

Simulation Date: ____/____/____	Study Team No.: _____	Rater ID: _____
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Modified Lammer’s checklist tool for 3-month-old infant cardiopulmonary arrest case.

No.	Skill	Critical action step	Complete action	Incomplete action	Could not observe action
1	Airway & Breathing assessment	Check for responsiveness			
2		Check for spontaneous respirations (not present)			
3		Perform head tilt/chin lift airway maneuver			
4		Look in mouth for oral secretions or vomitus (not present)			
5	Ventilation	Select correct size mask			
6		Select correct bag size (infant/child size)			
7		Attach tubing to bag and deliver high-flow oxygen (6-15 L/min)			
8		Select correct size oropharyngeal airway (“ 50 mm ”)			
9		Prepare suction device			
10		Insert oropharyngeal airway			
11		Insert oropharyngeal airway correctly			
12		Use correct hand position on mask			
13		Perform bag-valve-mask ventilation			
14		Begin ventilations within 60 seconds			
15		Check for chest rise with ventilations			
16		Auscultate lungs (normal)			
17		Deliver ventilations at rate appropriate to rescuer ratio (30:2 with 1 rescuer 15:2 with 2 rescuer)			
18		Deliver ventilations at an appropriate tidal volume (40-75ml or roughly adequate with no excessive force)			
19	Circulation Assessment	Attach cardiac monitor electrodes or defibrillator or AED to chest			
20		Check pulse (<i>absent</i>)			
21		Begin chest compressions			
22		Begin chest compressions within 60 seconds			
23		Perform compressions at a rate of 100-120/min			
24		Use correct hand position (2-thumb technique OR 2-finger technique)			
25		Consider or attempt vascular access			
26		Abandon attempt at IV line within 90 secs OR goes directly to IO access			
27		Prep IO site			
28		Insert IO in the correct location (anywhere in proximal ½ of tibia)			
29		Aspirate blood or flush IO with syringe & normal saline			

30		Attach IV tubing to IO needle			
31	Initial PEA drug therapy	Use length-based or age-based cognitive aide (e.g., tape, application, card) to estimate correct weight-based dose for 3-month-old (4-5 kg, Broselow tape grey zone).			
32		Give epinephrine 1:10,000 concentration (0.1 mg/ml), 0.4-0.5 ml IO (dose = 0.01 mg/kg , OR 0.1 ml/kg)			
33		Check cardiac rhythm on monitor after 2 minutes or 2 cycles of CPR after epinephrine administered			
34		Check pulse after 2 minutes or 2 cycles of CPR after epinephrine administered (absent)			
35	Advanced Airway Management	Verbalize need for advanced airway management for ineffective BVM per protocol (SGA or ETI)			
36		Select correct size laryngoscope blade (1.0 Miller). or If SGA, select appropriate type per protocol (<10kg)			
37		Select correct endotracheal tube size (3.5-4.0 ETT) or Select correct SGA size per protocol.			
38		Insert the stylet into the ET tube. or Insert SGA, lubricate and deflate cuff.			
39		Perform endotracheal intubation. If SGA, insert with proper technique.			
40		Auscultate gastric area			
41		Auscultate lungs			
42		Confirm ET placement with capnography or colorimetric EtCO ₂ device. or Confirm SGA placement with capnography or colorimetric EtCO ₂ device.			
43		Maintain control of ET tube (or SGA) until secured.			
44		Secure ET tube (or SGA device) with tape or pediatric tube holder.			
45		Insert/secure ET tube to proper depth (3x tube size+1 cm, or 10-13 cm). or If SGA, insert to proper depth per marking on SGA			
46		Perform bag-tube ventilation with appropriate tidal volume (~40-75 mL)			
47		Perform bag-tube ventilation at 20-30 breaths/min (1 breath every 2-3 seconds)			
48	Medical control - PEA drug therapy	Contact Medical Control for additional medication doses (may be performed at any point prior) per protocol			

49		Repeat initial dose of epinephrine within 3-5 minutes after first dose: Give epinephrine 1:10,000 concentration (0.1 mg/ml), 0.4-0.5 ml IO (dose = 0.01 mg/kg, or 0.1ml/kg)			
50		Check cardiac rhythm on monitor after epinephrine			
51		Check pulse after epinephrine (absent)			
52		Review Hs & Ts for reversible causes of pulseless arrest			
53		Deliver a fluid bolus of 100+20ml (20 ml/kg) normal saline at any point after PEA develops			
54	CPR quality	Continue ventilations AND chest compressions during drug delivery			
55		Avoid excessive pauses in compressions. (> 45 seconds during intubation; otherwise >15 seconds)			

DIRECT OBSERVATION RATER:

After simulation is complete, please state the following out loud for the video raters, and record below:

- Oxygen flow setting: _____ L/min (expect 10-15L/min)
- Oral airway size used: _____ mm (expect 50 mm)
- BVM size used: _____ (expect infant/child)
- For advanced airway management (ETI/SGA), note the number of attempts, defined as insertion of a laryngoscope blade (or SGA device) into a patient’s mouth, regardless of whether endotracheal tube placement was attempted. (Donoghue et al. *Annals of Emergency Medicine* 2022)
 - Please describe additional attempts at advanced airway management here:
 - Number of airway attempts: _____
 - ETI attempts: _____.
 - SGA attempts: _____.
- If ETI per protocol
 - ETT size used: _____ (expect 3.5 or 4.0)
 - ETT insertion depth: _____ cm from lip (expect 10-13 cm)
 - Laryngoscope blade size, type used: _____ (expect 1.0 Miller)
- If SGA per protocol
 - SGA type used: _____ (Expected type: _____.)
 - SGA size used: _____ (Expected size: _____.)
- Successful placement: _____
 - How was appropriate placement confirmed?
 - Manual inspection by on-site rater:
 - Confirmed via manikin technology:
 - Other:

RATER COMMENTS (serious safety events):

Ex: Prolonged intubation attempts and CPR pauses