

PULSELESS CARDIAC ARREST: ADULT (Puberty & Up)

SIGNS & SYMPTOMS:

1. Absent pulse (carotid & one other location)
2. Absent or agonal breathing
3. Pupils: dilated, sluggish or unreactive
4. Skin: pale, cool, cyanotic, mottled
5. Neuro: unconscious, seizure activity (initially)

OBTAIN HISTORY OF:

1. Witnessed or unwitnessed collapse
2. PMH/Meds/Allergies
3. DNR/DNI status
4. Bystander CPR
5. Down time
6. Potential causes: MI, CVA, OD, electrocution, diabetes, airway obstruction, trauma

CONTRAINDICATIONS:

1. Combitube SA are contraindicated in patients < 4' and regular Combitubes are contraindicated in patients < 5'.
2. Automatic or manual defibrillation is contraindicated if hypovolemia is suspected as the cause of the arrest until corrected.

PRECAUTIONS:

1. Pulse oximetry and end-tidal CO₂ monitoring in low perfusion states may be unreliable.
2. This guideline follows **AHA ECC 2005 guidelines** and is intended for patients at puberty and up.
3. Take appropriate infection control precautions.
4. Do not analyze or shock with an automatic external defibrillator (AED) while moving the patient or in a moving ambulance. The ambulance should always be stopped when analyzing and shocking whether with an AED or manual defibrillator.
5. Remove any medication patches prior to defibrillation.
6. Defibrillators may be used on patients with pacemakers or automatic implanted defibrillators, but do not place patches or paddles over these devices.
7. Never analyze or shock conscious patients with and AED, even if AED is prompting an analysis.

NONTRAUMATIC MEDICAL FIRST RESPONDER / BASIC LIFE SUPPORT:

1. If appropriate, assure an ALS unit is responding.
2. Assess LOC and responsiveness. Attempt to determine total time down.
3. Suction to clear the airway as necessary.
4. If not breathing, insert oral airway (with no gag reflex) and initiate 2 breaths using a bag-valve system or demand valve. 100% oxygen administration is preferred.
5. Assess patient for pulse.
6. If no pulse present, perform CPR (in cycles of 30 compressions to 2 ventilations) until AED is available or perfusion is restored. (Note: if patient has likely been in arrest for 4 minutes or more, perform 5 cycles of compressions and ventilations prior to AED use).
7. If public access defibrillation (PAD) is present, consider removing PAD and switch to EMS defibrillator.
8. Apply adult defibrillation patches and turn on AED.
9. Stop CPR briefly for AED to analyze.
10. If a shockable rhythm is detected, the AED will begin charging. CPR should resume while AED is charging (not while AED is analyzing). Assure that all personnel are clear prior to delivering shock.
11. Immediately start CPR for 5 cycles of 30 compressions to 2 ventilations (2 minutes of CPR) after first shock or if no shock is indicated. Push hard and fast (100/min) and release heel of hand from chest completely. Oxygenate and insert Combitube (if > 5' or Combitube SA if between 4'-5') during this time if ready. (**Note: Chest compressions will be continuous & ventilations once every 6-8 seconds with combitube in place**).
12. After 5 cycles or 2 minutes, check for a pulse and analyze rhythm. If no pulse and no shock advised, continue CPR for 5 more cycles. If shock advised, allow AED to charge and assure everyone is clear from patient. Continue CPR as AED is charging. Assure that all personnel are clear prior to delivering shock. Start CPR immediately after delivery of shock if no signs of pulse or perfusion are present.
13. After second 5 cycles (or total of 4 minutes of CPR so far), check pulse and analyze rhythm. If shock advised, allow AED to charge and assure everyone is clear of patient. Allow AED to shock patient. Continue CPR if

no signs of pulse or perfusion present. Begin transport if no ALS personnel on scene.

