - Double check for contraindications: ALLERGY, bleeding, thrombocytopenic, head injury, people who have had bronchospasms or respiratory reactions to NSAIDs, ulcers, pediatric patients who have a viral illness
- Loosen tight clothing around chest, neck etc
- Rest and reassurance

Stroke and Transient Ischemia Attack (TIA)

Strokes happen when blood flow has been disrupted to the brain (could be a blocked artery or a broken blood vessel). This is likely to results in permanent brain damage or impair function depending on the area affected.

TIA is a temporary blockage of blood flow, oxygen and nutrients to the brain. This is less likely to result in permanent damage, but looks the same as the stroke.

Signs and Symptoms

- Facial droop
- Incoherent speech
- Arm drift
- Hemiplegia
- Blurred vision

- Confusion
- Dizziness
- Headache
- Loss of balance

Interventions

- CALL 911
- Place the patient in semi-sitting or side-lying position (paralyzed or weak side up as this reduced tissue or nerve damage to that side)
- Give nothing by mouth
- Reassure the patient

Facial droop: ask them to smile, is there asymmetry? Sign of Stroke/TIA

Arm drift: ask them to lift up both their arms, palms up and close their eyes. If they have a positive pronator drift (one arm drifts down) or if they are unable to move one side, sign of stroke TIA

Speech: Ask them to repeat a phrase you say, if it is slurred, use incorrect words, use words in incorrect order or cannot speak, STROKE TIA

Time: when was the onset of symptoms? Important to tell EMS because they can start various therapies depending onset of symptoms…. Also ACT FAST AND CALL 911


SPOT A STROKE™
F.A.S.T.
FACE Drooping
ARM Weakness
SPEECH Difficulty
TIME to Call 911

Cardiopulmonary Resuscitation (CPR)

CPR is artificial respiration and artificial circulation. Artificial respiration provides oxygen to the lungs. Artificial circulation causes blood to flow through the body. The purpose of CPR is to circulate enough oxygenated blood to the brain and other organs to delay damage until either the heart starts beating again, or medical help takes over from you. CPR is most effective when interruptions to chest compressions are minimized.

CPR – ADULT

1. Perform a scene survey. Establish a secure scene, safe from dangers.
2. Assess responsiveness.
    a. To verbal response: Call out to the person: “are you awake?” “can you hear me?”
    b. To physical response: Gently tap the person
3. If there is no response, call for medical help on a mobile device, and place the phone on speaker-phone, and send someone for an AED. If no mobile phone is available, send or go for medical help and the AED, if available. Even if it means leaving the person, contact Emergency Medical Services immediately by calling 911. This step should not be delayed
    a. An AED (explained in more detail later) is an automatic external defibrillator. This is a crucial step to CPR as it can help correct the electrical imbalance that caused cardiac arrest.
4. Carefully place the person on their back on a flat surface. Expose their chest by removing clothing around the neck and chest.
5. Open the person’s airways by performing the head-tilt-chin-lift and observing breathing pattern for 5 to 10 seconds.

*update since COVID-19: Instead of using a mask, it is now recommended to place a cloth towel or piece of clothing over the person's mouth to prevent potential spread of COVID-19. If you have an N95 mask available for yourself, use it while checking for breathing and performing compressions.
https://www.youtube.com/watch?v=fNrYIeMreUU&t=2s

6. If the casualty is not breathing, or not breathing effectively (agonal breaths) position your hands in the centre of the upper chest and your shoulders directly over your hands. Keep your elbows locked.

7. Give compressions—Push hard—Push Fast!
    - Press the heels of the hands straight down on the breastbone. The depth of each compression should be at 5-6 cm (2-2.4 inches).
    - Release pressure and completely remove your weight at the top of each compression to allow chest to return to the resting position.
    - Give compressions at a rate of 100 to 120 per minute. Count compressions out loud to keep track of how many you have given, and to help keep a steady rhythm.

    https://www.youtube.com/watch?v=XpEvQuOWME0
8. Continue CPR until either an AED is applied, the casualty begins to respond, another first aider or medical help takes over or you are too exhausted to continue. The AED should be applied as soon as it arrives at the scene.

Agonal Breathing

Agonal breathing is an abnormal pattern of breathing driven by a brain-stem reflex, characterized by irregular gasping respirations at times accompanied by strange vocalizations. They can occur with cardiac arrest and lead bystanders to believe the person is breathing. A person with agonal

breathing should be treated as though they are not breathing
https://www.youtube.com/watch?v=gcio26KP7LA

CPR – Child

1. Perform a scene survey. Establish a secure scene, safe from dangers.
2. Assess responsiveness.
    a. To verbal response: Call out to the child: “are you awake?” “can you hear me?”
    b. To physical response: Gently tap the child

1. If there is no response, call for medical help on a mobile device, and place the phone on speaker-phone, and send someone for an AED.
   **This requires a special type of pediatric AED. Some AEDs will have keys or special pads indicated for use on children. If pediatric AEDs are unavailable you can use a regular AED. Depending on the size of the child you may have to adjust the placement of the pads compared to an adult.

a.

