Pediatric Code Simulation
2016
Objectives

Discuss the need for simulation training

Explore the advantages of simulation learning

Discuss the elements of pediatric code simulation

Review the barriers to implementing the program

Review contents of a pediatric mock code toolkit
“A set of techniques to replace or amplify real experiences with planned experiences to evoke or replicate substantial aspects of the real world in an interactive fashion.”
The need for simulation training

- Safe learning environment for students
- A place to demonstrate competencies for low-volume procedures
- No risk to a patient that could result in injury
Purposes

- Education
- Assessment
- Research
- Health system integration
- Understanding of human behavior

History of simulation training
Advantages of simulation

- Range of easily accessible learning opportunities
- Freedom to make mistakes and learn from them
- Detailed feedback and evaluation
- Customized learning experience
Pediatric codes

27% survival rate

Of those, 34% with neurological deficits

Respiratory and cardiac failures less frequent in children than adults

Common fears

- Becoming anxious and uncertain
- Not knowing how to use the equipment
- Medication errors
Simulation advantages

- Decrease anxiety
- Improve communication between providers through teamwork
- Increase knowledge and skills of pediatric resuscitation
Objectives of pediatric code simulations

- Develop essential knowledge and clinical skills
- Facilitate teamwork
- Improve confidence with resuscitation skills
- Improve medication familiarity and dosage calculations
- Provide frequent updates on current treatments
- Test the current process, looking for areas to improve

Pediatric simulation training

Questions to answer

- Who should be part of the team?
- How often should training occur?
- What equipment should be included?
- How long should the mock code take?
- What should be discussed in the debriefing session?
- How should the activity be evaluated?
- What scenarios should be included?

Who should be part of the team?

Interdisciplinary team to improve team dynamics

ED physician, ED/ICU nurse, patient care tech, supervisor, respiratory therapist, pharmacist

Others: Hospitalist, advance practice provider, anesthesia provider, chaplain, interpreter, security, social worker

Factors that contribute to less-than-optimal code outcomes include poor team performance due to hierarchy, intimidation, and failure to function as a team.
How often should training occur?

Monthly

- Full code or specific components identified as difficult for the lead and/or team

Quarterly

- Full code simulation on each shift
What equipment should be included?

<table>
<thead>
<tr>
<th>Crash cart</th>
<th>Broselow tape</th>
<th>Monitor</th>
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</thead>
<tbody>
<tr>
<td>Defibrillator</td>
<td>Manikin/dolls</td>
<td>Medications</td>
</tr>
<tr>
<td>Syringes</td>
<td></td>
<td>Intubation supplies</td>
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</tbody>
</table>
How long should the mock code take?

- Brief
- Frequent
- Intense with instruction and practice
What should be discussed in the debriefing session?

- Description of the mock code
- Analysis of what was effective and what was not
- Application of learning
- Review of the video recording
- The positive aspects of the performance
How should the activity be evaluated?

Team leadership and team communication

Pediatric ABC’s

IV/IO placement

Intubation — tubed and checking for breath sounds

Use of pediatric weight-based emergency reference tools

Medications — correct type, dosage, preparation, and administration of medications; call-out communication

Implementation of proper treatment protocols

ECG interpretation

Frequent reassessments

Communication with family
What scenarios should be included?

- Cardiopulmonary arrest
- Croup — respiratory arrest
- Anaphylactic shock
- Accidental poisoning ingestion
- Seizures
- Burns
- Shock — hypovolemic, septic
- Trauma
Barriers to implementation

- Lack of support by hospital/emergency department leaders
- Funding and staffing issues
- Perception that pediatric code simulations are not a priority due to low volume of pediatric patients
- Belief that basic life support and pediatric advanced life support certification is enough
Pediatric mock code toolkit

Program planner responsibilities

Making a resource list of necessities

Sample scenarios

Observation form

Mock code evaluation form

Simulation evaluation by participants

Illinois Emergency Medical Services for Children, Illinois Department of Public Health, Loyola University Health System

http://www.luhs.org/depts/emsc/MockCode.htm
Just do it