A. If pulse is present, manage and support ABCs as necessary.

14. Continue steps 9-14 while enroute to hospital.
15. Contact Medical Control for further orders.
16. Patients that are transported should be secured on a longboard or equivalent non-metallic device.
17. Transport to an appropriate medical facility.

NONTRAUMATIC INTERMEDIATE TECH:

1. Establish IV NS TKO.
2. If known diabetic with low blood sugar
 - A. Administer 1 amp of D50 IV

NONTRAUMATIC INTERMEDIATE 99 AND PARAMEDIC/RN LIFE SUPPORT: In addition to above and/or as appropriate:

1. Identify rhythm: Consider placing defib pads anterior/posterior to facilitate possible pacing if rhythm changes.
 - a. **Ventricular fibrillation/pulseless ventricular tachycardia:**
 - i. If shockable rhythm, defibrillate at 200 J biphasic. Continue CPR as defibrillator is charging. Assure everyone is clear of patient prior to pushing shock. If no change,
 - ii. Resume CPR immediately for 5 cycles of 30 compressions to 2 ventilations.
 - iii. Establish advanced airway (ET, if unsuccessful consider Combitube). Ventilate with 100% O₂. (**Note: Once ET tube or Combitube is placed, chest compressions are continuous with one ventilation every 6-8 seconds**)
 - iv. Establish IV/IO of Normal Saline.
 - v. Administer 1.0 mg epinephrine 1:10,000 IV/IO. If no change, may repeat epinephrine doses 1:10,000 1.0 mg every 3-5 minutes. May consider using Vasopressin 40 U IV/IO or ET (diluted in 10ml NS), single dose, 1 time only as an alternative to epinephrine.
 - vi. After the 5 cycles of CPR, check rhythm and pulse.
 - If shockable, continue CPR while defibrillator is charging. Assure everyone clear of patient before shocking patient. Shock patient at 200 J biphasic.
 - If asystole, continue CPR for 5 cycles. Follow Asystole guideline.
 - If pulse present, begin post resuscitation care, support ABC's.
 - vii. Administer antiarrhythmics, Amiodarone 300 mg IV/IO or Lidocaine 1.0-1.5 mg/kg IV/IO (2-4 mg/kg ET) If no change, repeat Amiodarone 150 mg IV/IO in 3-5 minutes or repeat Lidocaine 0.5-0.75 mg/kg IV/IO every 3-5 minutes (to a maximum of 3 doses or 3 mg/kg of Lidocaine). If a perfusing rhythm was re-established after using lidocaine, Paramedic/RN may establish lidocaine infusion (1 - 4 mg/min) upon rhythm conversion. If perfusing rhythm was re-established using either the initial or subsequent dose of amiodarone, contact medical control for further orders.
 - viii. Continue 5 cycles of CPR and shock sequence between drug administrations. (**Note:** Third and subsequent shocks continue at 200 J biphasic)
 - ix. Paramedic/RN consider Magnesium Sulfate 1-2g IV/IO for Torsades
 - x. Paramedic/RN contact medical control for Sodium Bicarbonate 1 amp (50 mEq) IV if prolonged arrest.
 - xi. Paramedic/RN contact medical control for Calcium Chloride 10 ml IV for known renal or hypocalcemic patients
 - b. **Asystole/PEA:**
 - i. Resume CPR (continuous with ET/Combitube in place or 5 cycles of 30:2 without advanced airway).
 - ii. Confirm true asystole by checking a minimum of 2 other leads, increasing the machine's gain and checking all defibrillator cables from the patient to the machine.
 - iii. Establish advanced airway (ET, if unsuccessful consider Combitube). Ventilate with 100% O₂.
 - iv. Establish IV/IO of Normal Saline.
 - v. Administer 1.0 mg epinephrine 1:10,000 IV/IO. If no change, 1.0 mg IV/IO may be repeated every 3 - 5 minutes. May consider using Vasopressin 40 U IV/IO or ET (diluted in 10ml