If you are alone with no phone perform 5 cycles of CPR (two minutes) then go for medical help. Carry the child with you if possible. Children are less likely to go unconscious due to cardiac arrest, but rather respiratory problems. They are more likely to respond to CPR and chest compressions alone than adults.

2. Carefully place the child on their back on a flat surface. Expose their chest by removing clothing around the neck and chest.
3. Open the person's airways by performing the head-tilt-chin-lift and observing breathing pattern for 5 to 10 seconds.

*update since COVID-19: Instead of using a mask, it is now recommended to place a cloth towel or piece of clothing over the person's mouth to prevent potential spread of COVID-19. If you have an N95 mask available for yourself, use it while checking for breathing and performing compressions.
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4. If the child is not breathing, or not breathing effectively (agonal breaths) position your hands in the centre of the upper chest and your shoulders directly over your hands.

Keep your elbows locked. You may use one or two hands depending on the size of the child.

a. If you have trouble keeping balance with one hand, use your dominant hand to perform compressions and *gently* place your non-dominant hand on the child's head.

https://www.youtube.com/watch?v=d4N0--eFn9s

5. Give 30 compressions—Push hard—Push Fast!

- Press the heels of the hands straight down on the breastbone. The depth of each compression should be 1/3 of the chest depth, or 5 cm (2 inches).
- Release pressure and completely remove your weight at the top of each compression to allow chest to return to the resting position.

- Give compressions at a rate of 100 to 120 per minute. Count compressions out loud to keep track of how many you have given, and to help keep a steady rhythm.

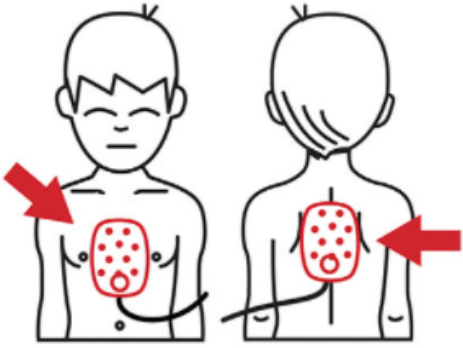
6. Continue CPR until either an AED is applied, the casualty begins to respond, another first aider or medical help takes over or you are too exhausted to continue. The AED should be applied as soon as it arrives at the scene.

CPR – Infant

1. Perform a scene survey. Establish a secure scene, safe from dangers.
2. Assess responsiveness.
    a. To verbal response: Call out to the infant: “are you awake?” “can you hear me?”
        b. To physical response: Gently tap the infant’s feet (bottom of the feet)

1. If there is no response, call for medical help on a mobile device, and place the phone on speaker-phone, and send someone for an AED.

**This requires a special type of pediatric AED. Some AEDs will have keys or special pads indicated for use on infants. If pediatric AEDs are unavailable you can use a regular AED by placing one pad on the front of the infant’s chest and one on the infant’s back.



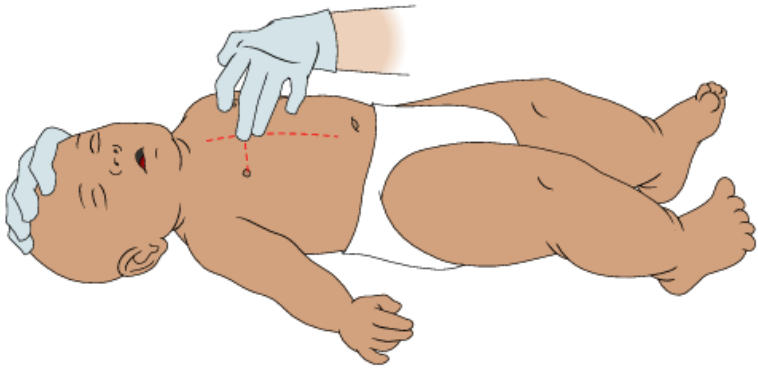
If you are alone with no phone perform 5 cycles of CPR (two minutes) then go for medical help. Carry the child with you if possible. Infants are less likely to go unconscious due to cardiac

arrest, but rather respiratory problems. They are more likely to respond to CPR and chest compressions alone than adults.

2. Carefully place the child on their back on a flat surface. Expose their chest by removing clothing around the neck and chest.
3. Open the person's airways by performing the head-tilt-chin-lift and observing breathing pattern for 5 to 10 seconds.

*update regarding COVID-19: Infants are considered low risk for transmission of COVID-19. Covering there face to prevent contamination is NOT recommended. Use of N95 for yourself is not recommend, a surgical mask would be considered sufficient.

