

CPR Pit Crew Pediatric (≥ PL1)

Clinical Indications:

1. Cardiac arrest in non-adult patients > 5 days old and < 37 kg (81 lbs)
 - a. Newborn < 5 days old, then use Obstetrical Clinical Guidelines / Newborn Care

Contraindications:

1. None

Notes / Precautions:

1. Focus on:
 - a. Minimizing interrupting chest compressions
 - b. Appropriate depth, quality, and recoil of chest compressions
 - c. Rotating compressors to minimize fatigue
 - d. Use of a consistent and uniform team approach
 - e. Crew resource management and close looped communication
2. This procedure is based on a 4-person crew of providers.
3. If there is a 3-person crew (or Position 4 is not immediately available): Position 2 does the narration into the AED. And, position 1 or 2 will help position 3 with OPA and O2 connections when they become available.
4. If there is only a 2-person crew, see modified procedure.
5. Exception for witnessed arrest where a manual defibrillator is immediately available.

Procedure:

1. Initial Actions:
 - 1.1. Upon arrival at patient's side, assess/confirm for cardiac arrest
 - 1.2. Ensure adequate personnel/resources, move patient to appropriate space before compressions
 - 1.3. Position 1 – Immediately begins compressions
 - 1.4. Position 3 – Immediately assess airway, clears obstructions if found, places BVM and makes a one-handed mask seal, or preferably a two-handed with position 2 when available, and immediately begins to ventilate on room air.
 - 1.5. Position 2 or 4 – Immediately powers on AED, or on FRE3 pressure “CPR Button” when displayed, and places AED near position 2 at the patient's left shoulder. Position 4 begins narrating all actions.
 - 1.6. Position 4 – Assumes team leader role then performs each of the following throughout resuscitation:
 - a. Assists position 3 with OPA, O₂ administration and connections, ventilations with airway management
 - b. Narrates steps as they are being done
 - c. Monitors compressors use of CPR quality feedback and monitor pause times
 - d. Directs actions in response to CPR quality feedback from AED as needed – rate, depth, release/recoil, pauses/interruptions
 - e. Directs actions based on Pit-Crew CPR Checklist
2. CPR/BVM/Nasal Cannular – 1st Set of 200 Compressions with Metronome
 - 2.1. Position 1 – Performs 100 manual compressions with metronome
 - 2.2. Position 2 – Place CPR feedback device between compressions as soon as ready for use
 - 2.3. Position 2 – Retrieves metronome, powers on and places on the patient's left side
 - 2.4. Position 2 – Pediatric AED pads to patient's anterior chest and connect cables to AED
 - 2.5. Position 3 – Assembles BVM, places OPA, nasal cannula connected to O₂ source at 25 lpm, mask, and makes a two-handed mask seal with bag directed toward compressors. Position 3 turns on timing light.
 - 2.6. Position 2 - Squeezes bag every 3-4 seconds.
 - 2.7. After 100 compressions, approximately 1 minute, Position 2 begins compressions.
 - 2.8. Position 1 – Squeezes BVM every 3-4 seconds

CPR Pit Crew Pediatric (\geq PL1)

- 2.9. Position 1 – Resumes after 100 compressions until time for rhythm analysis after 200 total compressions. Position 2 squeezes BVM every 3-4 seconds.
- 2.10. Continuously take actions to improve compression rate, depth, release and pauses based upon CPR quality feedback from the AED or manual cardiac monitor (Positions 1 & 2).
3. AED / Defibrillation - 1st AED Analysis & Defibrillation
 - 3.1. AED auto-analysis or manual rhythm analysis and defibrillation/no defibrillation decision made
 - 3.2. Position 1 – Check carotid pulse during rhythm analysis
 - 3.3. Position 2 – Be ready to deliver defibrillation; Position 1 is ready to resume compressions
 - 3.4. Position 2 – Delivers defibrillation if indicated after quickly clearing patient
 - 3.5. Position 1 – Immediately resumes chest compressions
4. CPR – 2nd Set of 200 Compressions with Metronome
 - 4.1. Position 1 – Performs 100 manual compressions
 - 4.2. Position 3 – Creates mask seal
 - 4.3. Position 2 – Squeeze BVM every 3-4 seconds
 - 4.4. Position 2 – Prepares BIAD if appropriate
 - 4.5. After 100 compressions, approximately 1 minute, Position 2 immediately begins 100 compressions
 - 4.6. Position 1 – Resumes after 100 compressions until time for rhythm analysis
5. AED / Defibrillation - 2nd AED Analysis & Defibrillation
 - 5.1. AED analysis and defibrillation / no defibrillation decision made
 - 5.2. Position 1 – Checks carotid pulse during rhythm analysis
 - 5.3. Position 2 – Be ready to deliver defibrillation; Position 1 is ready to resume compressions
 - 5.4. Position 2 – Delivers defibrillation, if indicated, after quickly clearing patient
 - 5.5. Position 1 – Immediately resumes chest compressions
6. CPR / BIAD – 3rd Set of 200 Compressions with Metronome
 - 6.1. Position 1 – Performs 100 manual compressions
 - 6.2. Position 3 – Create mask seal
 - 6.3. Position 2 – Squeeze BVM every 3-4 seconds
 - 6.4. Position 3 – Inserts and secures BIAD without stopping chest compressions
 - 6.5. Position 3 – Squeeze bag every 3-4 seconds
 - 6.6. After 100 compressions, approximately 1 minute, Position 2 immediately begins 100 compressions
 - 6.7. Position 1 – Resume after 100 compressions until time for rhythm analysis.
 - 6.8. When time for AED / rhythm analysis, Position 3 holds BVM connected to airway device

Repeat steps 5 & 6 until ROSC or Termination of Resuscitation (TOR)

CPR Pit Crew Pediatric (\geq PL1)

Modified Two (2) Person Version

Clinical Indications:

1. First arriving providers establish the following pit crew positions.

Procedure:

1. Position 1 – Patient's right side
 - 1.1. Assessing responsiveness and pulses
 - 1.2. Initiates 100 chest compressions immediately if needed
 - 1.3. Alternates 100 chest compressions with Position 2
 - 1.4. If not completed by Position 2, assemble/place nasal cannula 25 lpm O₂
 - 1.5. If Transport Provider, may reach over and charge manual monitor at the appropriate 70th compression cycle timelines at 2 minutes
2. Position 2 – Patient's left side
 - 2.1. Activates metronome at 100 beats/minute
 - 2.2. Brings and operates the AED or Manual Monitor. If AED power on and begin narration
 - 2.3. Apply and connect pads if manual monitor or FRE3 AED
 - 2.4. Connect Pediatric pads to AED after 200 compressions if using FR1 or FR2 AEDs
 - 2.5. Rhythm analysis after each 200 compression cycle
 - 2.6. Open and clear airway, insert OPA, assemble and place nasal cannula 25 lpm O₂
 - 2.7. Alternates 100 chest compressions with Position 1
 - 2.8. Once additional trained providers arrive, return to normal Pit Crew operations