- NS), single dose, 1 time only as an alternative to epinephrine.
- vi. Administer atropine 1.0 mg IV/IO for asystole or slow PEA rate. If no change, 1.0 mg IV/IO may be repeated in 3 - 5 minutes (total of 3 doses or max 0.04 mg/kg).
 - vii. Consider possible causes and treat as indicated (6 H's & 6 T's)
 - viii. Paramedic/RN contact medical control for Sodium Bicarbonate 1 amp (50mEq) IV
 - ix. Consider termination of efforts. Contact medical control.
2. In known or suspected drug overdose, consider 2mg Narcan IV/IO.
 3. If hypoglycemia is suspected, check blood sugar and treat as indicated.
 4. If suspected of a pneumothorax, perform a chest needle decompression.
 5. If hypovolemia is suspected, establish two large bore IV's and administer a 500 cc NaCl bolus.
 6. If transporting, place patient on longboard. Consider immobilizing head with C-collar if patient is intubated.
 7. Transport to an appropriate medical facility.
 8. Follow post arrest care if indicated.

PARAMEDIC/RN POST ARREST TREATMENT:

1. Hypotensive shock:
 - i. Consider further fluid boluses.
 - ii. Consider Epinephrine infusion (2 to 10 mcg/min) **and/or:**
 - iii. Consider Dopamine infusion (10 to 20 mcg/kg/min)
2. Normotensive shock:
 - i. Consider further fluid boluses.
 - ii. Consider Dopamine infusion (2 to 20 mcg/kg/min) **and/or:**
 - iii. Consider Epinephrine infusion (2 to 10 mcg/min titrated to effect)

TRAUMATIC MEDICAL FIRST RESPONDER / BASIC CARDIAC ARREST CARE:

Traumatic cardiac arrest differs in the following ways:

1. Manually stabilize the neck, open the airway using the modified jaw thrust or chin lift technique. Provide manual stabilization during all advanced airway procedures and until the patient is secured on a board.
2. If unable to ventilate due to traumatic airway obstruction, transport immediately.
3. Assess chest for life-threatening injuries, i.e. sucking chest wound or flail chest, and treat as appropriate. Control major external bleeding (may consider TraumaDex).
4. Apply C-collar and log-roll onto backboard. Check back for injuries.
5. Prepare for immediate transport. Attempt to keep scene time to five minutes.
6. Begin transport to an appropriate medical facility.

TRAUMATIC INTERMEDIATE TECH CARDIAC ARREST CARE:

1. Establish two large bore IVs of NS enroute and run fluids wide open.

TRAUMATIC INTERMEDIATE 99 & PARAMEDIC/RN CARDIAC ARREST CARE: In addition to above and as appropriate (consider terminating or not starting arrest if unwitnessed by EMS and no special circumstances exist):

1. If it is a witnessed traumatic arrest: Manually stabilize the neck, open the airway using the modified jaw thrust or chin lift. Provide manual stabilization during all advanced airway procedures and until the patient is secured onto a board.
2. Perform needle chest decompression ASAP if tension pneumothorax is suspected. Attempt bilateral needle chest decompression, if indicated, prior to considering discontinuation of resuscitation efforts in traumatic arrest.
3. Attempt IO if unable to establish IV.
4. Assess chest for life-threatening injuries, i.e sucking chest wound or flail chest and treat as appropriate.
5. If asystole or PEA, follow algorithm above. Do not delay scene times to administer meds.
6. If V-fib or V-tach, follow algorithm above, remembering that defibrillation is generally not effective until circulating volume has been restored. Do not delay scene times to defibrillate.
7. Paramedic/RN consider needle cricothyrotomy if unable to establish an airway.
8. Paramedic/RN consider pericardiocentesis prior to termination of efforts.