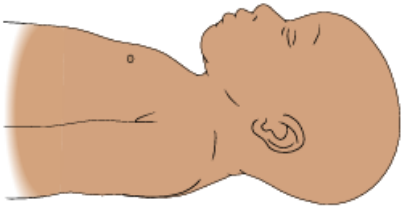
4. If the baby is not breathing, or not breathing effectively (agonal breaths) begin CPR

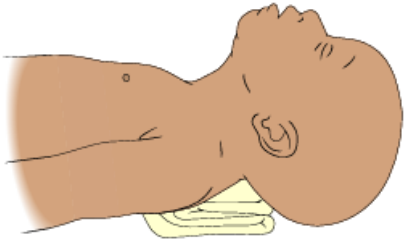


- Place two fingers on the breastbone just below the nipple line. Push down on the breastbone 1/3 the depth of the chest or about 4 cm (1 1/2 inches).
- Release the pressure completely but keep your fingers in light contact with the chest. Repeat the pressure and release phases rhythmically so that each phase takes the same amount of time.
- Give compressions at a rate of 100 to 120 per minute. Count compressions out loud to keep track of how many you have given, and to help keep a steady rhythm.

Special Considerations

The back of an infant's head is quite large compared to the rest of the body. This causes the baby's head to come forward and close off their airway.





An infant's head flexes forward when they are lying on their back.

When giving CPR, it may be helpful to put a thin pad under the shoulders to help keep the airway open—but don't waste time looking for a pad.

Two-rescuer CPR

If two trained rescuers are available, they can cooperate to perform CPR on a casualty. There are three advantages to two rescuers performing CPR as a team:

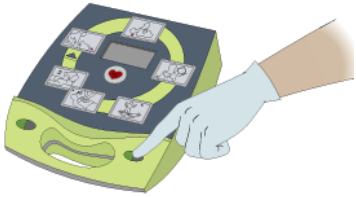
- CPR is a strenuous physical activity and as a first aider gets tired the quality of the chest compressions will deteriorate. By sharing the task of compressing the chest two rescuer CPR allows for a team to perform effective chest compressions for a longer period of time.
- Keep in mind that if someone more advanced comes along, allow them to take over. It could be they perform a different standard of CPR due to their level of training. They will direct you as to how you can assist.

Automated External Defibrillation—AED

Automated external defibrillation, the application of an electric shock to a heart that has stopped pumping effectively, has been proven to be one of the most important tools in saving the lives of sudden cardiac arrest casualties. An automated external defibrillator (AED) is an electronic device that is programmed to recognize and shock two types of heart rhythms, Ventricular Fibrillation (VF) and pulseless Ventricular Tachycardia (VT). If the machine recognizes either VT or VF in a person, it will charge and will indicate that a shock is advised. The

purpose of this shock is to correct the abnormal electrical disturbance and re-establish the heart rhythm. It is important to remember that AEDs will only shock when VT or VF is present. You cannot shock a heart that is in normal rhythm, nor will the machine shock when it is not appropriate, such as when the heart is stopping (asystole) or there is pulseless electrical activity (PEA)

Time is a critical factor in determining survival from cardiac arrest; the heart will only stay in fibrillation a short time before all electrical activity ceases. Defibrillation must be performed early to be most effective. CPR can keep oxygenated blood flowing to the brain, and helps extend the length of time that the heart will remain in VT or VF, the only arrhythmias that AEDs will shock. CPR then can "buy some time" for the casualty until the AED is attached and ready to deliver a shock.



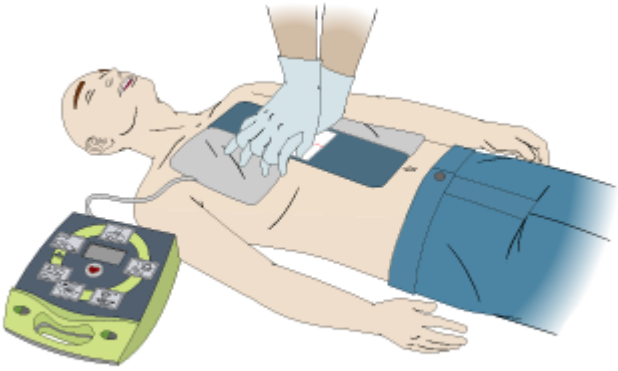
Using an AED (always follow the AED's voice prompts)

1. Power on the AED.
2. Follow the voice prompts. The audio instructions will direct you to:

    ⇨ Bare the chest and attach electrode pads. The pads need to stick directly to the skin, so excessive sweat, water, and chest hair needs to be removed before application

- ⇨ Stand back (or clear). Make sure that yourself and anyone else at the scene stands clear of the person. Do not touch the person while the AED is analyzing heart rhythms at it will affect the assessment.
- ⇨ Press the shock button and/or continue CPR as prompted by the machine

