Summary: A 6 month old infant with no known past medical history who presented to the ER of your hospital pulseless and cyanotic after being found face down in the bath tub. After 15 minutes of CPR, return of spontaneous circulation was achieved.

Target Audience: Pediatric Residents

ACGME Competencies: PC, MK, ICS, PRO, PBL

Case Duration: 40 minutes

Primary Learning Objectives

1) Demonstrate both empathy and strong interpersonal skills in communicating with a parent of a child at the end-of-life
   - Recognize importance in acknowledgment and confirmation of mother’s feelings
   - Demonstrate non verbal skills such as appropriate pauses, no simultaneous speech, no interruptions, etc.

Secondary Learning Objectives

1) Recognize the initial management of a child that has suffered a prolonged cardiac arrest and the poor prognosis associated with it
2) Recognize the steps of cardiopulmonary resuscitation in an already intubated child
3) Recognize futility of resuscitation and ability to "call" the code.

Preparation

Location: Pediatric ICU
Manikin: SimBaby
Actors: Mother, ER attending, nurse
Equipment/Props: Pediatric code cart

Initial Presentation (0-5 minutes): Sign out from ER attending

CC: s/p cardiac arrest with return of spontaneous circulation

HPI: “We have a 6 month old infant who was found face down in the bathtub by her mother approximately 30 minutes prior to presentation. EMS was called who arrived at the home and found the infant to be blue, pulseless and not breathing. They began CPR which was continued in the ambulance to the ER. In the ER, she remained asystolic. She was immediately intubated and access was obtained (with some difficulty). After 15 minutes of CPR in the ER (with three rounds of epinephrine), return of spontaneous circulation was achieved. I know your attending will be here soon but if you have any questions, let me know since I have to get back down to the ER – it is quite busy. After you examine “Gracie” I know her mom has some more questions for you.

PMH: (only answer if asked):
- Full term female born via C-section for failure to progress

SoH: (only answer if asked):
- Lives at home with 20 year old unwed mother. This is mother’s second child. Her older sister, Charlotte is 2.5 years old. The father is not involved in the care of the infant. Mother currently does not work and the infant is in the care of the mother at all times. The mother’s family lives nearby in Queens. Her mother comes weekly to help her out with the infant. The infant was sitting in the tub when her mother heard Charlotte scream and cry from the other room. She went out to check on Charlotte and returned in what she believed was 1-2 minutes.

Med: (only answer if asked):

All: (only answer if asked):
- NKDA

ROS: (only answer if asked):
- No recent fever
- No recent cough
### Initial Appearance (0-3 minutes)

- Intubated infant – no movement –
- HR 115 (sinus rhythm), BP 70/40
- RR 25, SpO2 100% (vent set with RR 25, TV 25, FiO2 60%, PEEP 5)
- Temp 34.5

### Vital signs on monitor
- Airway/Breathing
  - 3.5 ETT in place secured by tape appropriately
  - Good air entry bilaterally with no wheezing
- Circulation
  - Weak peripheral pulses
  - No murmur
  - Cap refill > 3 seconds

### Disability
- Pupils fixed and dilated bilaterally

### Exposure
- Pale
- Weight: 7 kg

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### Immediate Acceptable Actions

| 1) Acknowledged emotions of mother | 1) Yes __ No__ |
| 2) Made mother feel that her emotions were valid | 2) Yes __ No__ |
| 3) Encouraged mother to express her feelings | 3) Yes __ No__ |
| 4) Previewed the information before giving it to the mother | 4) Yes __ No__ |
| 5) Summarized the information after giving it to mother | 5) Yes __ No__ |
| 6) Reviewed with mother what was going to happen next | 6) Yes __ No__ |
| 7) Checked mother’s understanding of what had occurred | 7) Yes __ No__ |
| 8) Invited mother to ask questions | 8) Yes __ No__ |
| 9) Gave time for mother to process the information she had been given | 9) Yes __ No__ |
| 10) Made good eye contact | 10) Yes __ No__ |
| 11) Did not interrupt mother or talk at the same time she was talking | 11) Yes __ No__ |
| 12) Spoke at rate and tone that was understandable to mother | 12) Yes __ No__ |

