**MATRIC NO: 17/MHS02/108**

**COURSE CODE:NSC408**

**LEVEL:400L**

**MANAGEMENT OF CARDIAC ARREST**

 [Cardiac arrest is a sudden loss of blood flow resulting from the failure of the](https://en.m.wikipedia.org/wiki/Circulatory_system) [heart](https://en.m.wikipedia.org/wiki/Heart) to pump effectively. Signs include loss of [consciousness and abnormal or absent](https://en.m.wikipedia.org/wiki/Respiratory_arrest) breathing. Some individuals may experience chest pain [, shortness of breath, or](https://en.m.wikipedia.org/wiki/Shortness_of_breath) [nausea](https://en.m.wikipedia.org/wiki/Nausea) [before cardiac arr](https://en.m.wikipedia.org/wiki/Shortness_of_breath)est.If not treated within minutes, it typically leads to [death.](https://en.m.wikipedia.org/wiki/Death)

Sudden cardiac arrest may be treated through attempts at [resuscitation](https://en.m.wikipedia.org/wiki/Resuscitation). This is usually carried out based upon [basic life support,](https://en.m.wikipedia.org/wiki/Basic_life_support) [advanced cardiac life support](https://en.m.wikipedia.org/wiki/Advanced_cardiac_life_support) (ACLS), [paediatric advanced life support](https://en.m.wikipedia.org/wiki/Pediatric_advanced_life_support) (PALS), or [neonatal resuscitation program](https://en.m.wikipedia.org/wiki/Neonatal_resuscitation_program) (NRP) guidelines.

**Cardiopulmonary Resuscitation** […](https://en.m.wikipedia.org/w/index.php?title=Cardiac_arrest&action=edit&section=18)

Early [cardiopulmonary resuscitation](https://en.m.wikipedia.org/wiki/Cardiopulmonary_resuscitation) (CPR) is essential to surviving cardiac arrest with good neurological function. It is recommended that it be started as soon as possible with minimal interruptions once begun. The components of CPR that make the greatest difference in survival are [chest compressions](https://en.m.wikipedia.org/wiki/Chest_compressions) and defibrillating shockable rhythms. After defibrillation, chest compressions should be continued for two minutes before a rhythm check is again done. This is based off a compression rate of 100-120 compressions per minute, a compression depth of 5–6 centimeters into the chest, full [chest recoil,](https://en.m.wikipedia.org/wiki/Cardiopulmonary_resuscitation) and a ventilation rate of 10 breath ventilations per minute.

**Defibrillation**

Defibrillation is indicated if a shockable rhythm is present. The two shockable rhythms are [ventricular fibrillation](https://en.m.wikipedia.org/wiki/Ventricular_fibrillation) and [pulseless ventricular tachycardia](https://en.m.wikipedia.org/wiki/Pulseless_ventricular_tachycardia). In children 2 to 4 J/Kg is recommended.In addition, there is increasing use of public access defibrillation. This involves placing an [automated external defibrillator](https://en.m.wikipedia.org/wiki/Automated_external_defibrillator) in public places, and training staff in these areas on how to use them. This allows defibrillation to take place prior to the arrival of emergency services and has been shown to lead to increased chances of survival. Some defibrillators even provide feedback on the quality of CPR compressions, encouraging the lay rescuer to press the person's chest hard enough to circulate blood.

**Medications**

This includes the use of [atropine](https://en.m.wikipedia.org/wiki/Atropine), [lidocaine](https://en.m.wikipedia.org/wiki/Lidocaine), and [amiodarone.](https://en.m.wikipedia.org/wiki/Amiodarone) The combination of epinephrine, vasopressin, and [methylprednisolone](https://en.m.wikipedia.org/wiki/Methylprednisolone) appears to improve outcomes. The general use of [sodium bicarbonate](https://en.m.wikipedia.org/wiki/Sodium_bicarbonate) or [calcium](https://en.m.wikipedia.org/wiki/Calcium) is not recommended. The use of [calcium](https://en.m.wikipedia.org/wiki/Calcium) in children has been associated with poor neurological function as well as decreased survival.

[Thrombolytics](https://en.m.wikipedia.org/wiki/Thrombolytics) when used generally may cause harm but may be of benefit in those with a confirmed [pulmonary embolism](https://en.m.wikipedia.org/wiki/Pulmonary_embolism) as the cause of arrest. Evidence for use of [naloxone](https://en.m.wikipedia.org/wiki/Naloxone) in those with cardiac arrest due to [opioids](https://en.m.wikipedia.org/wiki/Opioid) is unclear but it may still be used. In those with cardiac arrest due to local anesthetic, [lipid emulsion](https://en.m.wikipedia.org/wiki/Lipid_emulsion) may be used.