3. Continue with CPR and listen for the AED to give additional instructions



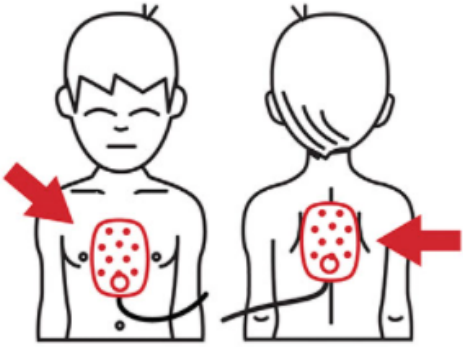
https://www.youtube.com/watch?v=DkVRqpQbQCY
https://www.youtube.com/watch?v=FSiDT5P0ZII

If you have two people available. While one rescuer is applying the pads, rescuer two continues performing chest compressions.

Defibrillation—Special Considerations and Special Circumstances

- **Pregnant patients**–AEDs can be used in all stages of pregnancy.
- **Pacemakers or implanted defibrillators–**Defibrillator pads should not be placed directly over a pacemaker site but should be approximately 2.5 cm (one inch) away. Look for scars or lumps on the chest as an indicator of implanted devices.

- **Recent open heart surgery**- If the person has had a recent open heart surgery (with a surgical wound vertically along their sternum), do not proceed with compressions. Use AED only and ask 911 dispatcher for advice.
- **Children under 8 years of age**–Automated external defibrillators (AEDs) may be used for children and infants. Special pads or a pediatric setting on the machine are used, but if not available adult pads can be used. Some adult pads show an alternate placement for children/infants.



- **Patch medications**–some casualties wear a patch that contains medication such as nitroglycerin for angina. If the patch is in the way of the pad placement, gently remove it with gloved hands from the chest and wipe the area clean. Do not wipe the area clean with alcohol swabs, use water and friction (ie. facecloth).
- **Wet environment**–AEDs can be used in wet areas. Dry the chest to ensure good pad contact. Move the casualty to a dry area if possible. If you or the casualty is submersed in water, avoid using the AED. Metal surfaces–AEDs can be used safely with the casualty on a metal surface.
- **Jewelry and piercings**–Avoid placing pads over-top of piercings, jewelry, or anything that would cause a gap. AED pads should adhere flat to the skin.
- **Environment**–Ensure the environment you are using an AED in does not contain explosive gases or flammable objects.

Chapter 5 – First Aid and Children

Seizures

Special terms

Tonic: muscles become stiff
Atonic: muscles relax
Myoclonic: short jerking in parts of the body
Clonic: periods of shaking or jerking parts on the body

When most people think of seizures, they are thinking of tonic-clonic (aka grand mal seizures). But there are other types of seizures too, lets review some different types of seizures and when to contact EMS or your physician.

Generalized Seizures (affect BOTH size of the brain)

1. **Absence seizures**: aka petit mal, can cause rapid blinking or staring off into space (can last for as little as a few seconds). These are VERY common in children.
   https://www.youtube.com/watch?v=AgfAJigGgtI&ab_channel=EpilepsyAction
2. **Tonic-Clonic**: aka grand mal, can make a person cry out, lose consciousness, fall to the ground, have muscle jerks or spasms
   https://www.youtube.com/watch?v=tA-Bikjbka4&ab_channel=EpilepsyAction

Focal Seizures (affect one area of the brain, aka partial seizures)

1. **Simple**: can cause twitching or change in sensation (such as smell something bizarre or tasting something weird)
2. **Complex**: can cause confusion and dazed expression, will be unable to respond to questions or obey commands for up to 5 minutes
3. **Secondary generalized**: these start in one area but spread to other areas of the brain
   https://www.youtube.com/watch?v=LS4_jwVY3mc&ab_channel=EpilepsyAction

General Signs and Symptoms

- Sudden cry, stiffening of the body, loss of consciousness
- Noisy breathing
- Frothing at the mouth
- Body jerks
- Cyanosis
- Loss of bladder and bowel function

Interventions

Seizures do not always require emergency services, call 911 if one or more of the following are true

- Person has NEVER had a seizure before
- Person has difficulty breathing or waking up after the seizure
- The seizures lasts longer than 5 minutes (this is called status epilepticus and is a medical emergency)
  - https://www.youtube.com/watch?v=dpTeOjjdigM&ab_channel=EpilepsyFoundation

- Person has a seizure soon after the first one
- Person is injured during the seizure
- Person has a seizure in the water
- Person has comorbidities
    - Heart disease, diabetes, pregnant, cancer
- Stay with the person until the seizure ends and they are fully awake. Clear the area around the person to prevent injury or harm.
- Comfort the person and speak calmly
- Verify if there is a medical bracelet
- Keep yourself and others calm
- Make sure they can make it home (calling a cab, calling a friend or family member, taking them home yourself)

