

## Medical Emergencies

### ABBREVIATIONS USED IN THIS SECTION

**HX**—History, Signs & Symptoms

**Green Type**—Key Symptoms and Findings

◆—Prehospital Treatment

▼—Other Diagnoses to Consider

*Italic*—Intermediate procedures

**Caution**—Contraindications or Precautions

Blank Spaces—Write in your local protocols.

## General History for Most Patients

Events that led up to chief complaint? Past Hx? Medications? Allergies? Known diseases? Dyspnea (SOB)? Previous trauma or surgery? Nausea & Vomiting (N&V)? Fever (Fv)? Medic Alert™?

## Pain Questions

**Location**, radiation? **Speed and time of onset**, duration? **Nature**, what type of pain, tenderness? **What makes it better or worse?** **Any associated symptoms?** **Ever had this pain before**—what was it?

## General Treatment for Most Patients

- **Follow your local protocols at all times.**
- Ensure ABCs (Airway, Breathing, Circulation)
- **Treat life threatening injuries immediately**
- Get Vital Signs (pulse, BP, respirations, effort, lung sounds)
- **Monitor O<sub>2</sub> sat; Give O<sub>2</sub> as needed, Protect airway**
- *Perform Intermediate procedures as indicated (IV, EKG, etc.)*
- Transport as soon as practical
- Monitor patient's condition en route
- **Reassure and comfort your patient**

## Universal Precautions

- ✓ Wear gloves for all patient contacts and for all contacts with body fluids.
- ✓ Wash hands after patient contact.
- ✓ Wear a mask for patients who are coughing or sneezing. Place a mask on the patient too.
- ✓ Wear eye shields or goggles when body fluids may splash.
- ✓ Wear gowns when needed.
- ✓ Wear utility gloves for cleaning equipment.
- ✓ Don't recap, cut, or bend needles.
- ✓ \*Get vaccinated against Hepatitis A, B, and Meningitis A, C, W, Y.

## Infectious Diseases

Disease...	Spread by...	Risk to you...
AIDS / HIV	IV / Sex / Blood products	↓ Immune function, Pneumonias, Cancer
ANTHRAX	Cutaneous: contact with skin lesions	Infection = 25% mortality, but much lower if treated
	Ingestion: eating contaminated meat	Infection = high mortality, unless treated with antibiotics
	Pulmonary: inhaled spores	Infection = 95% mortality, but much lower if treated
Hepatitis A*	Fecal-oral	Acute hepatitis
Hepatitis B*	IV / Sex / Birth / Blood	Acute & chronic hepatitis, Cirrhosis, Liver CA
Hepatitis C	Blood	Chronic hepatitis, Cirrhosis, Liver CA
Hepatitis D	IV / Sex / Birth	Chronic liver disease
Hepatitis E	Fecal-oral	↑ Mortality to pregnant women and fetus
Herpes	Skin contact	Skin lesions, shingles
Meningitis*	Nasal secretions	Low risk to rescuer
Tuberculosis	Sputum / cough / IV / Body fluids	Active tuberculosis, pulmonary infection

# to report a blood borne exposure: \_\_\_\_\_

**Report every exposure & seek immediate treatment!**

<sup>1</sup>Inhalation Anthrax is not contagious from person-to-person contact

## Allergic Reaction

**HX**—Mild reaction? (local swelling only); or serious systemic reaction? (hives, **pallor, bronchospasm, wheezing, upper airway obstruction with stridor**, swelling of throat, **hypotension**; **If cardiac arrest, treat per ACLS**).

- ▼ If bee sting, remove stinger (scrape, don't squeeze it).
  - For mild local reaction: wash area, apply cold pack.
  - For serious reaction: secure airway, ventilate, O<sub>2</sub>; *large bore IV, titrate to BP > 90; EKG;*  
**Epinephrine: 1:1,000 SQ, (Adult: 0.3 – 0.5 cc); (Pediatric: 0.01 cc/kg; 0.3 cc max).**

**Caution**—Epinephrine may cause arrhythmias or angina.

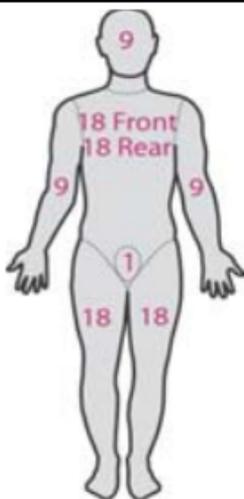
## Burns

**HX**—**Airway burns?** (soot in mouth, red mouth, singed nasal hairs, **cough, hoarseness, dyspnea**)? Was patient in enclosed space? How long? **Did patient lose consciousness?** Was there an explosion? Toxic fumes? Hx cardiac or lung disease? Estimate % of burns & depth. Other trauma?

