

 CPR and the AED

Patient	Compression depth	Compressions : breaths	Hands
Adult (puberty and older)	At least 2 in (5 cm), no more than 2.4 in (6 cm)	30 : 2 , one or two rescuers	Two hands on the lower half of the sternum
Child (1 year to puberty)	At least one-third of the chest, about 2 in (5 cm)	30 : 2 one rescuer; 15 : 2 two rescuers	One or two hands on the lower half of the sternum
Infant (under 1 year)	At least one-third of the chest, about 1½ in (4 cm)	30 : 2 one rescuer; 15 : 2 two rescuers	Two thumbs with the hands encircling the chest, or the heel of one hand

- ✓ **Sequence: C-A-B**, compressions, airway, breathing
- ✓ **Rate: 100—120 compressions per minute at every age.** Let the chest recoil fully; keep interruptions short
- ✓ **Pulse check:** carotid, 10 seconds
- ✓ **Rescue breathing (pulse present):** adult 1 breath every 6 seconds (about 10/min); child or infant every 2—3 seconds (20—30/min). Recheck the pulse every 2 minutes
- ✓ **Airway:** head tilt—chin lift; **jaw thrust** if a neck injury is suspected
- ✓ **Stop when** the victim moves, an AED is ready, help arrives, or you are exhausted
- ✓ **Pediatric AED pads** under age 8 or up to 55 lb. **Infant under 1:** a manual defibrillator first; if none, a pediatric-dose AED; if neither, a standard AED
- ✓ **Pad placement:** anterior to the right of the upper sternum, apex under the left nipple at the mid-axillary line
- ✓ **Dry chest, bare skin, no metal.** Stay 1 inch clear of an implanted pacemaker or defibrillator

 Choking

- ✓ **Universal sign:** clutching the neck between thumb and index finger
- ✓ **Good air exchange:** do not interfere; encourage coughing
- ✓ **Complete obstruction:** cannot speak, breathe or cough. Death in 4—6 minutes
- ✓ **Adult or child over 1:** from behind, **5 back blows** between the shoulder blades, then **5 abdominal thrusts**, fist slightly above the navel and well below the sternum, inward and upward. Alternate until it is out or the patient is unresponsive
- ✓ **Unresponsive:** lower to the floor, activate EMS, begin CPR with compressions. At each breath look in the mouth and remove only what you can see. **Never a blind finger sweep**
- ✓ **Infant under 1:** face down along the forearm, head lower than the trunk → **5 back blows** between the shoulder blades → turn face up → **5 chest thrusts** with the heel of one hand at the nipple line → look in the mouth, remove only what you can see; if nothing is visible, 2 rescue breaths. **Never a finger sweep on an infant**
- ✓ **Late pregnancy, or too large to reach around:** chest thrusts instead, fist on the lower half of the sternum, quick inward thrusts

 Shock

Type	Cause
Anaphylactic	Severe allergic reaction
Hypovolemic (hemorrhagic)	Excessive blood loss
Cardiogenic	MI, pulmonary embolism, severe CHF
Neurogenic	Vessel dilation from brain or spinal cord injury
Septic	Systemic infection
Insulin	Severe hypoglycemia from insulin overdose
Psychogenic	Extreme fear, joy, anger or emotional stress

Signs: pale, gray or cyanotic; cool moist skin; **dilated pupils;** weak rapid pulse; marked hypotension; shallow rapid respirations; lethargy or restlessness; nausea; extreme thirst.

Position supine with the legs elevated about 1 foot. Loosen clothing, cover for warmth, do not move unnecessarily.