HYPOTHERMIC BASIC & INTERMEDIATE TECH CARDIAC ARREST CARE: Hypothermic cardiac arrest differs in the following ways:

1. Take 30 - 45 seconds to confirm pulselessness or profound bradycardia. Perform CPR if pulse is absent or patient is profoundly bradycardic and there are no signs of perfusion.
2. Withhold CPR (compressions and ventilations) in patients without a pulse that have an organized electrical rhythm (PEA) other than V-tach.
3. Perform all treatments and transportation as gently as possible to avoid precipitating V-fib.
4. Remove wet garments from patient and protect against further heat loss.
5. Maintain horizontal position.
6. If public access defibrillation (PAD) is present, consider removing PAD and switch to EMS defibrillator.
7. Severe hypothermia is frequently preceded by other disorders (e.g. drug overdose or trauma). Assess for and treat these underlying conditions while simultaneously managing the hypothermia.
8. Transport to an appropriate medical facility if profound hypothermia is suspected or consider transport to a Level 1 Trauma center.

HYPOTHERMIC INTERMEDIATE 99 & PARAMEDIC/RN CARDIAC ARREST CARE:

1. Pacing is relatively contraindicated in hypothermia because it might cause VF or VT in a patient otherwise profoundly bradycardic mainly due to metabolic rate secondary to hypothermia. Treat the hypothermia.
2. Consider infusing warm (43°C/109.4°F) IV/IO fluids.
3. Obtain core temperature of patient: If < 30°C/86°F, continue CPR, continue active internal rewarming, shock once at 200 J biphasic for VF/VT and withhold IV/IO medications. If > 30°C/86°F, continue CPR, give IV/IO medications as indicated (space at longer intervals) and repeat defibrillation for VF/VT as core temp rises.
4. Administered medications can accumulate to toxic levels if used repeatedly in the severely hypothermic patient.
5. In the hypothermic patient that has not yet developed cardiac arrest, some physical manipulations (advanced airway intubation, pacing, etc.) have been reported to precipitate V-Fib. However, when urgently indicated, such procedures should not be withheld.

SPECIAL NOTES:

1. If IV/IO access is unavailable, narcan, atropine, vasopressin, epi, and lidocaine (NAVEL) may be given via the endotracheal tube following dosages recommended in AHA guidelines by Intermediate 99, Paramedic and qualified RN personnel. A 10 ml normal saline flush should also be used.
2. AHA recommends rotating compressors every 2 minutes with rhythm checks.
3. If, despite above treatment, the patient still does not have a pulse or is not perfusing, in conjunction with the monitoring physician, it may be appropriate to terminate the resuscitation effort.
4. Time spent at the scene, assessing and managing the patient's ABCs is time well spent. Secondary surveys, however, if performed, should be done enroute.
5. The monitoring physician may supersede these orders at any time.
6. Do not attempt rhythm interpretation unless specifically trained. Document and report AED action instead.
7. It may be necessary to shave or dry the chest to ensure good patch contact.
8. If you are transporting a patient who is in or develops cardiac arrest, you must stop the vehicle to analyze.
9. Pulse checks should be done carefully for 5-10 seconds. No CPR can be done while the AED is analyzing.



CARDIAC ARREST: INFANT (0 – 1 yr) PEDIATRIC (1 yr-Puberty)

SIGNS & SYMPTOMS:

1. Absent pulse (brachial in infant)
2. Absent or agonal breathing
3. Pupils: dilated, sluggish or unreactive
4. Skin: pale, cool, cyanotic, mottled
5. Neuro: unconscious, seizure activity (initially)
6. J (Osborn) ECG wave in hypothermia

OBTAIN HISTORY OF:

1. PMH/Meds/Allergies
2. Witnessed or unwitnessed collapse
3. DNR/DNI status
4. Bystander CPR
5. Down time
6. Potential causes: accident, abuse, drowning, electrocution, FBAO, respiratory distress

CONTRAINDICATIONS:

1. The demand valve resuscitators are contraindicated in patients < 90 lbs or < 8 years of age.

PRECAUTIONS:

1. All references in this protocol relate to pediatric capable AED's for BLS providers.
2. Pulse oximetry and end-tidal CO₂ monitoring in low perfusion states may be unreliable.
3. This guideline follows **AHA ECC 2005 guidelines** and is intended for patients age 0-1 year (infants) and 1 year to puberty (child).
4. Remember that most arrests in children are respiratory related and adequate ventilation is the key for successful resuscitation and correction of acidosis.
5. Because the head of a child is proportionally larger, padding under the shoulders or torso will assist in airway management and may be required to keep the head in neutral alignment.
6. Do not analyze or shock with an automatic external defibrillator (AED) while moving the patient or in a moving ambulance. The ambulance should always be stopped when analyzing or shocking.
7. Remove any medication patches prior to defibrillation.
8. Defibrillators may be used on patients with pacemakers or automatic implanted defibrillators, but do not place patches or paddles over these devices.
9. Do not analyze or shock conscious patients, even if AED is prompting an analysis.
10. Any medication given on standing order is at the dose recommended by the Broselow Pediatric Tape.

NONTRAUMATIC MEDICAL FIRST RESPONDER/BASIC LIFE SUPPORT:

1. Establish unresponsiveness and assess ABCs.
2. Oxygenate initially with 100% O₂ using oral airway and bag-valve system. Suction as necessary to clear the airway.
3. Perform CPR (Following American Heart Association Guidelines):
 - A. In children, if a pulse is not palpable or heart rate is < 60/min and signs of poor systemic perfusion are present;
 - B. In infants, if a pulse is not palpable or heart rate is < 80/min and signs of poor systemic perfusion are present;
 - C. Until adequate perfusion is restored;
 - D. If instructed by a physician.
4. If rescuer is alone, perform CPR for 5 cycles of 30 compressions to 2 ventilations. If two rescuers present, give 5 cycles of 15 compressions to 2 ventilations. Push hard and fast (100/min) and release heel of hand completely from chest.
5. Upon arrival of AED, apply **pediatric** defibrillation patches for patients age **1-8**: (Under age 1 continue CPR and bypass AED)
 - A. One patch and negative (sternum) cable to upper right chest, below collarbone.
 - B. One patch and positive (apex) cable to midaxillary area below left breast.
 - C. Anterior/Posterior patch placement is also acceptable in pediatrics with smaller chests.
6. Allow AED to analyze rhythm. **Automated external defibrillation is not used in cardiac arrest in children under 1 year of age.** A pediatric capable AED is preferred for ages 1-8. However, a standard AED may be used if it is the only one available. If shock advised, ensure everyone is clear of patient and press shock. If no shock advised, resume CPR immediately for 5 cycles.

7. Check rhythm every 5 cycles and continue until ALS providers take over. Prepare patient for immediate transport.
8. If public access defibrillation (PAD) is present, consider removing PAD and switch to EMS defibrillator. If EMS defibrillator is not pediatric AED capable, then continue to use the PAD-pediatric capable device.
9. If there is no shock indicated after ANY analysis, it means the AED is detecting a non-shockable rhythm and a pulse should be checked.
 - A. If no pulse is present, continue CPR.
 - B. If pulse is present, manage and support ABCs as necessary. Prepare for immediate transport.
10. Identify possible causes (6H's & 6T's).
11. Patients that are transported should be secured on a longboard or equivalent non-metallic device.
12. Transport to an appropriate medical facility.

NONTRAUMATIC INTERMEDIATE TECH:

1. Establish IV of NS TKO.
2. Intravenous lines should be started enroute to reduce scene time.

NONTRAUMATIC INTERMEDIATE 99 & PARAMEDIC/RN: In addition to above and as appropriate:

