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1. Management of cardiac arrest.

Cardiac arrest is a common medical emergency. It usually occurs suddenly and results in irreversible brain damage unless prompt, effective treatment is instituted. One plan for dealing effectively with this emergency consists of seven steps of cardiopulmonary resuscitation:

 (1) Establishing the diagnosis and deciding whether to resuscitate;

 (2) Administering a precordial thump, noting the time and summoning aid;

(3) Establishing a patent airway and performing artificial ventilation and external cardiac compression;

(4) Instituting general supportive measures;

(5) Diagnosing the cardiac arrhythmia responsible for the arrest;

(6) Treating the arrhythmia; and

(7) Managing the patient after resuscitation.

2. Management of carbon monoxide poisoning

* Cardiac monitor: Sudden death has occurred in patients with severe arteriosclerotic disease at HbCO levels of only 20%.
* Pulse oximetry: HbCO absorbs light almost identically to that of oxyhemoglobin. Although a linear drop in oxyhemoglobin occurs as HbCO level rises, pulse oximetry will not reflect it. Pulse oximetry gap, the difference between the saturation as measured by pulse oximetry and one measured directly, is equal to the HbCO level.However, pulse CO-oximetry units are available that can screen for CO toxicity at the bedside.
* Oxygen therapy is usually provided via a non-rebreather mask. However, Roth et al describe effective use of noninvasive continuous positive airway pressure (CPAP) ventilation using a tight mask and an inspired fraction of oxygen (FiO2) of 100%. These authors provide case reports of simultaneous CO toxicity in a couple, in which HbCO levels fell from 21% at admission to 6% within 1 hour and 3% after 90 minutes in the patient treated with CPAP. In the spouse, who was treated with conventional oxygen therapy, reduction of HbCO from the admission level of 21% to 3% took 6 hours.
* Continue 100% oxygen therapy until the patient is asymptomatic and HbCO levels are below 10%. In patients with cardiovascular or pulmonary compromise, lower thresholds of 2% have been suggested.
* Calculate a gross estimate of the necessary duration of therapy using the initial level and half-life of 30-90 minutes at 100% oxygen..
* Consider immediate transfer of patients with levels above 40% or cardiovascular or neurologic impairment to a hyperbaric facility, if feasible. Persistent impairment after 4 hours of normobaric oxygen therapy necessitates transfer to a hyperbaric center.

3. Management of epistaxis.

Initial management includes compression of the nostrils (application of direct pressure to the septal area) and plugging of the affected nostril with gauze or cotton that has been soaked in a topical decongestant. Direct pressure should be applied continuously for at least five minutes, and for up to 20 minutes. Tilting the head forward prevents blood from pooling in the posterior pharynx, thereby avoiding nausea and airway obstruction. Hemodynamic stability and airway patency should be confirmed. Fluid resuscitation should be initiated if volume depletion is suspected.

Every attempt should be made to locate the source of bleeding that does not respond to simple compression and nasal plugging. The examination should be performed in a well-lighted room, with the patient seated and clothing protected by a sheet or gown. The physician should wear gloves and other appropriate protective equipment (e.g., surgical mask, safety glasses). A headlamp or head mirror and a nasal speculum should be used for optimal visualization.

When posterior bleeding is suspected, the general location of the source should be determined. This step is important because different arteries supply the floor and roof of the posterior nasal cavity; therefore, selective ligation may be required.

Diffuse oozing, multiple bleeding sites, or recurrent bleeding may indicate a systemic process such as hypertension, anticoagulation, or coagulopathy. In such cases, a hematologic evaluation should be performed. Appropriate tests include a complete blood count, anticoagulant levels, a prothrombin time, a partial thromboplastin time, a platelet count and, if indicated, blood typing and crossmatching.

4. Management of foreign body in the eye

* Restrict eye movement.
* Bandage the eye using a clean cloth or [gauze](https://amzn.to/2NWPoQk).
* If the object is too large to allow for a bandage, cover the eye with a paper cup.
* Cover the uninjured eye. This will help prevent eye movement in the affected eye.

Physicians’ management:

* An anesthetic drop will be used to numb the eye’s surface.
* [Fluorescein dye­](https://www.healthline.com/health/fluorescein-eye-stain), which glows under special light, will be applied to the eye via an eye drop. The dye reveals surface objects and abrasions.
* Your physician will use a magnifier to locate and remove any foreign objects.
* The objects may be removed with a moist cotton swab or flushed out with water.
* If the initial techniques are unsuccessful at removing the object, your physician may use needles or other instruments.
* If the foreign object has caused corneal abrasions, your physician may give you an antibiotic ointment to prevent infection.
* For larger corneal abrasions, eye drops containing cyclopentolate or homatropine may be administered to keep the pupil dilated. Painful muscle spasms could occur if the pupil constricts before the cornea heals.
* You will be given acetaminophen to treat pain from larger corneal abrasions.