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Pediatric Mock Code Toolkit



Illinois Emergency Medical Services for Children



is a collaborative program between the
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and

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Introduction

In-hospital pediatric codes have dismal survival rates. Overall, pediatric patients only have a twenty seven percent survival rate to discharge following an in-hospital cardiopulmonary arrest (CPA) and thirty four percent of those who do survive will have neurological deficits post arrest (1). Ten to sixteen percent of all newborns require some type of resuscitation assistance at birth (2). The initial actions of the staff that arrive first to the site of a pediatric patient in CPA or other crisis events are critical. Delays in providing the basic ABCs (airway breathing circulation) to pediatric patients lead to poorer outcomes¹. If the pediatric CPA or crisis event occurs on a non-ICU (Intensive Care Unit) unit in the hospital, the initial actions of the non-ICU staff is even more crucial due to the time delay in the activation and arrival of a pediatric code team. One study found that the non-ICU nurses focused more on preparing the room for the rapid response team (RRT) or the code team instead of initiating basic life support (BLS) care and the ABCs for the pediatric patient (3). Since CPA in children occurs more infrequently than in adults, medical professionals may have limited contact or experience with unstable pediatric patients. In fact, at one tertiary care teaching hospital, seventy four percent of graduating pediatricians did not lead any resuscitation events during their residency (4).

Many health care professionals experience anxiety and fear about being involved in a CPA event. Fear of not knowing what to do, where the equipment is and how to use the equipment were listed as the most common fears (5). Break downs in communication frequently occur in both mock codes and real resuscitation efforts. These difficulties cause delays and errors in the delivery of life saving interventions. Due to the complexity of calculating pediatric medication dosages, medication errors are common.

Simulation of pediatric mock codes and other crisis scenarios has demonstrated that there are significant delays in the ABC steps of resuscitation including application of oxygen, initiation of cardiopulmonary resuscitation (CPR) and defibrillation (3). These delays are detrimental to pediatric survival rates following in hospital CPA. Basic life support (BLS), pediatric advanced life support (PALS), and neonatal resuscitation program (NRP) are common required certifications for pediatric health care providers. Typically these are recertified every two year but retention of the information from these classes has been shown to deteriorate after only four months. It has been observed that both physicians and nurses did not

¹ The American Heart Association 2010 CPR guidelines for pediatric patients recommends following the C-A-B (circulation, airway, breathing) so chest compressions are started sooner. This is for CPR only. The assessment of the pediatric patient who does not require CPR still follows the A-B-C (airway, breathing, circulation) sequence.

perform CPR correctly as soon as four months following a CPR class (2, 6). The literature has shown that lectures and one time skills stations such as CPR and PALS classes are inadequate to properly prepare clinicians to provide optimal resuscitation efforts (7). Because of this, alternative approaches to training are necessary to maximize patient safety and positive outcomes.

Simulation is defined as a “set of techniques to replace or amplify real experiences with planned immersive experiences to evoke or replicate substantial aspects of the real world in an interactive fashion” (7). Using pediatric mock code simulation for training has been shown to decrease fears and anxiety related to CPA, improve communication between physician and nurses, and increase the knowledge and familiarity with pediatric resuscitation guidelines which translates directly to improved performance of resuscitation skills (3,5). Simulation-based mock codes have been found to correlate with improved neonatal and pediatric CPA survival rates (8). One study demonstrated a direct correlation between survival rates (increased fifty percent) and the increased number of mock code simulations performed (8). Simulation training exercises such as mock codes incorporate characteristics common to the ways adults learn: a more hands on approach to learning and being able to apply what is learned into real life (6). Accommodating the adult learners’ needs increases the effectiveness of the educational experience which benefits patients through improved quality of care and safety (6). Therefore, it is recommended that simulation exercises including pediatric mock codes be incorporated into the training and education schedule for all facilities.

Typically pediatric mock codes are performed in the hospital setting. However, pre-hospital, clinics, and physician offices would also benefit from implementing pediatric mock codes into their training and education programs. The information in this document can be applied to any clinical setting for any health care professionals.

Objectives of Pediatric Mock Codes

- Improve the confidence, comfort level, resuscitation skills, and knowledge of all staff by increasing exposure to pediatric resuscitation guidelines, equipment, and documentation techniques equal to their level of training and responsibility in a controlled, nonthreatening environment.
- Decrease medication errors.
- Test the current system to find problems that may not be apparent without mock codes.
- Update all staff on changes in treatment recommendations more frequently than the every two year mandatory renewal of BLS, PALS, and NRP.
- Improve communication and the doctor-nurse relationship which facilitates team building to avoid delays and errors in the delivery of care during resuscitation efforts.
- Develop the knowledge base and basic skills that will assist staff to care for critically ill pediatric patients in times of surge capacity and mass casualty incidents.

Aspects of a Pediatric Mock Code Training Program

Important components to consider in developing or enhancing a mock code training program are who should be involved in the training, the frequency that it should occur, equipment necessary for the

simulation exercises, the types of training exercises that exist, the length of time the exercise should run and the importance of the debriefing or discussion afterward.

Who should be involved?

A multidisciplinary approach to pediatric mock codes is essential. By including all those in the mock codes who would be involved in a real cardiopulmonary arrest situation, opportunities to improve team dynamics and communication can be addressed and the ability to work as a team in times of real emergencies can be enhanced. The Joint Commission identified barriers to effective communication and teamwork such as hierarchy, intimidation, failure to function as a team as contributing factors to neonatal deaths during resuscitation efforts (9). Working on these issues in a non-emergent, nonthreatening mock code environment can lead to adjustments without jeopardizing patient safety.

At every facility, the make-up of a code team may vary depending on size of the facility, available resources and staffing. The minimal requirements for pediatric code team is recommended to be a PICU or Emergency Department (ED) physician, an ICU or an ED RN, preferably PICU if available, non-ICU staff RNs, the nursing supervisor and a respiratory therapist. Below are other possible members of pediatric code teams: mid-level providers, pharmacy, residents, anesthesia, patient care technicians, other non-ICU RNs, Chaplain, interpreters, social workers, security, radiology, and the nursing manager from the unit where the code is occurring. Regardless of the make-up of the code team in each facility, all those involved in real pediatric codes should be involved in the mock code training. A moderator or facilitator is needed to run the mock code and if possible, an observer would also be beneficial to assist in the evaluation process.

How often should training occur?