DO NOT

- Hold them down
- Restrict their movement
- Put anything in their mouth
- Attempt to start any First Aid until seizing has stopped
- Offer food or water until the person is fully alert

Safety and Seizures

- Ease the person to the floor
- Turn the person gently onto one side to assist the patient to breathe (after the major movements are done)
- Clear the area around the person of anything hard or sharp to prevent injury
- Contradictory: put something soft and flat around the persons head (some sources say to do this only if the person's head is at risk of injury - i.e. near a wall or something that cannot be move, some sources say never to do this and just let seizure play out)
- Remove eye glasses
- Loosen anything around the neck (ties, scarves tighter shirts)
- Time the seizure: when did it start? How long did it last? What kind of movements happened? Was the airway ever obstructed?

First Aid for Febrile Seizure in child or infant

- A rapid rise in temperature of 40 or higher can cause seizures in children. Take the child's temperature via armpit (or as instructed on thermometer).
    - >38 for infant (up to 12 months)
    - >40 for child (12 months to 8 years)

  First Aid for febrile emergencies
- Call your physician immediately. If you do not have a physician, call 811 infosante. If you are unable to reach a medical professional quickly enough administer children's Tylenol or ibuprofen (NOT aspirin) to bring down the temperature
- If a child is fully conscious, encourage clear fluids
- If the temperature does not go down, sponge the child with lukewarm water for 20 minutes and let the wet skin exposed to air to cool the temperature of the child
- Afterwards dress the child comfortably, but not too warm and repeat the above steps
- If there are convulsions: do not restrain the child, protect from injury and loosen constrictive clothing
- Do NOT give ASA to infants, children's or adolescents. Do not use cold water.

Bleeding

Losing blood is not always a medical emergency. There are minor cuts and nosebleeds we can easily deal with at home.

External bleeding

- Arterial bleeding: blood is bright read and spurts with each heartbeat.

- Venous bleeding is dark red and flows more steadily

*severe blood loss, or hemorrhage, is characterized by losing about 1 cup (250 mL) of blood. If the amount lost, covers about your hand's width, it is considered a hemorrhage

Severe blood loss will result in the following signs and symptoms of shock:

- Pale, cold and clammy skin
- Rapid pulse, gradually becoming weaker
- Faintness, dizziness, thirst and nausea
- Restlessness and apprehension
- Shallow breathing, yawning, sighing and gasping for air

Interventions

- Rest the patient
- Apply compression to the injury using sterile gauze if possible. Apply pressure for at least 5 minutes or until assistance comes if the bleeding is more serious.
- Apply a clean dressing to the site (refer to managing minor injuries, cuts and wounds)

Internal bleeding

Suspect internal bleeding if:

- The casualty received a severe blow or a penetrating injury to the chest, neck, abdomen or groin
- There are major limb fractures such as a fractured upper leg or pelvis

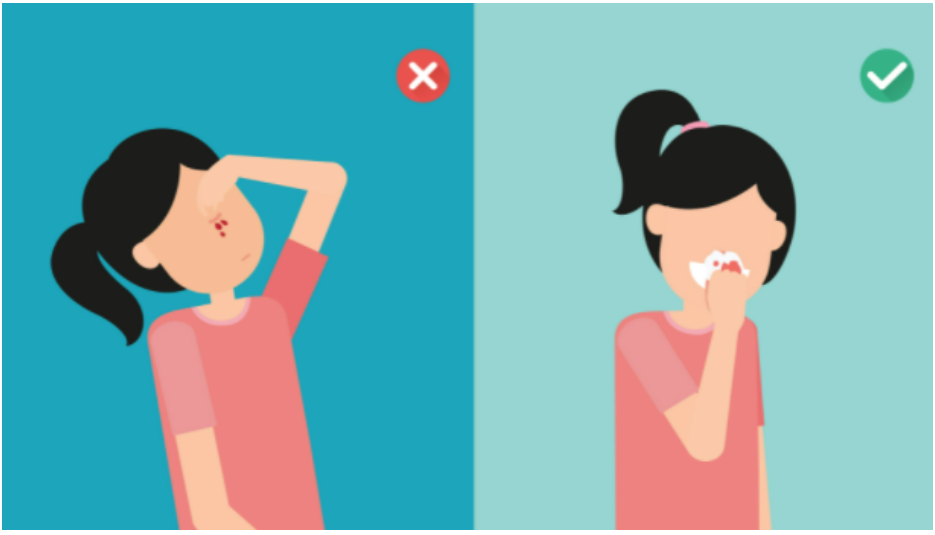
Signs and Symptoms

- Bleeding from the ear canal or the nose
- Bloodshot or black eye (bleeding inside the head)
- Coughing up blood that looks bright red and frothy (bleeding into the lungs)
- Vomiting bright red blood, or brown blood that looks like coffee grounds
- Blood in the stool that looks either red or black and tarry
- Red or smoky brown-looking blood in the urine
- Signs of shock with no signs of external injury

There is very little that can be done without emergency medical assistance. Put the person in a comfortable position, lying flat on their back and call 911. If you can, treat for shock, otherwise provide reassurance.

