

Scenario: 10-day old Neonate with Critical Coarctation of the Aorta

Learners	Goals	Objectives	Strategy	Assessment
Emergency Providers	Review and practice recognition of: 1. Ductal-dependent congenital heart disease	1. Identify cardiogenic shock in the neonate 2. Demonstrate prioritization of ABCs with continued reassessment 3. Verbalize the differential diagnosis of shock in the newborn period 4. Obtain rapid IV/IO or UV access 5. Perform RSI in the context of cardiogenic shock in an infant 6. Recognize and treat hypoglycemia in the infant in shock 7. CCEMTP: Administer PGE to the infant with shock 8. CCEMTP: Administer empiric antibiotics to the infant in shock.	1. High fidelity simulation 2. Structured debriefing	1. Critical action checklist 2. Global Assessment Scale

Defined Team Roles:

- Team leader:
- Airway /Breathing:
- Circulation/IV Access/Monitor/Fluids:
- Medications
- Family member (parent):
- Debriefing:
- Simulator:

Scenario Flow

- **Medical Setting:** Home
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- **EMS Call:** Parents noted that the baby had been feeding poorly for 3-4 days, decreased urination, and today has been “breathing fast” and has become “lethargic.” Fire arrives and describes pale, limp infant with cold extremities, tachypnea, and tachycardia. Unable to obtain a BP, unable to obtain IV access. VS: HR 180, RR 40s, Pox – not picking up.
- **Preparation:** Roles and expectations verbalized, including potential need for: IV/IO access, RSI Estimates weight at 3 kg, Consider call for additional transport/flight depending on where you are

- **Critical Actions:** Anticipates airway equipment, RSI meds, IO, umbilical line equipment

- **Patient eval:** Pale, intermittent grunting with rapid respiratory rate, poor tone.
- **VS:** HR 180, RR 48, BP unable to obtain, POX unable to obtain, if obtains temp = 36°C
- **Physical Exam:**

- **Critical Actions:** Applies high-flow oxygen via non-rebreather, attaches monitors, calls for IV access with 10cc/kg NS bolus. *Closed loop communication:* 10cc/kg = 30cc NS bolus; repeats back. Exposes infant

- **Airway:** Patent
- **Breathing:** Intermittent grunting, clear BS bilaterally, tachypneic
- **Circulation:** Palpable brachial pulses, very weak femoral pulses, unable to appreciate distal pulses in feet.

- **Critical Actions:** Limits attempts at PIV to 3 attempts or 90 seconds (CCEMTP Prepares umbilical stump with wet saline), or calls for EZ-IO drill. Recognition of shock. Verbalizes differential diagnosis: “We have a critically ill 10-day old infant in decompensated shock with poor perfusion. This could be overwhelming sepsis or congenital heart disease.” Calls for glucose. Places UVC or IO. Administers IVF bolus: 10cc/kg = 30cc.

- **Disability (GCS):** Eyes closed at rest, grunting,
- **Head:** Atraumatic, sunken fontanelle. {PERRL: 4mm to 2mm, if checked} Nares patent, dry lips/tongue, normal TMs.
- **Thorax:** Tachycardic with possible gallop, harsh murmur.
- **Abdomen:** Non-distended, non-tender, no organomegally

We have also given dextrose for hypoglycemia, we have started a PGE drip.”

Debriefing

- **Team Leader:**
 - How did that feel?
 - What do you think went well?
 - What could have gone better?
 - I noticed that you didn't ----- {Discuss missed action items}
 - I was concerned based on -----{Discuss specific items}

- **Other team members:**
 - How did that feel?
 - What do you think went well?
 - What could have gone better?
 - I noticed that you didn't ----- {Discuss missed action items}
 - I was concerned based on -----{Discuss specific items}

- **Does anyone else in the room have any questions or comments?**