There must be a balance between the need to train staff more frequently than the typical yearly competency trainings and the limitations of time and resources that exist in every facility. Ideally, some type of simulation training should be conducted monthly. This can be a mix of reviewing specific components of the mock code like equipment and medications commonly used in codes and full scale mock code events. Performing full mock code events is recommended quarterly since it has been shown that knowledge deterioration related to the resuscitation process begins at four months (2, 7). Mock codes need to occur on all shifts so the entire staff can be a part of the learning experience and are exposed to the pediatric mock codes. The mock code training program schedule should include both scheduled times that the staff is aware of in advance and spontaneous mock codes that the staff is not aware of ahead of time.

What equipment should be included?

Everything that would be used in a real pediatric code is necessary to have in mock codes. If resources allow for it, establish an 'education only' mock crash cart which is identical to crash carts used throughout the facility that can be opened and used during the mock codes. By doing this, equipment (expired) and medications (expired) can be pulled out and utilized during mock codes to simulate a more realistic experience. Utilizing a real code cart can substitute to help staff familiarize themselves with where items are kept and by adding expired medications and supplies to the mock code separately, the same experience can be achieved as having an 'education only' mock crash cart.

Having the mock code take place in an unoccupied patient room will help familiarize staff with the room layout and equipment set up (2). Varying the location of the mock codes to include the cafeteria, radiology or lobbies which are atypical areas that the code team is responsible for responding to will further enrich the learning experience.

Manikins come in a variety of sizes and with a variety of features. Using the most technically advanced manikin available (example: SimMan® or SimBaby™) is ideal. However, paper cut outs or dolls can be just as effective in reaching the objectives of the mock code if scenario cues and the environment surrounding the mock code are adequate (6). Those hospitals with limited resources may be able to establish partnerships with nursing schools, fire departments, larger hospitals, certified training centers, and other organizations in the community that may have access to a variety of types of manikins and other resources.

What types of mock codes training exercises are there?

Full mock codes are recommended whenever possible. Table top drills can be helpful if equipment to run a mock code is not available and for rare scenarios that may be difficult to simulate. Computerized self-training modules are available. Breaking down components of resuscitation efforts into monthly educational sessions, which can be done as a group or independently, to build up into a full scale mock code is another effective training method.

How long should the mock codes take?

Mock codes should be brief. It has been shown that providers are more likely to get the most out of training exercises when they are short, frequent, and intense lessons with instruction and practice (6). Twenty minute sessions that include the actual event and debriefing are ideal (2). These short timeframes are also more conducive to conducting mock codes on the unit during work time.

What should be in the discussion/debriefing part?

Providing performance feedback immediately after mock code is crucial. This feedback especially related to the performance of the basic ABCs is essential to the learning experience for the participants (6). Reviewing both what went right and what went wrong is important. Allowing participants to ask questions about events that occurred during the mock code is important and vital to the learning experience. Going through the scenario again after the discussion and giving staff the opportunity to reinforce what was done accurately as well as correct what was done incorrectly can be beneficial. This Repetitive Pediatric Simulation allows for the participants to refine the resuscitation behaviors and apply the newly acquired knowledge which leads to a more solid learning experience (4). If possible, take a video recording of the mock code session and replay it during the debriefing session. This has been shown to be valuable for observing and critically analyzing the team's performance by both the participants themselves and the moderators of the exercise (10).

How should the process be evaluated?

Survey participants and moderators

- Assess how effective the participants feel the mock code training was in meeting the objectives and their educational needs. There are many varieties of surveys that are available or that can be designed to accomplish this task. See Appendix C for examples. Utilize the information from both the survey and the evaluation tool from the mock code to monitor quality improvement and identify educational needs.

Evaluation tool

- Checklists are an important tool to utilize during pediatric mock code training exercises. Checklist tools provide a record keeping method to document skill assessment during the mock code. It provides an opportunity to give concrete feedback to the participants in order to aid in their learning experience; provides guidance and recommendations for any educational needs that may be necessary to address if deficiencies in the standards of care are discovered; provides an opportunity to identify any process that needs improvement; and can be used for quality improvement purposes. There are many varieties of tools that exist and can be adapted to fit the goals and objectives of each individual facility. The tools range from a simple “achieve/did not achieve” format for a list of objectives and skills to be accomplished during the pediatric mock code to more complex scoring methods. For example, the Lucile Packard Children’s Hospital Mock Code Score Report uses a point system based on the time it takes for each intervention to be performed (11). One advantage of using a more complex scoring tool versus a simpler “achieve/did not achieve” format is that it provides a more concrete and detailed way to compare and evaluate the interventions completed during the mock code as well provides a tool for quality improvement to evaluate the effectiveness of the mock code training program (12). For example, knowing that staff provided oxygen during the resuscitation efforts and knowing it took staff three minutes to provide oxygen gives a greater understanding of the competency of the staff and the quality of care being provided to the patients. This as a result, can identify in more detail educational issues that need to be addressed. Disadvantages of using a more complex scoring system is the mock code may be interpreted as a test instead of a nonthreatening learning experience and the need for increased resources during the mock code (for example, another person would need to ‘keep score’ during the pediatric mock code). See Appendix B for examples of different types of evaluation tools.

Implementing a Mock Code Training Program

Suggested steps to implementing a mock code training program

- Having administrative support will set the stage for increasing staff compliance. When forming a planning committee, a multidisciplinary group including the hospital educators, the medical director of the hospital, the medical director of Pediatrics and of the Emergency Department, and the nurse managers of both Pediatrics and the Emergency Department all need to be involved in the development and implementation of the program. Other key people that should be considered to be part of the development/planning committee are respiratory therapy and pharmacy. Not all these people necessarily need to be on the planning committee but at least should be consulted during the development process. One thing that is essential is to have both physicians and nurses on the committee. If mid-level providers are used at the facility,

they should be involved in the planning committee as well. Forming a separate planning committee specific to pediatric mock codes may not be feasible at some hospitals due to staffing concerns and time commitments. Therefore, utilizing an existing committee such as a Code Blue Committee or Emergency Department Approved for Pediatrics (EDAP) Committee² is an option, as long as the key players, especially from administration, are involved and there is the ability to focus on pediatrics.