Nosebleeds are fairly common and not often a medical emergency.

- Sit upright and lean forward. By remaining upright, you reduce blood pressure in the veins of your nose. This discourages further bleeding. Sitting forward will help you avoid swallowing blood, which can irritate your stomach and may cause vomiting
- Gently blow your nose. Blow your nose to clear your nose of blood clots.
    - Contradiction: some say not to blow your nose, but ideally you would like to clear your nasal passage of blood clots. If it is a large blood clot (larger than the size of a quarter) but the nosebleed stops, consult your physician.
- Pinch your nose. Use your thumb and index finger to pinch your nostrils shut. Breathe through your mouth. Continue to pinch for 10 to 15 minutes. Pinching sends pressure to the bleeding point on the nasal septum and often stops the flow of blood.
- Use of ice is no longer recommended



****If the bleeding continues after 10 to 15 minutes, repeat holding pressure for another 10 to 15 minutes. Avoid peeking at your nose. If the bleeding still continues, seek emergency care

***If you feel lightheaded or faint, seek emergency care

**** If the nosebleed is a result of trauma (accident, fight, fall) seek emergency care

**** If the casualty is at risk of bleeding (known to be thrombocytopenic or on anticoagulants) seek emergency care.

- To prevent re-bleeding, don't pick or blow your nose and don't bend down for several hours. Keep your head higher than the level of your heart. You can also gently apply some petroleum jelly to the inside of your nose using a cotton swab or your finger.
- If re-bleeding occurs, go through these steps again. Call your doctor if the bleeding continues

Diarrhea and Vomiting
Most cases of diarrhea (runny or watery bowel movements) and vomiting are caused by irritation of the GI tract often by a viral or bacterial infection in the intestines (bowels). “Ex Stomach flu -gastroenteritis)

Signs and symptoms
- loose and frequent bowel movement
- cramping abdominal pain
- fever
- loss of appetite
- feeling tired
- weight loss
- dehydration
- vomiting

Interventions (goal is to prevent dehydration)
- Continue your child's regular diet and give more liquids than usual (frequent small sips of fluid)
- Do not offer plain water to infants — it doesn't have enough electrolytes (sodium and other minerals)
- Offer additional breast milk or formula to infants
- Use an oral rehydration solution (ORS) to replace lost fluids

(should you have a ORS at home) not necessarily, you can make you own at home:

from jean coutu

Mix together the following ingredients:
• Ready-to-serve orange juice without added sugar: 360 ml (12 oz.)
• Cooled boiled water: 600 ml (20 oz.)
• Salt: 2.5 ml (½ level tsp.), never more

Follow this recipe carefully. Measure out the exact quantities, using a measuring spoon and measuring cup. Improper solution preparation can actually worsen dehydration. Only use a homemade ORS as a last resort (while you're waiting for the drugstore to open, for example) and never for more than 12 hours.

Avoid giving juice, even if it's diluted, or soft drinks, even if they're flat, or sports drinks like Gatorade because they're too sweet and can sometimes even make the diarrhea worse. If the diarrhea is abundant, avoid giving only water because it doesn't contain enough sugar and salt, which your baby needs to rehydrate.

Seek medical help if the child is

- is younger than 6 months old
- has severe or lasting diarrhea
- vomits repeatedly or refuses to drink liquids
- is peeing less than usual
- has severe belly pain
- has diarrhea that contains blood or mucus

Accidental Ingestion of Dangerous Products
Dangerous products can be found everywhere. They can be ingested, inhaled or absorbed. It is important to know who to

contact when you or a family member has come into contact with a dangerous substance.

If swallowed

- ✔ Do not induce vomiting
- ✔ Do not try to “neutralize” the product (milk is not an antidote)
- ✔ You can rinse and clean your mouth
- ✔ Call Poison Control Centre (PCC or Centre antipoison du Quebec available 24/7) at 1-800-463-5060

If in your eyes

- ✔ Use a small amount of LUKEWARM water to rinse before opening eyes
- ✔ Use LUKEWARM water and rinse your eyes for 15 minutes (hold eyelids open the entire time)
- ✔ Call PCC

If in your child’s eyes

- ✔ Wrap the child in a blanket or towel
- ✔ Lay them on a counter or table (flat surface at hip level)
- ✔ Use a cup to constantly rinse their eyes with LUKEWARM water
- ✔ Try to keep their eyes wide open, use your fingers to keep eyelids from shutting

If product is on your skin

- ✔ Remove clothing in surrounding area
- ✔ Wash the affected area for 15 minutes with LUKEWARM water (best under a faucet)

- ✔ Call PCC
- ✔ Do not add any products (ie. moisturizer) to the skin

If toxic product was inhaled

- ✔ Get out of the environment immediately
- ✔ Call PCC
- ✔ Monitor level of consciousness and if there are any changes in LOC, call 911

When to call poison control centre?