**Significant burns = blistered or charred areas, or burns of the hands, feet, face, airway, genitalia.**

❖ **Stop the burning—extinguish clothing if smoldering.**

- Remove clothing if not adhered to skin; remove jewelry.
- Vitals, give high flow O<sub>2</sub>, assist ventilations if needed.
- **1st & 2nd degree burns: If < 20%, apply wet dressings.**



- **Moderate to severe burns:** cover with DSD & / or burn sheet. Leave blisters intact. **Start large bore IV, treat for shock or % burn. Monitor EKG.**

**Chemical burns:** Brush off any dry chemical then flush with copious amounts of water or saline. **For lime:** brush off excess, then flush; — **For phosphorus:** use alcohol or **copious amounts** of water.

**Electrical burns:** Apply DSD to entry and exit wounds. *Start large bore IV, titrate for shock. Monitor EKG—treat per ACLS.*

**Caution— Consider child abuse in pediatric patients.** Do not apply ointments to burns. Avoid starting IV in burned area if possible.

**Remember: burned firefighters may be having an AMI.**

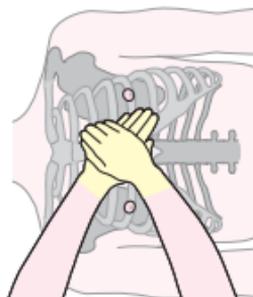
## Cardiac Arrest

**HX—**Onset of collapse, downtime? Was CPR started? Surroundings: Is this drug-related or trauma-related? Resuscitate unless obvious signs of morbidity, e.g. rigor mortis. Request further information from family members, physician, hospital.



Start CPR & attach AED as soon as it arrives.

← head-tilt / chin lift →



CPR	Ratio	Rate	Depth	Check Pulse
Adult: 1 Person	30:2	100	1-1/2"–2"	Carotid
Adult: 2 People	30:2	100	1-1/2"–2"	Carotid
Child: 1 Person	30:2	100	1/3–1/2	cx Carotid
Child: 2 Person	15:2	100	1/3–1/2	cx Carotid
Infant: 1 Person	15:2	100	1/3–1/2	cx Brachial, Fem.

## Adult, Child or Infant CPR

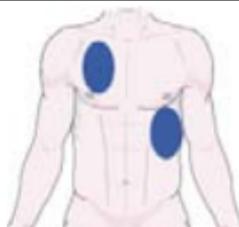
- 1 Determine unresponsiveness
- 2 Call for assistance (If child/infant, CPR x 1 min. first)
- 3 Position patient supine on hard, flat surface
- 4 Open airway: head-tilt / chin-lift (If trauma: jaw thrust)
- 5 Check breathing; if none: ventilate x 2
- 6 Check pulse; if none: chest compressions; 30:2; push hard & fast -- minimize interruptions in CPR
- 7 Attach AED to adult (& child  $\uparrow$  1 y.o.); follow voice prompts,
- 8 Recheck pulse after shocks and after 5 cycles of CPR (30 compressions: 2 breaths = 1 cycle)
- 9 Continue CPR if no pulse

## Defibrillation- AED

- 1 Determine unresponsiveness
- 2 Check ABC's
  - ✓ Airway
  - ✓ Breathing
  - ✓ Circulation

**CPR should be started as soon as possible in patients with cardiac arrest. However, defibrillation is the treatment of choice for most cardiac arrest patients and should not be delayed.**

- 3 Turn defibrillator on
- 4 Apply defibrillator pads
- 5 Analyze EKG rhythm
- 6 Deliver shocks as directed by AED
- 7 Continue CPR as directed by AE



### **NOTE:** Do NOT:

- Use AED on patients under 1 year of age
- Use AED on wet surface
- Touch patient when analyzing rhythm
- Touch patient when delivering shock

## Chest Pain

### Treatment

- 1 Activate EMS
  - 2 Place patient in position of comfort:
    - ❖ lying down if dizzy
    - ❖ sitting up if short of breath
- Contra**—DO NOT allow patient to exert himself / herself

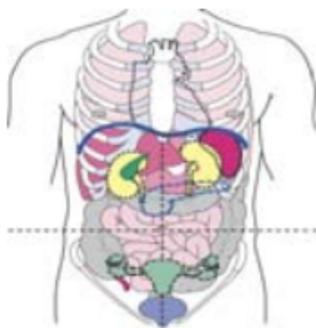


## Chest Trauma

**HX**—MOI: estimate forces involved. Lung disease?  
**Respiratory distress?** Pain? **Use of accessory muscles?** Level of consciousness, color? GCS? Is patient anxious? **Tracheal shift?** Symmetrical cx expansion? JVD? Lung sounds? **Hemoptysis? Sub-Q emphysema &/or crepitus?**