- During staff meetings for both the physicians and nurses, updates on the planning of the program and expectations for participation need to be expressed. This being reiterated during meetings will increase the compliance of staff and acceptance that participating in the mock code is not only required but beneficial. After the mock codes have been completed, staff meetings provide opportunities to educate staff that did not participate in the mock codes on what was learned and observed during the simulation.
- Obtain mock code scenarios. See appendix D for sample scenarios.
- Set up time and dates for mock codes. If performing a scheduled mock code as compared to spontaneous mock codes, inform staff, including physicians of the time. If performing a spontaneous mock code, only allow facilitators or those running the code know the times and dates. If part of the program includes a separation of code components into monthly educational training sessions, schedule what components will be reviewed which month and what month will have the all inclusive mock code.
- Assign a coordinator who will be responsible for setting up the area and ensuring all equipment is functioning and available. In addition to checking equipment, reviewing dosage chart aids to ensure accuracy is important. It is also beneficial to run a trial mock code with those on the development/planning committee to identify any major barriers that exist before bringing the process to the staff.
- Ensure all members of the multidisciplinary team respond to code. Encourage nurse managers to free up staff as much as possible and encourage physicians and mid-level providers to attend.
- Run the mock code as realistically as possible so staff members respond to code call, perform interventions on the manikin as required by the scenario, participate in the debriefing session afterward, and complete a survey form. Ensure staff rotates into all possible roles that they may be responsible for during a real pediatric event and not always perform the same role that they are most comfortable with.

² EDAP Committee is a requirement of those hospitals in Illinois who have undergone the Emergency Services for Children (EMSC) Facility Recognition Process.

- Have the committee analyze the event and make adjustments as needed for the future training exercises.

Barriers and solutions to the implementation process

- **Barrier:** Funding and staffing, especially in the smaller Critical Access Hospitals (CAH) can influence whether or not mock codes are part of the education curriculum.
Solution: Schedule mock codes during shift hours so no overtime has to be paid.
Compliance from nurses may also increase if done during scheduled work hours instead of having to come in to participate on a day off. Utilize available community resources (local fire departments, nursing schools, American Heart Association (AHA) certified training centers, other hospitals in the area) if there is no manikin available at the facility. Break down the components of mock codes into monthly self-learning discipline specific training exercises that staff can do independently. These components should be specific to the roles each discipline plays during the code process. Also, by having the pediatric mock code only last the recommended twenty minutes, it is reasonable to schedule it without the need for increased staffing or funding.
- **Barrier:** Error in perception that simulating pediatric mock codes is not a priority due to the low numbers of pediatric patients being seen at a facility
Solution: In hospitals that have low volume of deliveries, there is a higher infant mortality rate compared to hospitals with high volume of deliveries (13). Staffing issues and a lack of preparedness are likely related to these poor outcomes (13). Pediatric mock codes should be a priority in all facilities and used to improve the skills of staff, regardless of the volume of pediatric patients seen at the facility. Even if a facility does not have inpatient pediatric services, outpatient services and children who are visiting adult relatives in the facility have the potential to need care.
- **Barrier:** There is not a strong and equally supportive doctor-nurse relationship at the facility.
Solution: Having administrative support for a mock code training schedule is helpful and will increase compliance. Performing mock codes has been shown to improve the doctor-nurse relationship which translates directly into improved patient care (2).
- **Barrier:** There is resistance to change and the belief that because health care providers have been working in health care for a long time or that they are experienced in pediatric codes that there is nothing to be learned from participating in mock codes.
Solution: Many times, the clinicians, including doctors and nurses, do not feel that their skills and knowledge are lacking and so there may be less of a commitment to participate in mock codes. It has been demonstrated that even the most experienced clinicians neglect to perform essential resuscitation interventions and therefore, all clinicians, regardless of how frequently they are involved in real life resuscitations can benefit from mock codes (6). Encourage participation by all providers in mock codes and provide detailed suggestions after the event on deficits. Providing articles documenting the alarming deficits that occur during a simulation of a pediatric code with even the most experienced clinicians may also help.

- **Barrier:** Latent conditions, like physical infrastructure, adequacy of training, organizational culture including managerial and employee beliefs and routine actions which are the innate, sometimes hidden workplace factors can present barriers to communication and teamwork and have negative and sometimes detrimental effects on resuscitation efforts (14).
Solution: Provide administration with documentation of how often errors occur during resuscitation efforts and how effective simulation training through mock codes can be. The Agency for Healthcare Research and Quality (AHRQ) published an innovation adoption guide called “Will It Work Here? A Decisionmaker’s Guide to Adopting Innovations” that may be a useful reference while adopting new programs or making changes to existing programs within a hospital (15).

Scenarios

What should be included and emphasized in scenarios?

Scenarios should be brief, realistic, and the details of the scenario story line planned ahead of time. Scenarios should include pediatric age ranges from newborns up to and including 15 years of age³. Scenarios should vary varied and rotated so they do not become predictable to the staff. Scenarios should be appropriate for the clinical area the mock code is occurring in (6).

Incorporate three aspects of learning into every scenario: cognitive (knowledge), behavioral (how to react to situations), and psychomotor (skills ability) (2). Difficult and possible controversial issues that may exist during real resuscitation efforts within each unit or facility need to be addressed in the scenarios. Examples of this include cultural differences within the patient population that each facility serves and family presence during a code.

Family presence during resuscitation has been an on-going discussion for many years. Studies have shown that parents believe their presence during resuscitation efforts is comforting to their child and being present can help the parent cope with the loss of their child (16). If a hospital has

³ This definition of the age range for the pediatric patient is what is endorsed by Illinois EMSC. Each state and individual hospital, clinic or agency may have a different range of what they consider the age range of a pediatric patient to be. As this document is utilized in a facility, this range would need to be adjusted to accommodate for the established definition for that facility.

a policy in place that allows parents to be present during resuscitation efforts, ensure that this is incorporated into the pediatric mock code scenarios and the role of being assigned to family is filled by staff during the exercise.

Consider adding variety to the scenarios by changing where the mock codes take place. For example, have a mock code in the cafeteria, radiology department or a stairwell to simulate possible places in the facility where real life events could occur. This allows for details such as where equipment for the code will come from to be considered and taught to the staff. In order to make the situation surrounding the mock code more realistic, the moderator or person controlling the mock code should have as little interaction with the participants as possible during the code itself (3).

What skills should be addressed?