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### Assessment

- 1) Yes __ No__
- 2) Yes __ No__
- 3) Yes __ No__
- 4) Yes __ No__
- 5) Yes __ No__
- 6) Yes __ No__
- 7) Yes __ No__
- 8) Yes __ No__
- 9) Yes __ No__
- 10) Yes __ No__
- 11) Yes __ No__
- 12) Yes __ No__

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### Nurse

| Would you like me to start sedation? |
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### First Communication (15 minutes)

| Nurse: “Dr X, please come to bedside of Gracie. We need your help” | 1) Yes __ No__ |

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### Questions mother will raise (does not need to be exact words or in this order):

- “What happened?”
- “When will my baby wake up?”
- Recognizes likely neurologic devastation of child
  1) Reviews vitals and requests that nurse attempt to rewarm infant
  2) Does not start sedation

- Recognizes need to speak with mother
  3) Invites mother to speak in a separate location

(If resident does not invite mother, mother turns to one resident and tearfully asks, “When you have a chance, can you answer a few questions for me?”)
### Appearance (5 minutes)

- Intubated

**Vital Signs on monitor**
- HR 40, BP undetectable
- RR 25 (ventilator), SpO2 100% (vent settings unchanged)

**Airway/Breathing & Circulation**
- Pulses non palpable

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### Immediate Critical Actions

- Runs code
  1. Turns up ventilator to deliver 100% FiO2
  2. Starts chest compressions
  3. Administers epinephrine

**Attending will walk in after 5 minutes to call the code.**

Turns to second resident and asks, “Can you please go talk to the mother, I have to help the fellow with an emergent procedure in room 200?”

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### Second Communication (15 minutes)

**Resident must tell the mother that her daughter has died.**

1. Acknowledged emotions of mother
2. Made mother feel that her emotions were valid
3. Encouraged mother to express her feelings
4. Previewed the information before giving it to the mother
5. Summarized the information after giving it to mother
6. Reviewed with mother what was going to happen next
7. Checked mother’s understanding of what had occurred
8. Invited mother to ask questions
9. Gave time for mother to process the information she had been given
10. Made good eye contact
11. Did not interrupt mother or talk at the same time she was talking.
12. Spoke at rate and tone that was understandable to mother
13. Offered mother opportunity to see infant

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### HIGH YIELD DEBRIEFING POINTS

**MEDICAL:**
1. Out of hospital cardiac arrest (OHCA) in an infant has a poor prognosis
   - Factors that predict survival to hospital discharge include a short interval between the arrest and arrival at the hospital, a palpable pulse on presentation, a short duration of resuscitation in the emergency department and the administration of fewer doses of epinephrine
   - In a study from Toronto Sick Kids of children brought to ER after OHCA, no patients who required more than two doses of epinephrine or resuscitation for longer than 20 min in the emergency department survived to hospital discharge. The survivors who were neurologically normal after arrest had respiratory arrest only and were resuscitated within 5 min after arrival in the emergency department. Out of the 80 patients who had had a cardiac arrest, only six survived to hospital discharge, and all had neurologic sequelae.
2. Prerequisites for brain death testing include correction of hypothermia and the discontinuation of sedatives
3. CPR in an intubated infant includes increasing delivered oxygen and allowing the ventilator to deliver the breaths
4. There exists no standard as to the time at which a code should be called. One must take into consideration the predicted clinical outcome based on the factors mentioned above.

**COMMUNICATION:**
1. To help a family member fully integrate the understanding of bad news, one should acknowledge, validate and/or normalize the patient’s emotional response. Likewise, to break bad news in an understandable fashion, one should consider previewing what will be shared, summarizing the information.
and later checking what the family member has understood.

2) Studies have reported the most pressing needs that a parent needs at PICU admission are honest and accurate information in relation to his/her child, prognosis and access to one’s child

3) Whereas it is recommended to empathize with patients and their families in most communication, at the time when a child dies, parents generally do not want to hear, “I know what you are going through.”

4) Non-verbal communication – eye contact, seating, nodding, appropriate pauses – are essential when communicating news at end-of-life.

PERSONAL EXPERIENCE:
1) Studies have repeatedly shown that residents feel that residency training is too stressful to allow them to process and cope with grief appropriately. It is important to reflect upon coping strategies for self care and support.

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References

