VENTRICULAR FIBRILLATION/PULSELESS VENTRICULAR TACHYCARDIA
ALWAYS USE STANDARD PRECAUTIONS

START CPR
- Give O2
- Attach monitor/defibrillator
- ALS RMC

Rhythm Shockable?

Yes

VF/pVT

CPR 2 min
- IO/IV access

No

CPR 2 min
- Epinephrine every 3-5 min
- Consider advanced airway

Yes

Rhythm Shockable?

No

CPR 2 min
- Amiodarone
- Treat reversible causes

Go to Policy –
- Asystole/PEA
- ROSC

Critical Information:
- Witnessed vs Unwitnessed
- Consider pre-cardiac thump if witnessed and defibrillator not immediately available
- Use metronome or similar device
- If hypothermic, delay compressions for 3 minutes; focus on ventilations and active rewarming
- Manual CPR is preferred; mechanical CPR is an acceptable alternative
- Change compressors q 2'
- Minimize interruptions
- Defibrillate per manufacturer's recommendations.
- Do not stop compressions while defibrillator is charging
- Resume compressions immediately after shock

BLS Airway Management:
- BLS airway is preferred during the first 5'
- Use two-person BLS airway management whenever possible
- Avoid excessive ventilation
- 30:2 compression/ventilation ratio

ALS Airway Management:
- King Airway preferred device
- May use ETT/video laryngoscopy (VL) if available
- Laryngoscopy for ETT must occur with CPR in progress. Do not interrupt CPR for >10 seconds for tube placement
- Continuous ETCO2 use to monitor effectiveness of CPR and advanced airway placement. Maintain O2 sat 94-99%
- 1 breath every 6 seconds

Drug Therapy:
- Epinephrine 1mg 1:10,000 IV/IO q 3-5 min
- Amiodarone first dose: 300mg IV/IO; second dose 150mg IV/IO in 3-5 minutes

Reversible Causes:
- Hypovolemia
- Hypoxia
- Hydrogen Ion (Acidosis)
- Hypoglycemia
- Hypo-/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponade (cardiac)
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary

● If rhythm converts with ROSC after Amiodarone, monitor and consider infusion of Amiodarone drip (150mg in 100ml NS, 1mg/min = 40 gtt/min with 60 gtt/ml tubing
● For refractory Vfib >30 min, transport to nearest available STEMI Receiving Center
ASYSTOLE / PULSELESS ELECTRICAL ACTIVITY
ALWAYS USE STANDARD PRECAUTIONS

Critical Information:
- Witnessed vs Unwitnessed
- Determination of death can be made immediately if all are present (Medical patients):
  - Presenting rhythm is asystole
  - Event was unwitnessed
  - Effective bystander CPR was not initiated
  - No evidence of potentially reversible cause of arrest (e.g. hyperkalemia or hypothermia)
  - No AED or manual shock delivered
- Determination of death can be made immediately if either are present (Trauma patients):
  - MCI incident where triage principles preclude initiation of CPR
  - Blunt, penetrating or profound multi-system trauma with asystole or PEA
- If hyperkalemia is suspected in renal dialysis patients, administer 500mg of 10% Calcium Chloride and 1 mEq/kg of Sodium Bicarbonate IV/IO
- If hypothermic, delay compressions for 3 minutes; focus on ventilations and active rewarming
- Refer to Adult Cardiac Arrest flow chart

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- BLS airway is preferred during the first 5’
- Use two-person BLS airway management whenever possible
- Avoid excessive ventilation
- 30:2 compression/ventilation ratio

ALS Airway Management:
- King Airway preferred device
- May use ETT/video laryngoscopy (VL) if available
- Laryngoscopy for ETT must occur with CPR in progress. Do not interrupt CPR for >10 seconds for tube placement
- Continuous ETCO2 use to monitor effectiveness of CPR and advanced airway placement. Maintain O2 sat 94-99%
- 1 breath every 6 seconds
- Minimize interruptions

Reversible Causes
- Hypovolemia
- Hypoxia
- Hydrogen Ion (acidosis)
- Hypoglycemia
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponade (cardiac)
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary
PEDIATRIC CARDIAC ARREST
ALWAYS USE STANDARD PRECAUTIONS

START CPR
• Give O2 via BVM 40-60 bpm
• Attach monitor/defibrillator
• Prepare for immediate transport

Assess Rhythm

VF/pVT

CPR 2 min
• IO/IV access

Rhythm Shockable?

NO

YES

CPR 2 min
• Epinephrine every 3-5 min
• Consider advanced airway

Rhythm Shockable?

NO

YES

CPR 2 min
• Amiodarone
• Treat reversible causes

Asystole/PEA

CPR 2 min
• IV/IO access
• Epinephrine every 3-5 min
• Consider advanced airway

CPR 2 min
• Treat reversible causes

Rhythm Shockable?

NO

YES

YES

YES

NO

YES

REFER TO P18 A
• Defibrillation
• Drug dosages
• ETT sizes

CPR Ratios
• Pedi One Rescuer – 30:2
• Pedi Two Rescuer – 15:2

Reversible Causes
• Hypovolemia
• Hypoxia
• Hydrogen Ion (acidosis)
• Hypoglycemia
• Hypo/Hyperkalemia
• Hypothermia
• Tension Pneumothorax
• Tamponade (cardiac)
• Toxins
• Thrombosis, pulmonary
• Thrombosis, coronary

BLS Airway Management
• BVM is the preferred airway for pediatric patients
• Avoid excessive ventilation. Deliver only the volume needed to make the chest rise
• Place padding under younger child’s torso for neutral airway positioning

ALS Airway Management
• Consider only if unable to ventilate with BVM
• Laryngoscopy for ETT must occur with CPR in progress. Do not interrupt CPR for >10 seconds for tube placement
• May use VL (video laryngoscopy) if available
• Continuous ETCO2 use to monitor effectiveness of CPR and advanced airway placement. Maintain O2 sat 94-99%
• 1 breath every 6 seconds