Assessing for and performing the ABCs should be of the highest priority. Other skills that also need to be addressed are but not limited to: leadership; IV and IO placement and IVF management; the correct type, dosage, and the actual drawing up of medications; use of pediatric weight based emergency reference tools (ex: Broselow™ tape); assessment of glucose levels and proper treatment protocols; ECG interpretation; and reassessment skills. Practicing documentation on the same code recorder sheet that is used throughout the facility is recommended. The evaluators of the mock code should review the code recorder and provide staff with feedback, both on the positives as well as the areas of improvement.

Communication and interactions between all members of the team should be incorporated into all pediatric mock codes. Break downs in communication are known to cause delays and errors in the delivery of life saving interventions. One way to improve communication and decrease medication errors is to practice repeating back verbal orders and clarifying incomplete orders during the mock code just as this would occur in a real resuscitation event. Role identification that occurs at the beginning of a code is an element of communication that should be addressed during a pediatric mock code. Examples of these roles include: physician code team leader, code cart RN, recording RN, bedside RN, and documenting RN. A post-code role that should be identified during a mock code is who is responsible for restocking the code cart. Staff should rotate through all these possible roles they may have to perform during a real resuscitation event to ensure their knowledge and comfort level during a real event is well rounded.

One final skill area to consider addressing in the scenarios is disaster preparedness. In 2007, the American Academy of Pediatrics recommended that disaster preparedness scenarios be included in pediatric mock code drills (18). In similar ways that frequently addressing the ABCs in scenarios has shown to improve the retention of these critical skills, by including aspects of pediatric emergency preparedness in mock code scenarios, staff will be better prepared to care of pediatric patients in disaster events that involve large numbers of critically ill children.

Examples for scenario subjects

- Mock code component breakdown
- Trauma
- Respiratory distress/failure requiring airway management
- Shock (ex: hypovolemic, septic, and circulatory)
- Full cardiopulmonary arrest
- Newborn resuscitation
- Altered Level of Consciousness (seizure, hypoglycemia, hypothermia)
- Bradycardia with hypotension
- Burns
- Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE) agents
- Other scenarios can be found in The Disaster Preparedness Exercises Addressing the Pediatric Patient (19)

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Appendix B: Sample Mock Code Evaluation Forms

B-1

Mock Code Evaluation Form

	Yes	No	Comments
Clinical			
Airway assessed initially			
Breathing assessed			
Circulation assessed			
Initial interventions			
Protocol followed for the chosen "case"			
Patient reassessed frequently			
Secondary Survey			
Organization			
All supplies requested were available			
Supplies were found quickly when requested			
Broselow tape used			
Documentation form available and/or used			
Personnel knew how to use equipment properly (O ₂ tanks, etc.)			
Protocols available and/or used			
Communication			
Leader communicated effectively			
Events recorded accurately			
Roles were assigned			
Office staff reported to EMS			
EMS communicated needs/plans with office staff			
Other comments			

This form was used with the permission of the NC DHHS, DHSR, OEMS, EMSC program.

B-2

Pediatric Mock Code Template

Learning Objective	Learning Strategy	Facilitator	Learning Evaluation/Initials
1. Participants will describe how to activate the pediatric code team	Lecture Discussion		Q & A Initials _____
2. Participants identify and explain their roles and responsibilities during a pediatric code	Lecture Discussion Review of Policy & Procedure handouts		Q & A Initials _____
3. Participants will locate pediatric code cart and equipment and demonstrate proper use of equipment (i.e. defibrillator, BVM, length based dosing tool like Broselow™)	Demonstration Lecture Discussion Video (if applicable)		Q & A Return demonstration Initials _____
4. Participants with demonstrate the correct CPR sequence and rates	Demonstration Lecture Discussion Video (if applicable) Biofeedback device (if applicable)		Q & A Return demonstration Simulation Initials _____
5. Participate in mock code scenario following criteria checklist	Simulation		Return demonstration Simulation Initials _____

Pediatric Mock Code Checklist Criteria

	YES	NO
1. Recognize the cardiopulmonary arrest	_____	_____
2. Activates the pediatric code team	_____	_____
3. CPR is initiated on a hard surface using C-A-B sequence	_____	_____
4. Turns on the AED(monitor) and attaches the pads (electrodes)	_____	_____
5. Proper function/energy dose is used based on weight/scenario	_____	_____
6. Clears patient and others prior to delivering shock	_____	_____
7. Delivers shock	_____	_____
8. CPR resumes at a compression: breath ratio of 30:2 for 1 responder or 15:2 for 2 responder	_____	_____
9. Opens airway and demonstrate correct use of bag-mask	_____	_____
10. After 2 minutes (5 cycles) of CPR, reanalyze rhythm	_____	_____
11. Selects/calculates appropriate drugs/IV fluid bolus dosages and other appropriate interventions based on length based dosing tool (i.e. Broselow™) if applicable	_____	_____
12. Confirms proper placement of ETT if needed	_____	_____
13. Communicates clearly during scenario	_____	_____

Participant: _____

Evaluator: _____

Date: _____

B-3

<i>Shock-Hypovolemia</i> Task Group	BASICS Task			
<i>History</i>	<u>Elicits essential information about patient and situation including:</u>			
	Age and weight	Y	N	
	Signs and symptoms	Y	N	
	Allergies	Y	N	
	Medications	Y	N	
	Past medical history	Y	N	
	Last meal	Y	N	
<i>Physical</i>	<u>Performs initial general assessment as they walk in the room including:</u>			
	Appearance (MS, interactions)	Y	N	
	Breathing (effort, rate)	Y	N	
	Circulation (skin color)	Y	N	
	Performs Primary assessment including:			
	Airway (patency) < 2min	Y	N	done late
	Breathing (rate, pulse ox, auscultation) < 2min	Y	N	done late
	Circulation (HR, BP, pulses, CR)	Y	N	
	Disability (AVPU neuro exam)	Y	N	
	Exposure (temperature, rashes)	Y	N	
Performs/directs head to toe physical exam as part of Secondary assessment	Y	N		
<i>Monitors</i>	Places patient on cardiac monitor <2min	Y	N	
	Checks pulse-ox <2min	Y	N	
<i>Access</i>	Attempts / directs team member to attempt IV access <2min	Y	N	done late
	Attempts access / directs team member to attempt IO access if IV access is unattainable	Y	N	N/A
<i>Labs</i>	Orders appropriate laboratory testing if indicated	Y	N	N/A
<i>Professionalism</i>	Has professional attitude towards patient/family	Y	N	
	Has professional attitude team members	Y	N	
<i>Leadership</i>	Team leader is designated <1min	Y	N	
	Team leader assigns roles <2 min	Y	N	
	Closed-loop communication	Y	N	
	Reevaluation and summarizing	Y	N	
	Clear messages	Y	N	
	Knowledge sharing	Y	N	