1. Apply **pediatric** monitoring electrodes and/or defibrillation patches.
2. Hyperventilate and intubate patient to secure airway.
3. Identify rhythm; treat as follows:
 - a. **Ventricular fibrillation or pulseless ventricular tachycardia:**
 - i. Defibrillate @ 2 J/kg (1 J/lb) initial.
 - ii. Resume CPR immediately after shock for 5 cycles.
 - iii. Establish more definitive airway with ET as needed; continue to ventilate with 100% O₂
(**Note: once an advanced airway is placed, chest compressions are continuous with 8-10 breaths per minute. Check rhythm every 2 minutes**)
 - iv. Establish vascular access. Intraosseous (IO) is preferred in children < 5 years.
 - v. Check rhythm after 5 cycles of CPR. If shockable, defibrillate @ 4 J/kg (2 J/lb) then resume CPR immediately after shock. If no shockable rhythm, resume CPR for 5 cycles. If asystole or PEA, follow Asystole/PEA algorithm.
 - vi. Administer initial dose of epinephrine (1:10,000) 0.01 mg/kg IV/IO or 0.1 mg/kg (1:1000) ET. If no change, may repeat epinephrine as stated above every 3-5 minutes.
 - vii. Check rhythm after 5 cycles of CPR. If shockable, defibrillate @ 4 J/kg (2 J/lb) then resume CPR immediately after shock. If no shockable rhythm, resume CPR for 5 cycles. If asystole or PEA, follow Asystole/PEA algorithm.
 - viii. Administer initial dose of amiodarone 5mg/kg IV/IO or lidocaine 1 mg/kg IV/IO or ET; circulate with cardiac compressions. Repeat amiodarone 5mg/kg (up to 15mg/kg) or lidocaine 1 mg/kg every 3-5 minutes (to a maximum of 3 mg/kg). If perfusing rhythm is re-established after using lidocaine, establish lidocaine infusion (1 - 4 mg/min). If perfusing rhythm is re-established after using amiodarone, contact medical control for further orders.
 - ix. Paramedic/RN contact medical control for Magnesium Sulfate 25-50 mg/kg IV/IO (max 2g) for torsades.
 - x. Paramedic/RN contact medical control for Sodium Bicarbonate
 - xi. Paramedic/RN contact medical control for Calcium Chloride
 - xii. Repeat steps v – xi as necessary.
 - xiii. Contact medical control for further orders.
 - b. **Asystole/PEA:**
 - i. Resume CPR immediately.
 - ii. Establish secure airway with ET if not already done and continue to ventilate with 100% O₂.
 - iii. Establish vascular access, if not already done. IO is preferred in children < 5 years.
 - iv. Administer initial dose of epinephrine (1:10,000) 0.01 mg/kg IV/IO or 0.1 ml/kg (1:1000) ET. If no change, administer additional epinephrine as stated above every 3-5 minutes and continue with 5 cycles of CPR.
 - v. If patient goes into any shockable rhythm, follow VF/VT algorithm.
 - vi. Consider and treat underlying causes. (6H's & 6T's) Repeat steps i – vi.

- vii. Contact medical control for further orders.
- 4. Position patient on board. Immobilize head if patient is intubated.
- 5. Follow post arrest care if indicated.
- 6. Contact medical control for further orders.

PARAMEDIC/RN POST ARREST TREATMENT:

- 3. Hypotensive shock:
 - i. Consider further fluid boluses.
 - ii. Consider Epinephrine infusion (0.1 to 1.0 mcg/kg/min) **and/or:**
 - iii. Consider Dopamine infusion (10 to 20 mcg/kg/min)
- 4. Normotensive shock:
 - i. Consider further fluid boluses.
 - ii. Consider Dopamine infusion (2 to 20 mcg/kg/min) **and/or:**
 - iii. Consider Epinephrine infusion (0.05 to 0.3 mcg/kg/min)

TRAUMATIC MEDICAL FIRST RESPONDER/BASIC CARDIAC ARREST CARE:

Care for traumatic cardiac arrest differs in the following ways:

- 1. While manually stabilizing the neck, open the airway using the modified jaw thrust or chin lift technique. Provide manual stabilization during all advanced airway procedures and until the patient is secured on a board.
- 2. Assess chest for life-threatening injuries, i.e. sucking chest wound or flail chest, and treat as appropriate. Control major external bleeding (may consider TraumaDex).
- 3. Prepare for immediate transport. Attempt to keep scene times to five minutes.
- 4. Apply C-collar and log-roll onto backboard. Check back for injuries.
- 5. Begin transport to an appropriate medical facility.