- Cases of acute poisoning, actual or suspected
- Exposure to toxic domestic or industrial products, pesticides, poisonous mushrooms, drugs or venomous animals
- Ingestion or inhalation of a chemical;
- Exposure of the skin or eyes to a chemical product;
- Improper use of a medication;
- Work accidents involving acute exposure to a toxic product; and
- Requests for information on a toxic product;

What will the nurse ask you?

- Person's state: level of consciousness, degree of potential harm
- What the product was
- Where the product affected (ingestion, inhale, eyes, skin, all of the above)
- How much product
- For how long
- Age and weight of the person affected
- What you have done already to treat the person

Poison Control can **NOT** help if the following situations occur

- Infections
- Electrocution
- Bites of non-venomous animals

- Allergies
- Poisoning of an animal
- Chronic poisoning
- Ingestion of a non-toxic object

If it's a non-toxic product, call Infosante at 811

Sprains and Strains

- Most common types of muscle/bone injuries
- Abnormal stretching & twisting during rigorous activities (soccer, basketball, running, etc.)
- Could happen to any muscles and joints in the body
- Will cause pain , swelling, bruising, decrease function

Strains

- Injury to the muscle/tendon
- Slight rupture to complete rupture

Sprains

- Injury to ligament/joint, most often ankle and knee
- From a small tear to complete tearing of the ligament
- Can be extremely painful

Interventions for sprains and strains

- First and foremost, **PREVENTION**
  - ➢ Warming up exercises before and stretching after significantly reduce the risk of sprains and strains.
- When it happens: **RICE**
  - ➢ RICE can decrease the inflammation and pain of the area

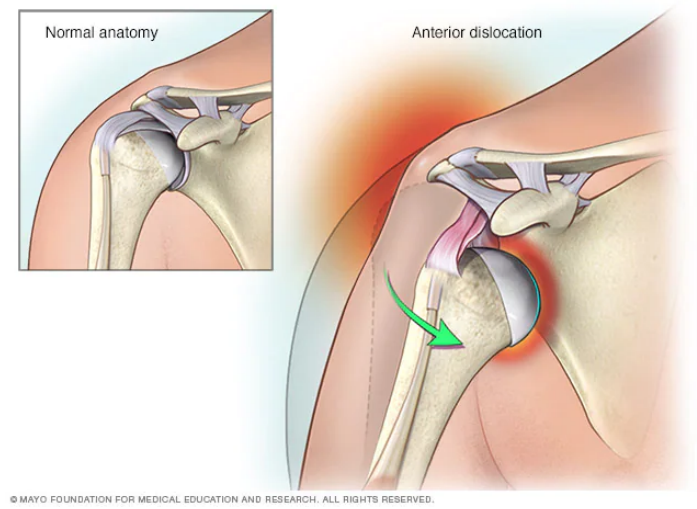
- **Rest**: limit movement and rest as soon as pain is felt
- **ICE:** reduces pain and swelling. Apply immediately after the injury, no more than 20 mins per application and not directly on the skin
- **Compression:** helps limit swelling. Elastic compression bande. Can be left for 30 mins and then removed for 15 mins
- **Elevation:** Elevate above heart to help decrease the swelling during sleep

- 24-48hrs after, warm can be applied to help reduce swelling and provide comfort
  - ➢ For 20 mins and allow cold down between applications

- Tylenol, Advil, Ibuprofen can help relieve discomfort

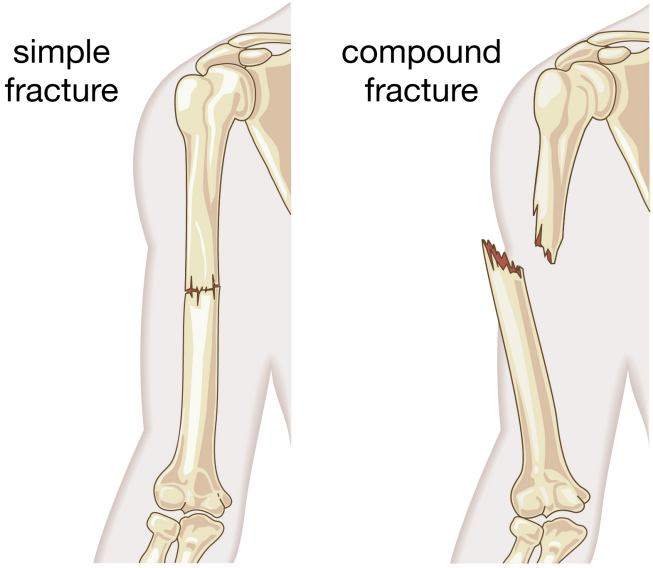
Dislocation

- When bones are partially or completely pulled out of their sockets
- Fingers, elbow, and shoulders most frequently dislocated
- will cause pain, tenderness, swelling, bruising, unable to move joint, obvious deformity