Continued:

Task Group	Airway and Breathing Task			
<i>Assessment</i>	Recognize/Verbalize respiratory distress	Y	N	
<i>Basic Intervention</i>	Performs general airway manuevrers-positions patient	Y	N	N/A
	Provides any oxygen support	Y	N	
	Provides optimal level of oxygen	Y	N	
Task Group	Circulation and Arrythmias Task			
<i>Assessment</i>	Assesses blood pressure <1min	Y	N	done late
	Palpate central pulses <2min	Y	N	done late
	Recognize/Verbalize compensated shock	Y	N	
<i>Basic Intervention</i>	Directs administration of IV fluids:	Y	N	
	type: Isotonic	Y	N	
	amount: 20-30cc/kg	Y	N	
	rate: wide open bolus (or over 5-10 minutes)	Y	N	
	Directs reassessment	Y	N	
Task Group	Other Task			
	Checks accucheck	Y	N	
	Directs administration of glucose	Y	N	
	Directs appropriate dose of glucose (0.5-1 gm/kg, 1-2 cc/kg D50 or 2-4 cc/kg D25)			
	Reassesses patient status after glucose administration	Y	N	
	Reassesses glucose level	Y	N	
Task group	Task Other			
	Identify therapeutic endpoint	Y	N	with prompting
	Identify appropriate patient disposition	Y	N	with prompting

Used with permission from developers Nandini Calamur, MD and Trent Reed, DO from Loyola University Medical Center.

Appendix C: Sample Mock Code Survey Forms

C-1

Sample Evaluation Survey: Newborn Mock Codes

Department	Job Description
<input type="checkbox"/> OB	<input type="checkbox"/> Attending
<input type="checkbox"/> Family Practice	<input type="checkbox"/> Resident
<input type="checkbox"/> Peds	<input type="checkbox"/> Nurse Practitioner
<input type="checkbox"/> Midwifery	<input type="checkbox"/> Midwife
<input type="checkbox"/> Nursing	<input type="checkbox"/> Nurse
	<input type="checkbox"/> Tech
	<input type="checkbox"/> Student

(1) Did you learn something you did not previously know?

No Yes (please describe)

(2) How would you best describe the learning environment that was created?

(a) Positive, encouraging

(b) Neutral

(c) Negative, threatening

Comments:

(3) General Comments:

Used with permission from developer T. G. Blakely

C-2

Please complete this survey and return to the instructor

1. Please subjectively evaluate the following parts of the course:

	Poor		fair		average		good		superb	
Overall	1	2	3	4	5	6	7	8	9	10
EMS role	1	2	3	4	5	6	7	8	9	10
Instructors	1	2	3	4	5	6	7	8	9	10
Value to office	1	2	3	4	5	6	7	8	9	10

2. What parts of the course did you find particularly valuable for your practice?

3. What parts of the course were not particularly valuable for your practice?

4. What changes in the course could be made that would make it more useful to your practice?

5. Was the time of the course at your convenience?

6. Was the time allotted adequate for the course?

This form modified after being given permission from the NC DHHS, DHSR, OEMS, EMSC program.

Appendix D: Samples Scenarios

There are many scenarios that can be used to practice mock codes. Examples of scenario subjects to use include trauma, respiratory distress/failure requiring airway management, shock (ex hypovolemic, septic, and/or circulatory), full CPA, newborn resuscitation, bradycardia with hypotension, and altered level of consciousness from seizure, hypoglycemia, or hypothermia. First, there is a list of examples for educational sessions that break down the code components into self learning modules that can done monthly and be used to build up to the quarterly mock code scenarios. Next, four examples of scenarios with the general outline of the event, the moderator's information, and skills that will be reviewed during the mock code are provided.

D-1: Breakdown of Code Components

Broselow™ tape usage

Set out a Broselow™ tape with a manikin, cut out, or doll and allow staff to practice setting it up next to the manikin and familiarizing themselves with the information provided on the tape.

Common medications used in pediatric resuscitation

Provide established reference cards that have the dosages of common medications used in pediatric resuscitation. Include expired medications in the education sessions so staff can become more familiar with calculating, drawing up and administering the medications. A manikin (if available) with a Broselow™ Tape could be added to this Code Component to allow staff to practice obtaining dosages and preparing the medication based on the tape.

Airway station

Set out pediatric airway equipment, including bag-valve-mask (BVM), nasal pharyngeal airways (NPAs), oral pharyngeal airways (OPAs), capnometry, capnography (if available), suction equipment, other oxygen administering devices like non-rebreather mask (NRB) or nasal canulas, endotracheal (ET) tubes, and tracheostomy tubes (for Children with Special Health Care Needs (CSHCN) who may come in with a tracheostomy already in place). Include a manikin if available so staff can practice insertion of airways and suction of ET tubes while in place. Be sure to include all sizes of pediatric airway equipment.

OB/Newborn Supplies

Set out all OB/Newborn supplies including the birth kit, resuscitation supplies, bulb and wall suction, infant warmers and/or isolettes, documentation forms that are specific to deliveries and patient id/tracking bands that are specific to the facility.

Pediatric Crash Cart/Broselow™ Cart

Have cart available for staff to look through and identify the color system or organizational system that exists in the facility. Allowing staff to look through the drawers to identify what is in the cart will assist with finding the supplies during a crisis situation.

IV/IO in Children

Have intraosseous (IO) and intravenous (IV) start supplies available to staff with a manikin, fake bone or other device to practice the insertion and use of both access types.

Trauma Supplies

Set out infrequently used trauma supplies such as chest tubes so staff can review set up and insertion procedures as well as care for the patient after tube is inserted.

JumpSTART Pediatric MCI Triage Tool®

Give staff a group of brief patient scenarios that relays just enough information to perform a rapid triage assessment. Have staff triage patients using the JumpSTART Pediatric MCI Triage Tool®. Provide the tool, instructions on how to use it, as well as feedback based on the triage decisions made for each patient.

Scavenger Hunt

Design a scavenger hunt for staff to identify where both resuscitation equipment and other less frequently used pediatric equipment is in the unit and/or hospital.