### Life threatening chest injuries:

- Flail segment
- Open chest wounds
- Tension pneumothorax
- ❖ **Secure airway, high flow O<sub>2</sub>, intubate if necessary and assist ventilations.**
- ❖ **Open chest wound:** cover with occlusive dressing. Look for exit wounds.
- ❖ **Tension pneumothorax:** Evaluate and decompress.
- ❖ **Impaled objects:** stabilize in place. Do not delay transport if patient is unstable. *Consider IV fluids for shock (2 large bore IVs), Monitor EKG, Vitals. Full spinal immobilization.*



**Caution**— Consider other causes for respiratory distress.

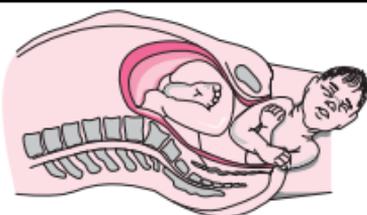
## Childbirth

### Most births are normal — reassure Mom & Dad

**Rx**—Timing of contractions? intensity, does mother have urge to push or to move bowels? If so, birth is imminent. Prepare for immediate delivery. Has amniotic sac ruptured?

Check for:

- Vaginal bleeding or amniotic fluid;** note color of fluid
- Crowning** (means imminent delivery)
- Abnormal presentation:** foot, arm, breech, cord, shoulder



**Transport immediately if patient has had previous C-section, known multiple births, any abnormal presentation, excessive bleeding, or if pregnancy is not full-term and child will be premature.**

**Normal:** control delivery, suction mouth & nose, deliver, keep infant level with perineum, clamp & cut cord 8" – 10", **warm & dry infant**, stimulate infant by drying with towel, **make sure respirations are adequate.** **Normal VS are: Pulse: >120, Resp >40, BP 70, Weight 3.5 kg.**

Give baby to mother to nurse at breast. Get APGAR scores at 1 and 5 minutes after birth.

**If excessive post-partum bleeding, treat for shock, massage uterus to aid contraction, have mother nurse infant, start large bore IV,** transport without waiting for placenta to deliver. Bring it with you to the hospital. Get mother's vital signs.

- ❖ **Breech:** Call OLMC. If head won't deliver, consider applying gentle pressure on mother's abdomen. If unsuccessful, insert two gloved fingers in vagina between baby's face and vaginal wall to create airway. **Rapid transport.**
- ❖ **Cord Presents:** Call OLMC. Place mother in trendelenburg & knee-chest position, hold pressure on baby's head to relieve pressure on cord, check



- pulses in cord, keep cord moist with saline dressing, O<sub>2</sub>, **rapid transport, start IV en route.**
- ❖ **Breech:** Call OLMC. If head won't deliver, consider applying gentle pressure on mother's abdomen. If unsuccessful, insert two gloved fingers in vagina between baby's face and vaginal wall to create airway. **Rapid transport.**
  - ❖ **Cord Presents:** Call OLMC. Place mother in trendelenburg & knee-chest position, hold pressure on baby's head to relieve pressure on cord, check pulses in cord, keep cord moist with saline dressing, O<sub>2</sub>, **rapid transport, start IV en route.**
  - ❖ **Foot / leg presentation:** Call OLMC. Support presenting part, place mother in trendelenburg & knee-chest position, O<sub>2</sub>, **rapid transport, start IV en route.**
  - ❖ **Cord around neck: unwrap cord from neck** and deliver normally, keep face clear, suction mouth & nose, etc.
  - ❖ **Infant not breathing:** Stimulate with dry towel, rub back, flick soles of feet with finger. **Suction mouth and nose. Ventilate with BVM & 100% O<sub>2</sub>** (this will revive most infants). **Begin chest compressions if HR <60.** Ventilate with 100% O<sub>2</sub>. If child does not respond, contact OLMC & reassess ventilation, lung sounds (pneumothorax? obstruction?) O<sub>2</sub> connected? **Ventilate. Consider Intubation, IV fluids 10cc/kg, glucose 2cc/kg D25%W, Epinephrine 0.01 mg/kg IV/IO, or 0.1 mg/kg 1:1000 ET.**

**Rapid transport. Failure to respond usually indicates hypoxia.**

## APGAR Scale

	0 points	1 point	2 points	1 Min.	5 Min.
Heart rate	Absent	<100	>100		
Resp. Effort	Absent	Slow, irreg.	Strong cry		
Muscle Tone	Flaccid	Some flex.	Act. Motion		
Irritability	No response	Some	Vigorous		
Color	Blue, pale	Body: pink Ext: blue	Fully pink		
			TOTAL:		

- ❖ Infants with scores of 7 – 10 usually require supportive care only.
- ❖ **A score of 4 – 6 indicates moderate depression.**
- ❖ **Infants with scores of 3 or less require aggressive resuscitation.**