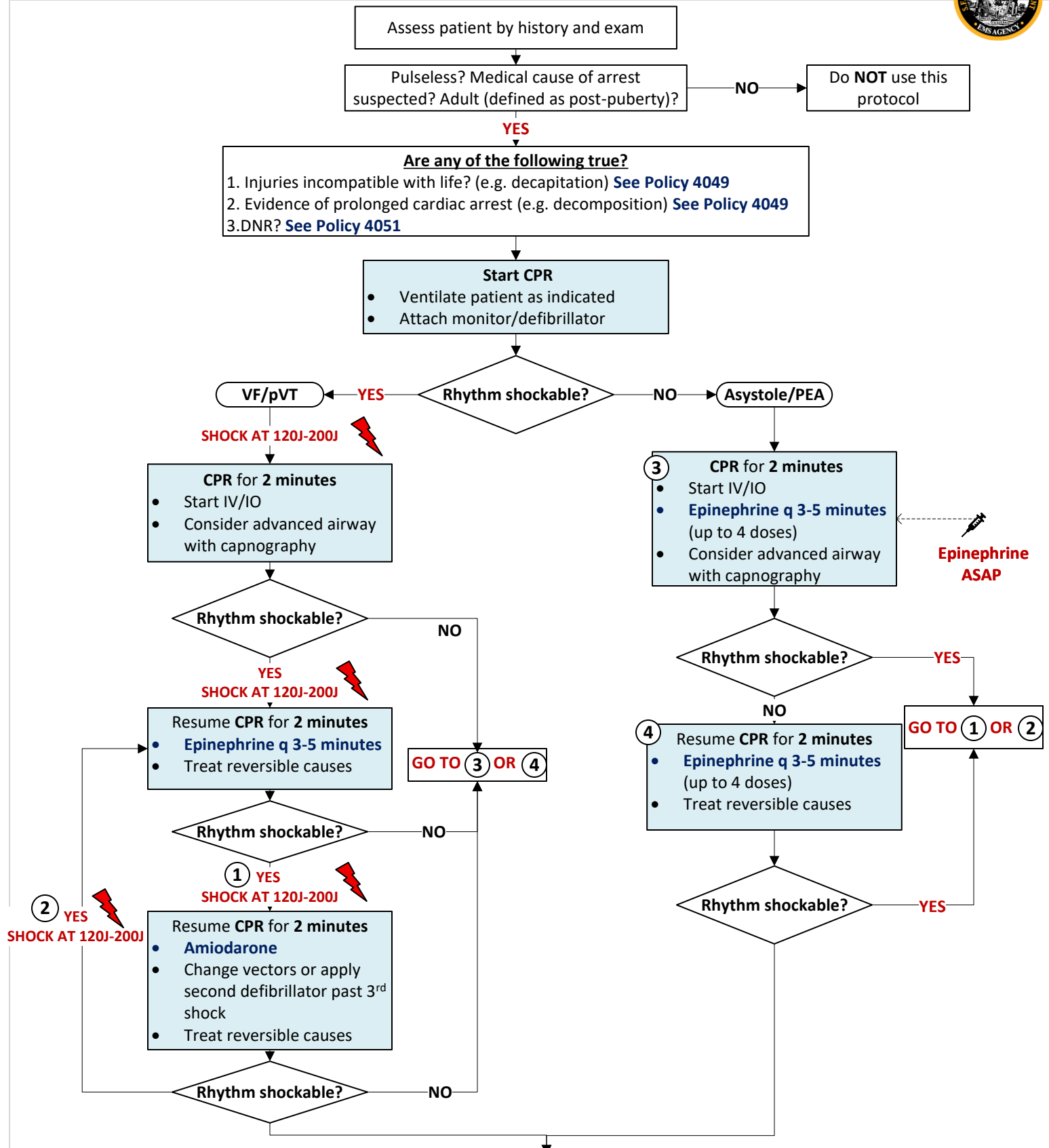




2.04 MEDICAL CARDIAC ARREST



- If signs of ROSC during rhythm/pulse checks, see [Protocol 2.05 Adult Post-Cardiac Arrest or Return of Spontaneous Circulation](#)
- Consider appropriateness of continued efforts after 20 minutes of resuscitation
 - If persistent VF/pVT: (after 3 defibrillation attempts) Transport to a STAR center with ongoing CPR or contact Base Hospital
 - If non-shockable: Review criteria for Discontinuing Resuscitative Efforts ([Policy 4049](#)) or contact Base Hospital