D-2: Hypovolemic Shock

A 6 month old female is brought in the Emergency Department (ED) by her mother who states the infant has been vomiting and having diarrhea for two days. Mother is unsure when the last wet diaper was and states the patient vomits all oral intake. The patient was born full term, has no previous medical history, is up to date with immunizations, has allergy to penicillin and is on no medications at home. The infant is wrapped up in several blankets and appears to be sleeping.

General code outline:

1. Infant received by triage nurse in ED and is to be identified as a severely ill child and brought directly into treatment room, notifying physician and other nurses. Staff will expose the patient and assess airway, breathing, circulation (ABCs). More information will be gathered from mother.
2. Patient has poor skin tone and the skin is dry and cool to touch. Capillary refill is delayed at 4-5 seconds. Patient is lethargic and arouses to painful stimuli. Patient is not crying tears and mucous membranes are dry. Patient is tachycardic with a heart rate of 180s and tachypneic with respiration rate of 40-50s. Pulses are thready distally but palpable centrally. Patient is somewhat mottled. Resuscitation supplies should be gathered. Supplemental oxygen will be

- applied. Broselow tape™ will be utilized and patient is to be placed on monitoring equipment. Glucose reading is obtained and is 85.
3. Staff will reassess after application of oxygen and find that the patient's heart rate in the 120s, respiratory rate in the 30s and the patient is having decreased level of consciousness. Patient's extremities are cool, mottled with delayed capillary refill. Staff will attempt peripheral intravenous (IV) access. This will be unsuccessful and an intraosseus (IO) line will be necessary.
 4. During IO placement, the patient becomes bradycardic (heart rate drops to 60) and is having apneic episodes lasting 10-15 seconds. Pulses are weak centrally and patient has peripheral cyanosis.
 5. Staff will provide assisted ventilations with bag-valve mask with 100% O₂ at a rate of 20 breaths per minute and assess for good rise and fall of chest during ventilation. Circulation is reassessed and bradycardia responds to bag/mask ventilation and patient becomes tachycardic again with a heart rate in 180s. Pt not breathing spontaneously so staff continues to assist with ventilation. Cyanosis is resolving but perfusion is poor.
 6. While ventilation of patient continues, IO placement is completed and IVF bolus of isotonic crystalloid fluids (0.9 Normal Saline) is started at 20mL/kg rapidly.
 7. Patient is reassessed after first IVF bolus. Infant is having spontaneous respirations and her heart rate is 160. Capillary refill continues to be delayed and extremities are pale and cool. Supplemental O₂ of 15L NRB is placed.
 8. Mild improvement is seen after the first IVF bolus. Two more IVF bolus should be initiated. Temperature is taken on patient and is found to be 95.0 degree Fahrenheit (35 degree Celsius). Warming measures will be initiated.
 9. As treatment continues, appropriate arrangements for either admission or transfer are made.

Skills reviewed:

- ABCs (airway, breathing, circulation) including airway maintenance with bag/mask respirations
- General assessment
- Use of Broselow™ tape or other aid
- Knowledge of where resuscitation equipment is
- IV and IO placement and proper dosage and speed of infusion for IVF bolus
- Reassessment after procedures
- Knowledge of recommended resuscitation guidelines
- Knowledge of admission/transfer protocols
- Knowledge of warming measures used in children

Event/Assessment	Action Required
Infant is brought into triage by parent.	Patient identified as ill and brought into treatment room immediately.
Patient is brought into treatment room.	Expose patient. Examine the patient quickly for ABCs. Examine the patient's capillary refill.

	Gather more information from mother.
Patient found to be lethargic but arouses to painful stimuli, limp with skin that is dry and cool to touch and has poor skin tone. Lungs clear bilaterally. Airway patent. Capillary refill is 4-5 seconds. Patient is tachycardic at 180s and tachypneic in the 50s. Pulses are thready peripherally but strong centrally.	<p>Pediatric specific code supplies should be gathered.</p> <p>Glucose reading is obtained.</p> <p>Broselow™ tape is utilized.</p> <p>Apply 100% oxygen by face mask.</p> <p>Place patient on monitoring equipment.</p> <p>Reassess patient</p>
Patient's heart rate in the 120's and respiratory rate in the 30s with decrease level of consciousness. Glucose level is 85. Extremities are mottled with delayed capillary refill.	Attempt IV placement.
Unable to establish IV due to poor skin perfusion.	Attempt IO placement.
During IO placement, patient becomes bradycardic into the 60s and is having apneic episodes of 10-15 seconds. Pulses are weak centrally and patient has peripheral cyanosis.	<p>Bag, valve mask (BVM) is used to provide respirations to patient at a rate of 20 breaths per minute, assessing for good rise and fall of chest, and lung sounds.</p> <p>Circulation is reassessed.</p>
Heart rate increases to the 180s with no spontaneous respirations. Cyanosis is resolving but perfusion is poor.	<p>Bagging patient continues while IO placement is obtained.</p> <p>Once placed, IVF bolus of crystalloid fluids is started at 20mL/kg rapidly. Participants should calculate and state amount. IV fluids should be warmed.</p>
Heart rate is now 160 after first IVF bolus. Infant is having spontaneous respirations but capillary refill continues to be delayed and extremities are pale and cool.	<p>Recognize some but minimal improvement made.</p> <p>Second IVF bolus of crystalloids at 20mL/kg infused. Participants should calculate and state amount.</p> <p>Oxygen converted back to 100% via mask.</p>
Temperature is taken and is 95.0 degrees	Warming measures are initiated on child.

Fahrenheit (35 degrees Celsius).	
Heart rate in the 140s at the end of the second IVF bolus. Spontaneous respirations are present at a rate in the 40s. Peripheral pulses palpable with capillary refill of 3 seconds. Patient responsive to mild tactile stimuli.	IVF continues with third IVF bolus of 20mL/kg as preparations for admission/transfer are made. Participants should calculate and state amount.

D-3: Neonatal Resuscitation

A woman who is 40 weeks pregnant presents to the Emergency Department in labor. She is G4 P3 and has had prenatal care throughout her pregnancy. Upon exam, the infant is crowning and delivery is eminent.