TRAUMATIC INTERMEDIATE TECH CARDIAC ARREST CARE:

- 1. Establish IV, TKO enroute. May adjust rate per medical control.
- 2. Attach ECG monitor enroute.

TRAUMATIC INTERMEDIATE 99 & PARAMEDIC/RN CARDIAC ARREST CARE: In addition to above and as appropriate (consider terminating or not starting arrest if unwitnessed by EMS and no special circumstances exist):

- 1. Consider ET intubation as needed.
- 2. Establish IV(s) and/or IO(s) enroute; consider fluid boluses of 10 cc/kg for child < age 1 and 20 cc/kg for child > age 1, reassessing patient after each bolus.
- 3. If V-fib or V-tach, follow algorithm above, remembering that defibrillation is generally not effective until circulating volume has been restored. Do not delay scene times to defibrillate.
- 4. If asystole or PEA, follow algorithm above. Do not delay scene times to administer medications.
- 5. Perform needle chest decompression if tension pneumothorax is suspected.
- 6. Paramedic/RN consider needle cricothyrotomy if unable to establish airway.
- 7. Paramedic/RN consider pericardiocentesis prior to termination of efforts.

HYPOTHERMIC MEDICAL FIRST RESPONDER/BASIC CARDIAC ARREST CARE:

Hypothermic cardiac arrest differs in the following ways:

- 1. Take 30 - 45 seconds to confirm pulselessness or profound bradycardia. Perform CPR if pulse is absent after 30 - 45 seconds or if rate is < 60 beats per minute and patient shows signs of poor perfusion.
- 2. Perform all treatments and transportation as gently as possible to avoid precipitating V-fib.
- 3. Remove wet garments and protect against further heat loss and wind chill through the use of blankets and heated patient compartment.
- 4. Maintain horizontal position, avoiding rough and excessive movement.
- 5. If public access defibrillation (PAD) is present, consider removing PAD and switch to EMS defibrillator. If EMS defibrillator is not pediatric AED capable, then continue to use PAD-Pediatric capable device.
- 6. Severe hypothermia is frequently preceded by other disorders (e.g. drowning, overdose or trauma). Assess for and treat these underlying conditions while simultaneously managing the hypothermia.

7. Transport immediately to an appropriate medical facility.

HYPOTHERMIC INTERMEDIATE TECH CARDIAC ARREST CARE:

1. Establish IV, TKO enroute. Consider using warm IV fluid.

HYPOTHERMIC INTERMEDIATE 99 & PARAMEDIC/RN CARDIAC ARREST CARE:

1. Pacing is relatively contraindicated in hypothermia because it might cause VF or VT in a patient otherwise profoundly bradycardic mainly due to metabolic rate secondary to hypothermia. Treat the hypothermia.
2. Consider ET intubation as needed.
3. Administered medications can accumulate to toxic levels if used repeatedly in the severely hypothermic patient.

SPECIAL NOTES:

1. If rescuer is alone, perform CPR for five cycles before undertaking other actions.
2. AHA recommends rotating compressors every 2 minutes with rhythm checks.
3. "Pediatric Capable" refers to an AED capable of an energy setting of < 50 J.
4. If IV access is unavailable, lidocaine, epinephrine, atropine, and narcan (LEAN) may be given via the endotracheal tube per AHA guidelines.
5. If you are transporting a patient who is in or develops cardiac arrest, you must pull over and stop the vehicle to analyze. Use common sense. Do not stop so often that it takes a lengthy period of time to get to hospital.
6. Pulse checks should be done carefully for 5-10 seconds. No CPR can be done while the AED is analyzing.



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