### The C-A-B of CPR Steps for Adults, Children, and Infants

<table>
<thead>
<tr>
<th>Component</th>
<th>Recommendations</th>
</tr>
</thead>
</table>
| **Recognition**                  | **Adults**
|                                  | Unresponsive (for all ages)
|                                  | **Children**
|                                  | No breathing or only gasping
|                                  | **Infants**
|                                  | No pulse felt within 10 seconds                                              |
| **CPR sequence**                 | Chest compressions, Airway, Breathing (C-A-B)                                |
| **Compression rate**             | At least 100/min                                                             |
| **Compression depth**            | **Adults**
|                                  | At least 2 inches (5 cm)                                                     |
|                                  | **Children**
|                                  | At least \( \frac{2}{3} \) AP diameter About 2 inches (5 cm)                |
|                                  | **Infants**
|                                  | At least \( \frac{2}{3} \) AP diameter About 1½ inches (4 cm)               |
| **Chest wall recoil**            | Allow complete recoil between compressions                                  |
|                                  | Rotate compressors every 2 minutes                                           |
| **Compression interruptions**    | Minimize interruptions in chest compressions                                |
|                                  | Attempt to limit interruptions to <10 seconds                                |
| **Airway**                       | Head tilt–chin lift (suspected trauma: jaw thrust)                           |
| **Compression-ventilation ratio**| **1 or 2 rescuers**
|                                  | 30:2                                                                         |
|                                  | **Single rescuer**
|                                  | 15:2                                                                         |
|                                  | **2 rescuers**                                                               |
| **Ventilations with advanced airway** | 1 breath every 6-8 seconds (8-10 breaths/min)                       |
|                                  | Asynchronous with chest compressions                                         |
|                                  | About 1 second per breath                                                    |
|                                  | Visible chest rise                                                          |
| **Defibrillation**               | Attach and use AED as soon as available.                                    |
|                                  | Minimize interruptions in chest compressions before and after shock; resume CPR beginning with compressions immediately after each shock. |

**Abbreviations**: AED, automated external defibrillator; AP, anterior-posterior; CPR, cardiopulmonary resuscitation.

**BLS for Healthcare Providers Critical Concepts**

High-quality CPR improves a victim’s chances of survival. The critical characteristics of high-quality CPR include:

- **Start compressions within 10 seconds** of recognition of cardiac arrest.
- **Push hard, push fast**: Compress at a rate of at least 100/min with a depth of at least 2 inches (5cm) for adults, approximately 2 inches (5cm) for children, and approximately 1½ inches (4cm) for infants.
- **Allow complete chest recoil** after each compression.
- **Minimize interruptions** in compressions (try to limit interruptions to < 10 seconds).
- **Give effective breaths** that make the chest rise.
- **Avoid excessive ventilation**.

**Automated External Defibrillator-AED**

- As soon as an AED becomes available, the first step the rescuer should perform is to turn on the AED.
- After the AED delivers a shock, the rescuer should immediately restart CPR, beginning with chest compressions.
Foreign Body Airway Obstruction - Choking

- The best way to relieve severe choking in responsive adult or child – Perform abdominal thrusts.
- The best action to relieve severe choking in a responsive infant – Begin cycles of 5 back slaps, followed by 5 chest thrusts.
- When choking victim becomes unresponsive (adult, child, or infant) – the rescuer should send someone to activate emergency response system and immediately start CPR beginning with compressions.

Child or Infant With A Heart Rate

- When a child or infant has a heart rate greater than 60 per minute and a pulse but is not breathing effectively, the rescuer should give breaths without chest compressions.
- When an unresponsive child/infant is not breathing and has a heart rate less than 60 per minute and signs of poor perfusion despite oxygenation and ventilation with a bag-mask, the rescuer should perform both compressions and breaths.

C-A-B is Chest Compressions–Airway–Breaths, Not A-B-C

Chest Compressions

- The rescuer should initially ensure that the scene is safe when the rescuer first sees a potential victim.
- A victim who is unresponsive with no normal breathing and no pulse needs CPR.
- To identify cardiac arrest in an unresponsive victim with no breathing (or no normal breathing), a healthcare provider should check a pulse for no more than 10 seconds.
- It is important to compress to the appropriate depth during CPR to create blood flow during compressions.
- The depth of chest compressions for an adult victim should be at least 2 inches (5cm).
- The depth of chest compressions for an infant is at least one third the depth of the chest, approximately 1.5 inches (4cm).
- Rate of performing chest compressions for victims of all ages is at least 100 compressions per minute.
- Hands are placed on the lower half of the breastbone to perform chest compressions on the adult.
- In 2-rescuer CPR, while the first rescuer begins chest compressions, the second rescuer maintains an open airway and gives ventilations.
- Preferred chest compression technique for 2-rescuer CPR for the infant is the 2 thumb-encircling hands technique.

Airway

- After the airway is opened, the proper technique for delivering mouth-to-mouth ventilation is the rescuer opens the airway, seals his or her mouth over the victim’s mouth, pinches the victim’s nose closed, and gives 2 breaths while watching for the chest to rise.

Breaths

- The rescue breath for an adult, child, or infant is effective when the chest rises visibly.
- During bag-mask ventilation, giving a breath just until you see the chest rise is recommended to minimize the risk of gastric inflation.
- The compression-to-ventilation ratio for 1-rescuer adult CPR is 30:2.
- The compression-to-ventilation ratio for 2-rescuer child/infant CPR is 15:2.
- Compression and ventilation rates for 2-rescuer CPR in the presence of an advanced airway is to compress at a rate of at least 100 per minute, 1 breath every 6 to 8 seconds.
- When administering breaths by using a bag-mask device for a child who is not breathing but does have a pulse, the rescuer should give breaths at the rate of 1 breath every 3 to 5 seconds.
- Bag-mask device/technique is not recommended for a single rescuer to provide breaths during CPR.