General code outline

1. As newborn is presenting, the cord is found to be wrapped around its neck. The physician unwinds the cord before the delivery of the patient. Infant delivered by physician and has poor tone, minimal respiratory effort and central cyanosis. The cord is cut by the physician and the patient is placed in the infant warmer. Other staff is assigned to attend to the mother.
2. The newborn is floppy with only occasional gasps for breaths. Resuscitation supplies gathered by staff. The patient is dried and stimulated and placed in the sniffing position to open airway. APGAR score is determined to be 3.
3. The patient is reassessed and found to have only occasional gasping respirations with a heart rate of 90. Skin color is cyanotic with poor muscle tone. Positive pressure ventilation with bag-valve-mask should be initiated utilizing room air. This should continue for full 30 seconds. Reevaluate for APGAR and ABCs.
4. The Patient is having minimal shallow respirations with a heart rate of 50. Skin is cyanotic. Chest compressions should be initiated and positive pressure ventilation should continue with the BVM on 100% oxygen while preparing to intubate patient.
5. Reassess after intubation is completed and placement verified. Lung sounds are equal bilaterally with good rise and fall of the chest. Heart rate is 50. Continue chest compressions and prepare to medicate with epinephrine after umbilical vein is accessed. If an umbilical vein is unable to be established, consider administering the medication via IV/IO/ETT.
6. Ventilation via ET tube continues and the heart rate responds to epinephrine and oxygenation. Heart rate 130s. Color is improving.
7. Prepare for transfer to NICU or transfer to another facility.

Skills reviewed:

ABCs including airway maintenance with bag/mask respirations
 General assessment
 Knowledge of possible delivery complications
 Knowledge of where resuscitation equipment is
 Knowledge of umbilical line placement

Reassessment after procedures
 Knowledge of recommended neonatal resuscitation guidelines
 Knowledge of admission/transfer protocols

Event/Assessment	Action Required
<p>Patient delivered by physician after cord unwrapped from patient's neck. Patient has poor tone, minimal respiratory effort and central cyanosis. The cord is cut and patient placed in infant warmer.</p>	<p>Assess ABCs in patient.</p> <p>Patient is dried by staff and stimulated.</p> <p>Airway should be opened and suctioned.</p> <p>Resuscitation equipment should be gathered.</p> <p>APGAR score should be determined.</p>
<p>Patient is having occasional gasping respirations with a heart rate of 90 beats per minute. Skin color is cyanotic with poor muscle tone.</p>	<p>Positive pressure ventilation with a bag-valve-mask should be initiated on room air. Respirations should be provided at 40-60 breaths per minute.</p> <p>Continue for 30 seconds.</p> <p>Assess the need for suctioning.</p>
<p>Patient having minimal shallow respirations with a heart rate of 50 beats per minutes. Skin is cyanotic.</p>	<p>Chest compressions should be initiated with positive pressure ventilation via BVM with 100% oxygen while preparing for endotracheal intubation. Rate of compressions to respirations is 3:1 (90 compression/30 ventilations per minutes). Participants should prepare all equipment needed for intubation.</p> <p>After intubation, confirm placement by having visualized the ETT passing through the cords, by auscultation of lung sounds bilaterally, equal rise and fall of the chest, capnometry, the absence of gastric sounds, chest x-ray, and with the use of capnography (if available). ETT should be secured per facility protocol. Continue compression/bagging patient for 30 seconds.</p>
<p>Endotracheal intubation is completed and position is verified. Lung sounds are equal bilaterally with good rise and fall of chest. Heart</p>	<p>Chest compressions and ventilations should continue. Umbilical vein should be accessed. If unable to establish umbilical access,</p>

<p>rate is 50 beats per minutes.</p>	<p>establish IV/IO access.</p> <p>Administer epinephrine at 0.1-0.3 mL/kg of 1:10000 solution via umbilical vein or IV/IO. If unable to establish access, consider ETT route. Participants should calculate and draw up the medication.</p> <p>Continue compressions/ventilations for 30 seconds after administering epinephrine.</p>
<p>Patient's heart rate is 130 beats per minute. Color is improving. Central pulses are palpable.</p>	<p>Prepare patient to be brought to NICU or to be transferred to another facility with NICU capabilities.</p>

D-4: Respiratory Distress/Failure

A 6 year old male was admitted to the non-PICU Pediatric Unit with a two day history of cough, fever, and increased shortness of breath, unrelieved by his inhaler. He has been diagnosed with pneumonia. The patient has a history of asthma, has no known allergies to medications, and takes Albuterol and singular at home. The patient weighs 20 kg. His mother has just returned to the patient's room and calls the nurse because the patient is having increased shortness of breath.

General code outline

1. Nurse performs ABC assessment on patient. The patient is sitting on the side of the bed in a tripod position, anxious, audible wheezing is noted, intercostal retractions are present and the patient is able to speak one word per breath.
2. Oxygen is applied to patient. Rapid response team is called. Primary nurse initiates Albuterol and Atrovent nebulizer treatment as ordered previously. Patient is placed on portable monitor and pulse-ox.
3. SpO2 is 85% room air and increases to 90% with neb treatment in progress. Rapid response team arrives and reassesses the patient now that first nebulizer treatment is almost completed. Patient is in severe distress with minimal air movement throughout lung fields.
4. Patient is started on a continuous nebulizer treatment and administered corticosteroids. BIPAP is attempted with patient. Consider administering Magnesium, Terbutaline and/or subcutaneous Epinephrine as indicated and appropriate. If have not already done, gather resuscitation equipment.
5. Patient is unable to tolerate BIPAP. Patient continues to deteriorate despite nebulizer treatments and other medications. Patient has increased altered level of consciousness and minimal air movement.
6. Prepare for rapid sequence intubation, including proper ET tube size and preparation of proper medication dosages. While equipment is being prepared, staff provides 100% O2 via bag-valve-mask.
7. Patient is intubated and placement is verified by auscultation, capnometry, rise and fall of chest and chest x-ray. Use capnography if available. Obtain arterial blood gas (ABG) after intubation.

8. Inline nebulizer treatments initiated. Transfer either to PICU if available in hospital or arrange for patient to be transferred to another facility.