**MANAGEMENT OF CARBON MONOXIDE POISONING**

Carbon monoxide poisoning typically occurs from [breathing](https://en.m.wikipedia.org/wiki/Inhalation) in [carbon monoxide](https://en.m.wikipedia.org/wiki/Carbon_monoxide) (CO) at excessive levels. Symptoms are often described as "[flu-](https://en.m.wikipedia.org/wiki/Flu)like" and commonly include [headache,](https://en.m.wikipedia.org/wiki/Headache) [dizziness](https://en.m.wikipedia.org/wiki/Dizziness), weakness, vomiting, [chest pain](https://en.m.wikipedia.org/wiki/Chest_pain), and [confusion](https://en.m.wikipedia.org/wiki/Confusion). [Large exposures can result in loss of consciousness,](https://en.m.wikipedia.org/wiki/Loss_of_consciousness) [arrhythmias](https://en.m.wikipedia.org/wiki/Arrhythmias)[,](https://en.m.wikipedia.org/wiki/Loss_of_consciousness) [seizures](https://en.m.wikipedia.org/wiki/Seizures), or death. Long term complications may include feeling tired, trouble with memory, and movement problems.

Initial treatment for carbon monoxide poisoning is to immediately remove the person from the exposure without endangering further people. Those who are unconscious may require [CPR](https://en.m.wikipedia.org/wiki/Cardiopulmonary_resuscitation) on [site.](https://en.m.wikipedia.org/wiki/Non-rebreather_mask) Administering [oxygen through nonrebreather mask shortens the](https://en.m.wikipedia.org/wiki/Non-rebreather_mask) [half-life](https://en.m.wikipedia.org/wiki/Biological_half-life) of carbon monoxide from 320 minutes, when breathing normal air, to only 80 minutes. Oxygen hastens the dissociation of carbon monoxide from [carboxyhemoglobin](https://en.m.wikipedia.org/wiki/Carboxyhemoglobin), thus turning it back

**Hyperbaric Oxygen**

[Hyperbaric oxygen](https://en.m.wikipedia.org/wiki/Hyperbaric_oxygen) is also used in the treatment of carbon monoxide poisoning, as it may hasten dissociation of CO from carboxyhemoglobin and cytochrome oxidaseto a greater extent than normal oxygen. Hyperbaric oxygen at three times [atmospheric pressure](https://en.m.wikipedia.org/wiki/Atmospheric_pressure) reduces the half-life of carbon monoxide to 23 (~80/3 minutes) minutes, compared to 80 minutes for oxygen at regular atmospheric pressure. It may also enhance oxygen transport to the tissues by plasma, partially bypassing the normal transfer through hemoglobin.

**MANAGEMENT OF EPISTASIS**

A nosebleed, also known as epistaxis, is bleeding from the nose. Blood can also flow down into the stomach and cause [nausea](https://en.m.wikipedia.org/wiki/Nausea) and vomiting. In more severe cases blood may come out of both [nostrils](https://en.m.wikipedia.org/wiki/Nostrils).

Most anterior nosebleeds can be stopped by applying [direct pressure](https://en.m.wikipedia.org/wiki/Emergency_bleeding_control), which helps by promoting blood clots. Those who suffer a nosebleed should first attempt to blow out any blood [clots](https://en.m.wikipedia.org/wiki/Coagulation) and then apply pressure for at least five minutes and up to 20 minutes. Pressure should be firm and tilting the head forward helps decrease the chance of nausea and airway obstruction as seen in the picture on the right.

When attempting to stop a nosebleed at home, the head should not be tilted back. Swallowing excess blood can irritate the stomach and cause vomiting. [Vasoconstrictive](https://en.m.wikipedia.org/wiki/Vasoconstriction) medications such as [oxymetazoline](https://en.m.wikipedia.org/wiki/Oxymetazoline) (Afrin) or [phenylephrine](https://en.m.wikipedia.org/wiki/Phenylephrine) are widely available over the counter for treatment of [allergic rhinitis](https://en.m.wikipedia.org/wiki/Allergic_rhinitis) and may also be used to control benign cases of epistaxis.

