Cardiac Core Case

VF/Pulseless VT 12 b

Jack shocks himself

Pediatric Advanced Life Support

Scenario Lead-In **5 year(s)** **20 Kg/ Blue (19-22 kg)**

Prehospital: stuck fork in electrical outlet
ED: playing w/defib and shocked himself
General Inpatient Unit: played w/defib and shocked himsellf
ICU: see above

EVALUATE – Initial Impression	IDENTIFY	INTERVENE
Consciousness • Unresponsive, limp, no spontaneous movement *Breathing* • No spontaneous breathing *Color* • Pale/cyanotic/mottled *Pulses* • Absent	• Acute, life-threatening condition	• Activate emergency response system, if appropriate. • Provides bag-mask ventilation with 100% oxygen • **Recognizes cardiopulmonary arrest** • **Directs initiation of CPR by using C-A-B sequence and ensures performance of high-quality CPR at all times** • **Directs placement of pads/leads and activation of monitor.** • **Directs placement of pulse oximeter.** • Determine patient weight for electrical or pharmacologic doses.
EVALUATE – Primary Assessment	**IDENTIFY**	**INTERVENE**
• **A**irway - Maintainable with head tilt-chin lift or jaw thrust • **B**reathing – Apnea. Ventilation with bag-valve-mask device produces chest rise. • **C**irculation – No pulses; CPR is in progress • **D**isability - Unresponsive • **E**xposure - DEFERRED	• VF/Pulseless VT	• High-quality CPR • Calculate defibrillation dosage, dial into monitor and charge monitor prior to rhythm check. • Analyze cardiac rhythm. • **Recognizes VF.** • **Attempt defibrillation at 2-4 J/Kg (40 - 80 J) safely as soon as defibrillator is available** • Directs immediate resumption of CPR by using the C-A-B sequence (Vfib/pulseless VT).
EVALUATE – Secondary Assessment	**IDENTIFY**	**INTERVENE**
• **Attempt to identify reversible causes of arrest (H's and T's). Do not interrupt resuscitation.** • SAMPLE history **should be obtained to identify potentially reversible causes.** • Physical examination **should be deferred until ROSC or only obtained to identify potentially reversible causes.** • After high-quality CPR, shock delivery and 1 dose of epinephrine, ROSC develops. Repeat VS. After ROSC: Sinus rhythm, HR- 120 beats/min (adult S Tach); RR - 6 breaths/min(bag-mask ventilation); SpO_2 - 93% ; BP -90/55 mm Hg . • If no shock delivered, VF/VT continues. •	• Cardiac arrest • VF/Pulseless VT	• Continue high-quality CPR and rotate compressors every 2 minutes. • **Directs IV/IO access.** • **Directs preparation of appropriate dose of epinephrine** (0.01 mg/kg, 0.1 mL/kg of 1:10,000, 2 mL) IV/IO. • Reassess rhythm every 2 minutes. • If VF/pulseless VT persists, **directs attempted** subsequent **defibrillation with at least 4 J/kg** (80 J) **(not to exceed 10 J/**kg (150 J) (set defib to 80-200 Joules) **or standard adult dose).**

		• **Directs immediate resumption of CPR by using the C-A-B sequence.** • **Directs administration of appropriate dose of epinephrine** (0.01 mg/kg, 0.1 mL/kg of 1:10,000, 2 mL) IV/IO during chest compressions any time after second rhythm check. Follow with saline flush. Repeat dose every 3 to 5 minutes during cardiac arrest. • Do not intubate emergently unless unable to provide adequate ventilation with bag-mask device (consider oropharyngeal airway to facilitate ventilation). • **Verbalizes consideration of antiarrhythmic** (amiodarone 5 mg/kg, 100 mg), **using appropriate dose**. • Directs administration of antiarrhythmic for persistent VF/pulseless VT (up to 2 doses). • After ROSC, titrate oxygen to maintain oxygen saturation of 94% - 99%. • After ROSC, initiate post –cardiac arrest care.
EVALUATE – Diagnostic Tests (Perform throughout evaluation of patient as appropriate)	**IDENTIFY/INTERVENE**	
Lab data (as appropriate) • CCP1 Imaging • none	• Lab tests pending - focus is on delivering high-quality CPR.	
Re-evaluate-identify-intervene after each intervention		

Debriefing Tool

Scenario: VF/Pulseless VT

Instructions

- Debriefings are 10 minutes long.
- Use the table below and the Team Dynamics Debriefing Tool to guide your debriefing.

Scenario Specific Learning Objectives	Critical Performance Steps
• Identifies pulseless VT or VF • Applies the Pediatric Cardiac Arrest (VF/Pulseless VT) Algorithm • Recalls that CPR and defibrillation are the most important interventions for pulseless VT/VF	• Recognizes cardiopulmonary arrest • Directs initiation of CPR and ensures performance of high-quality CPR at all times • Directs placement and activation of cardiac monitoring

• Ensures high-quality CPR at all times • Uses appropriate pediatric defibrillation dose and sequence (should round dose up if needed) • Uses appropriate dose of epinephrine • Obtains rapid IO access as preferred route for drug administration • Uses appropriate antiarrhythmics • Describes titration of oxygen to maintain saturation 94-99% after child stabilizes (following ROSC) and treatment of fever	pads/leads and pulse oximetry • Recognizes VF or pulseless VT • Directs initial defibrillation at 2-4 J/kg safely • Directs immediate resumption of CPR after interventions • Directs IV or IO access • Directs preparation and administration of appropriate dose of epinephrine • Directs administration of epinephrine at appropriate intervals • Directs subsequent defibrillation at 4-10 J/kg (up to adult dose) safely • Verbalizes consideration of antiarrhythmic (amiodarone or lidocaine) with appropriate dose