Skills reviewed:

- ABCs including airway maintenance with bag/mask respirations
- General assessment
- Knowledge of where resuscitation equipment is
- Knowledge of use of rapid response teams
- Proper dosage and preparation of medications
- Reassessment after procedures
- Knowledge of recommended resuscitation guidelines
- Knowledge of transfer protocols

Event/Assessment	Action Required
Mother calls nurse into room because patient is having increased respiratory distress.	Nurse performs assessment including ABCs.
The patient is sitting on the side of the bed in a tripod position, anxious, audible wheezing is noted, intercostal retractions are present and the patient is able to speak one word per breath.	<p>Oxygen applied to patient.</p> <p>Patient placed on portable monitor and pulse-ox.</p> <p>Rapid response team is called.</p> <p>Primary nurse initiates albuterol and atrovent nebulizer treatment as ordered previously.</p>
Rapid response team arrives and reassesses the patient now that first neb treatment is almost completed. SpO2 is 85% room air and increases to 90% with neb treatment in progress. Patient with diminished breath sounds bilaterally, increased work of breathing, intercostal retractions.	<p>Patient is started on a continuous nebulizer treatment and administered corticosteroids. Attempt CPAP or BIPAP.</p> <p>Consider administering Magnesium, Terbutaline and/or subcutaneous Epinephrine as indicated and appropriate. If utilized, participants should calculate and prepare medications.</p>
Patient is unable to tolerate BIPAP. Patient continues to deteriorate despite nebulizer treatments and other medications. Patient with increased altered level of consciousness, minimal air movement and tracheal tugging.	<p>Prepare for rapid sequence intubation. Participants should prepare all equipment needed for intubation and calculate and prepare medication dosages. While equipment is being prepared, staff provides 100% O2 via bag-valve-mask.</p>
Patient is intubated.	Verify placement by visualizing the ETT passing through the cords, auscultation of lung

	<p>sounds bilaterally, the absence of gastric sounds, capnometry, equal rise and fall of the chest and chest x-ray.</p> <p>Obtain ABG after intubation.</p> <p>Use capnography if available.</p>
<p>Placement of the ETT is verified by equal but diminished breath sounds with expiratory wheezes throughout, colorimetric end tidal CO2 detector, and equal rise and fall of the chest. Chest x-ray shows placement of ETT is appropriate.</p>	<p>Inline nebulizer treatments initiated. Transfer either to PICU if available in hospital or arrangements for patient to be transferred to another facility.</p>

D-5: Seizure

An 11 year old male is transferred from a local community hospital to the Pediatric Trauma Emergency Department for treatment following a head injury. He was playing football and collided head first with another player. He had positive loss of consciousness (LOC) for 2 minutes after the incident. Initial CT scan at the sending facility was negative for intracranial bleeding. Patient continues to ask repetitive questions and is amnesic to the event. CT scan of neck was also negative and patient denies neck or back pain. The report received was that the pupils are PERRL at 3mm and pt has no deficits other than the memory loss. The patient has a history of diabetes, has no known allergies to medicine, and has an implanted insulin pump. The patient weighs 45kg. Following the patient's arrival to the unit, report is being given by the transport team and the patient begins to have a generalized or tonic-clonic seizure.

General code outline

1. Nurse goes to bedside and assesses the patient. Patient is having generalized tonic clonic seizure activity, is unresponsive and has snoring respirations
2. Staff initiates the rapid response team. Staff performs ABCs and applies 100% O2 via non-rebreather (NRB) mask. Gather resuscitation equipment. Protection measures are put in place to protect patient from harm. Patient is placed on cardiac, blood pressure and pulse-ox monitors.
3. Transport team informs the nurse of patient's diabetic history. PIV has already been established by the transport team. The patient's blood glucose level is checked and is 45. Rapid response team and the nurse begin to administer dextrose (dose appropriate for weight) but the IV is nonfunctional. Attempt another IV placement if accessible. Otherwise, IO placement is necessary.
4. IO placement established and dextrose is given.
5. Reassess patients ABCs and glucose. Seizure activity continues unchanged after administering glucose. Repeat glucose is 185. Patient is having snoring respirations and generalized seizure activity. Staff unable to read pulse-ox due to seizure activity.
6. ABCs continue to be monitored. Orders for medication to stop seizure activity are received, prepared and administered by staff.
7. Patient's seizure activity slows down but continues. Staff should prepare another dose of medication to stop seizure activity as ordered by attending physician.

8. Patient's seizure activity has ceased. Patient is unresponsive and has snoring respirations. Patient's airway suctioned and repositioned. SpO2 91% on 100% NRB. Patient's gag reflex intact. A nasal pharyngeal airway (NPA) is placed.
9. Reassess and monitor ABCs. Continue with complete exam. Evaluate studies done at sending facility. Consider repeating CT scan to detect change in status. Consult neurology.

Skills reviewed:

- ABCs including airway maintenance including NPA use and suction equipment
- General assessment
- Knowledge of where resuscitation equipment is
- Knowledge of use of rapid response teams
- Proper dosage and preparation of medications
- Reassessment after procedures
- Knowledge of recommended resuscitation guidelines
- Knowledge of altered mental status, diabetic and seizure precaution treatment protocols

Event/Assessment	Action Required
Patient is having generalized tonic clonic seizure activity, is unresponsive and has snoring respirations.	<p>Nurse will initiate the rapid response team/ code team (facility dependent). Perform assessment of ABCs and applies 100% O2 via non-breather mask.</p> <p>Gather resuscitation equipment. Seizure precautions put in place to protect patient from harm.</p> <p>Place patient on cardiac, blood pressure and pulse-ox monitors.</p>
Transport team informs the nurse of patient's diabetic history. PIV has already been established by the transport team.	Blood glucose level is checked due to history of diabetes.
Blood glucose is 45.	<p>Rapid response team and the nurse begin to administer dextrose but the IV is nonfunctional. Participants should calculate dosage and prepare medication.</p> <p>Attempt another IV placement if</p>

	accessible. Otherwise, IO placement is necessary.
IO placement established and dextrose is given.	Reassess patient and glucose level. ABCs continue to be monitored.
Seizure activity continues unchanged after administering glucose. Repeat glucose is 185. Unable to read pulse-ox due to seizure activity. Pt continues to have snoring respirations and generalized seizure activity.	Orders for medication to stop seizure activity are ordered (as per facility protocol), prepared and administered. Participants should calculate dosage and prepare medication.
Patient's seizure activity slows down but continues	Second order for medication to stop seizure activity given by physician. Participants should calculate dosage and prepare medication.
Patient's seizure activity has ceased. Patient is unresponsive and has snoring respirations. SpO2 91% on 100% NRB. Patient's gag reflex intact.	Patient's airway suctioned and repositioned. Patient's gag reflex tested and is present. NPA placed.
Patient's SpO2 at 96% with NPA in place. Patient's ABCs maintained.	Reassess and monitor ABCs. Continue with complete exam. Evaluate studies done at sending facility. Consider repeating CT scan to detect change in status. Consult neurology.