2.04 MEDICAL CARDIAC ARREST

CPR Quality
<ul style="list-style-type: none"> • Push hard (at least 2 inches [5cm] and fast (100-120/min) and allow complete chest recoil. • Minimize interruptions in compression. • Avoid excessive ventilation • Change compressor every 2 minutes or sooner if fatigued • Quantitative waveform capnography – if end tidal CO2 is low or decreasing reassess CPR quality
Shock Energy for Defibrillation
<ul style="list-style-type: none"> • Biphasic: manufacturer recommends (e.g. initial dose of 120-200J): if unknown use maximum available. • Second and subsequent doses should be equivalent, and higher doses may be considered. • Minimize peri-shock pause to <5 seconds. Pre-charge AED/defibrillator at 1:45 to get ready to deliver shock at 2 minutes. • Always resume chest compressions immediately after rhythm analysis or shock. • EXCEPTION: If a patient goes into VF/pulseless VT while monitored or attached to an AED or defibrillator, a shock must be administered immediately. • If there is no shock advised, resume compressions for another 2 minutes before next rhythm analysis/pulse check. • Vector change: If a shockable rhythm continues past the third shock, attach a second set of defibrillator pads in a chest position to provide alternate vector defibrillation and switch vectors.
Drug Therapy
<ul style="list-style-type: none"> • Epinephrine IV/IO dose: 1mg every 3-5minutes, up to 4 doses • Amiodarone IV/IO dose: <ul style="list-style-type: none"> ○ First dose: 300mg bolus ○ Second dose: 150mg
Advanced airway
<ul style="list-style-type: none"> • <u>BLS airway:</u> 30:2 compression ventilation ratio • Supraglottic airway (first line) or endotracheal intubation advanced airway. Do NOT stop compressions to place advanced airway. • Waveform capnography to confirm and monitor advanced airway tube placement • <u>Advanced airway:</u> continuous ventilation [1 breath every 6 seconds (10 breaths/min)]
Return of Spontaneous Circulation (ROSC)
<ul style="list-style-type: none"> • Check for pulse and blood pressure • Abrupt sustained increase in end tidal (typically >40mmHg) • See Protocol 2.05 Adult Post-Cardiac Arrest or Return of Spontaneous Circulation

2.04 MEDICAL CARDIAC ARREST

Reversible Causes

Hypoxia:

- Ventilation with O₂ (via BVM, supraglottic airway (e.g. iGel) or ET tube)
- Insert airway adjuncts as appropriate
- Target O₂ saturation 94 – 95%

Hydrogen Ion (Acidosis):

- Assure adequate ventilation to blow off CO₂

Hypovolemia:

- Give Normal Saline bolus
- If secondary to blood loss, early transport

Hypothermia:

- Rewarm if the patient is hypothermic

Hyperkalemia:

- Give Calcium Chloride
- Consider Sodium Bicarbonate only after Calcium Chloride when treating suspected hyperkalemia
- Consider in-line Albuterol via BVM

Hypoglycemia: Check blood glucose and correct hypoglycemia

Tension Pneumothorax: Relieve tension pneumothorax per Protocol 7.06 Needle Thoracostomy

Torsades de Pointes: After defibrillation give Magnesium Sulfate

Toxins: Treat signs and symptoms of drug toxicity:

- If QRS widening from Tricyclic Antidepressant Overdose, give Sodium Bicarbonate. May repeat
- If calcium channel blocker overdose, give Calcium Chloride
- If opiate overdose is suspected, consider Naloxone

Tamponade (cardiac) or Thrombosis, pulmonary or cardiac: Consider early transport

2.04 MEDICAL CARDIAC ARREST

High Performance CPR Team Set Up

Assign functional positions based on available personnel. One person may do one or more of the recommended functional positions listed below:

Compressor:

- Performs chest compressions

Airway:

- Opens airway
- Provides bag-mask ventilation with O₂. Inserts airway adjuncts as appropriate.
- Target O₂ saturation 94 – 95%.