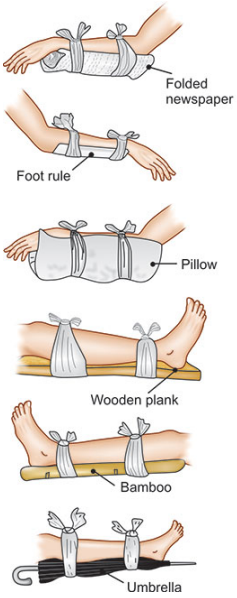
Fractures

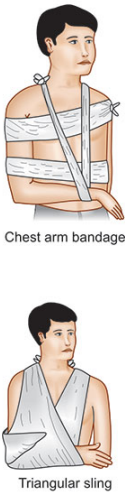
- Break in the structure of the bone
- Could be open or closed
- will cause pain, swelling, tenderness, bruising, bleeding, obvious deformity

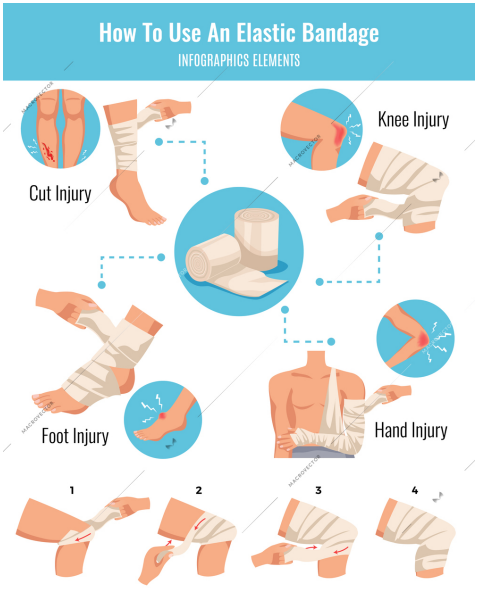


Interventions for dislocation and fractures

- Ask for help
- Remain as still as possible
- Immobilize the area
- Control any bleeding and cover any wounds
- Do not attempt to put it back into place (it could cause more injury)
- If dislocation, Rest, ICE, Immobilize, Elevate (slight modified RICE)
- Call 911 or visit the emergency room


Folded newspaper
Foot rule
Pillow
Wooden plank
Bamboo
Umbrella


Chest arm bandage
Triangular sling


How To Use An Elastic Bandage
INFOGRAPHICS ELEMENTS
Cut Injury
Knee Injury
Foot Injury
Hand Injury
1
2
3
4

Chapter 6 – Managing COVID-19 at Home

Most people with COVID-19 can be managed at home. Most people have mild symptoms and are able to recover at home.

When to seek medical attention? Call 911 if you or a family member are experiencing the following symptoms

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Inability to wake or stay awake
- Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone

Someone in your home has COVID-19? Let's stop the spread

- Enforce hand hygiene: wash your hands often (for a full 20-30 seconds); use hand sanitizer if handwashing not available; avoid touching eyes, nose, mouth with unwashed hands
- Do not share personal items (everything from dishes to towels or beddings) and wash them frequently with soap and water
- Clean and disinfect high touch areas or areas that have been soiled by bodily fluids
- If possible, distancing, wear a mask, cover your coughs and sneezes. If possible, quarantine yourself to a specific room away from people and pets and have a designated bathroom.

How to manage mild symptoms?

- Continue to monitor your symptoms
- Relieve feverish symptoms with medications such as ibuprofen, naproxen and acetaminophen if the fever has become unmanageable. Fevers above 40C should be treated with an antipyretic. Fevers are useful because the elevated temperature is helping your body fight off the virus. These medications do not treat the virus, but the symptoms.
    - Contradicted: some sources say to allow the fever to run its course and not to take any medications

UNLESS, you or your child has a history of febrile seizures.
    - Contact your physician or 811 if you are concerned about whether you should or should not take medications.
- Medications to help with body aches: Tylenol, Aleve, Advil/Motrin, as well as something like cold/warm compresses. Again, monitor your temperature to determine if appropriate in your situation
- Cough or sore throat etc can be managed with teas, hot water with lemon, lozenges and decongestant balms like Vicks VapoRub.
- Get rest and stay hydrated
- Some of the mild symptoms can persist: people report dry coughs, lack of taste and smell for months at a time sometimes.

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