**Nasal Packing**

If pressure and chemical cauterization cannot stop bleeding, nasal packing is the mainstay of treatment. There are several forms of nasal packing that can be contrasted by anterior nasal packing and posterior nasal packing. Traditionally, nasal packing was accomplished by packing gauze into the nose, thereby placing pressure on the vessels in the nose and stopping the bleeding. Traditional gauze packing has been replaced with products such as [Merocel](https://en.m.wikipedia.org/wiki/Polyvinyl_alcohol) and the Rapid Rhino. The [Merocel](https://en.m.wikipedia.org/wiki/Merocel) nasal tampon is similar to gauze packing except it is a synthetic foam polymer (made of polyvinyl alcohol and expands in the nose after application of water) that provides a less hospitable medium for bacteria. The Rapid Rhino stops nosebleeds using a balloon catheter, made of [carboxymethylcellulose](https://en.m.wikipedia.org/wiki/Carboxymethyl_cellulose), which has a cuff that is inflated by air to stop bleeding through extra pressure in the nasal cavity. Complications of nasal [packing include abscesses, septal hematomas,](https://en.m.wikipedia.org/wiki/Nasal_septal_hematoma) [sinusitis](https://en.m.wikipedia.org/wiki/Sinusitis)[, and pressur](https://en.m.wikipedia.org/wiki/Nasal_septal_hematoma)e [necrosis.](https://en.m.wikipedia.org/wiki/Toxic_shock_syndrome) [In rare cases toxic shock syndrome can occur with prolonged](https://en.m.wikipedia.org/wiki/Toxic_shock_syndrome) nasal packing. As a result, many forms of nasal packing involve use of topical antistaphylococcal antibiotic ointment.

**Tranexamic Acid**

[Tranexamic acid](https://en.m.wikipedia.org/wiki/Tranexamic_acid) helps promote blood clotting. For nosebleeds it can be applied to the site of bleeding, taken by mouth, or injected into a vein.

**Cauterization**

This method involves applying a chemical such as [silver nitrate](https://en.m.wikipedia.org/wiki/Silver_nitrate) to the nasal mucosa, which burns and seals off the bleeding.Eventually the nasal tissue to which the chemical is applied will undergo [necrosis](https://en.m.wikipedia.org/wiki/Necrosis). This form of treatment is best for mild bleeds, especially in children, that are clearly visible. A topical anaesthetic (such as [lidocaine)](https://en.m.wikipedia.org/wiki/Lidocaine) is usually applied prior to cauterization. Silver nitrate can cause blackening of the skin due to silver sulfide deposit, though this will fade with time.

**Surgery**

Ongoing bleeding despite good nasal packing is a surgical emergency and can be treated by endoscopic evaluation of the nasal cavity under general anesthesia to identify an elusive bleeding point or to directly ligate (tie off) the blood vessels supplying the nose. These blood vessels include the [sphenopalatine,](https://en.m.wikipedia.org/wiki/Sphenopalatine_artery) anterior and posterior ethmoidal arteries. More rarely the maxillary or a branch of the external [carotid artery](https://en.m.wikipedia.org/wiki/Common_carotid_artery) can be ligated. The bleeding can also be stopped by intra-arterial [embolization](https://en.m.wikipedia.org/wiki/Embolization) using a catheter placed in the groin and threaded up the aorta to the [bleeding vessel by an](https://en.m.wikipedia.org/wiki/Interventional_radiology) radiologist. There in outcomes between embolization and ligation as treatment options, but embolization is considerably more expensive.

**MANAGEMENT OF FOREIGN BODY IN THE EYE**

 Your eye doctor will examine your eye using a slit lamp microscope. S/he will find where the foreign body is located and how deep it has entered the cornea. S/he will then remove it with special instruments in the office. This helps to prevent any further injury or infection. If your eye doctor is worried that the foreign body may have entered into the eye, s/he may order imaging studies such as X-rays, ultrasound or CT scans to further evaluate the inside of the eye.

Antibiotic eye drops or ointment are then prescribed to help with healing, and to prevent or treat infection. Combination of a cephalosporin(eg cefazolin)or vancomycin and aminoglycoside (eg gentamycin).Also antibiotics can be used in prophylaxis of endopthalmitis.

To prevent corneal foreign bodies in the future, it is important to always wear protective eyewear when there is risk of an eye injury. Wearing protective eyewear is especially important for outdoor activities.

Proper eyewear should be made of polycarbonate, a shatter-resistant plastic found in many safety glasses and goggles. Safety goggles can be found at hardware stores and sports goggles can be found at sporting goods stores.