AED/Monitor/Defibrillator:

- Operates AED/monitor/defibrillator

IV/IO Medications:

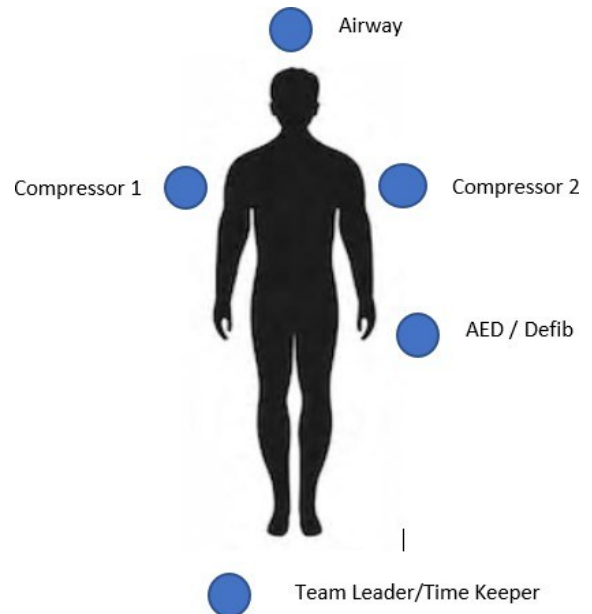
- ALS role – gets IV/IO access and gives medications.

Team Leader/Time Keeper:

- Assigns team roles (or assumes roles if not assigned)
- Provides team feedback.
- Records intervention and medication times. Announces when next interventions and medications due
- Records frequency and duration of CPR interruptions.

Next Compressor:

- Continuously checking pulse. Switch at end of cardiac cycle (2 minutes).



2.04 MEDICAL CARDIAC ARREST

SPECIAL CIRCUMSTANCES

PREGNANCY

- If patient is obviously gravid or known to be > 20weeks gestation, focus on early transport to OB and STAR designated center.
- Most common causes of maternal cardiac arrest are hemorrhage, cardiovascular diseases (including myocardial infarction, aortic dissection, and myocarditis), amniotic fluid embolism, sepsis, aspiration pneumonitis, pulmonary embolism, and eclampsia.
- If patient is receiving IV/IO **Magnesium** pre-arrest, stop infusion and switch to **Normal Saline** unless the arrest was due to seizure activity.
- During CPR, have a provider manually displace gravid uterus to patient's left side.
- If ROSC is achieved, displace uterus or place padding under backboard for 30° tilt to patients left side.

VENTRICULAR ASSIST DEVICE (LVAD)

- See **Protocol 2.19 Left Ventricular Assist Device (LVAD)**

DOCUMENTATION

- Initial "At Patient Side" time
- Intervention and medication times
- Use accelerometer ("puck") to track CPR unless LUCAS is being used
- Patient response to interventions and medications (rhythm changes; pulses with and without CPR, ROSC).
- ROSC or death pronouncement time
- Bystander CPR prior to arrival and duration-

AFTER CARE

IF ROSC

- See **Protocol 2.05 Adult Post-Cardiac Arrest or Return of Spontaneous Circulation**

IF **NO** ROSC after 20 minutes OPTIONS:

If **persistent VF/pVT** (after 3 defibrillation attempts):

- Transport to a STAR center with ongoing CPR
- **OR**
- Contact Base Hospital

If **non-shockable rhythm**:

- Review criteria for Discontinuing Resuscitative Efforts (See Policy 4049) **OR**
- Contact Base Hospital