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The Mock Code an Educational Tool in International Medical Missions

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Abstract

Objective: Humanitarian medical and/or surgical missions have become common over the past 50 years. Little is known, however, about the quality of these missions, especially when a patient becomes unstable and requires resuscitation. We would like to present the "mock code" Operation Smile uses to ensure the best quality of care should a medical or surgical emergency arise during a mission.

Operation Smile, a worldwide children's medical charity, provides surgery for children with correctable facial deformities in 51 countries. The mock code was initially implemented as an educational tool to enhance skills and team dynamics. It has become a useful practice for preparing a team of medical professionals to respond to an unexpected medical or surgical emergency.

A mock code is performed at each mission prior to the start of the surgical week. The mission team consists of 35-60 members, including medical professionals from many different countries and diverse backgrounds. Team members have varying levels of expertise, and thus a mock code is vital to give good resuscitative care.

The volume of cases, the variety of professional backgrounds, the unfamiliar equipment and protocols, the language and cultural barriers, and the fact that these individuals have not previously worked together makes it essential to develop an emergency-preparedness plan.

Emergencies involving pediatric patients generate a great deal of anxiety for the child, for the parents, and for the medical and nursing staff involved. Running an emergency code is always a challenge, especially when the patient is a child.

Conclusion: The use of this tool allows us to build a special alliance between medical and nursing staff prior to an emergency. The mock code empowers nurses and doctors to feel more prepared to respond to pediatric emergencies and improve the quality of resuscitative care, should the need arise.

Keywords: Mock code; Humanitarian mission; Paediatric emergencies; Quality of assistance; Educational tool; Cleft palate; Volunteer team

Introduction

Operation Smile was founded in 1982 when Dr. William P Magee Jr., a plastic surgeon, and his wife, Kathleen, a nurse, assembled a group of doctors, nurses and technicians for a mission to the Philippines to surgically repair children who were born with clefts. Now each year, Operation Smile conducts hundreds of medical missions in locations around the world. During a typical mission, 120-150 children will receive surgery from 4-7 operating room teams, meaning there are 4-7 operating rooms running at the same time. Every surgery has risks, but these risks are amplified in procedures that could essentially affect the airway. This is particularly true when it comes to children and families that have had very limited prior healthcare due to infrastructure and resources [1]. When the surgeries go well, the care is not difficult. When the child has complications, however, such as a difficult airway, bleeding, or other peri-operative complications, the simplicity of care quickly changes. Generally it is an unexpected, chaotic moment where everyone wants to help, but most providers do not know what role they should play. Lack of role delineation creates chaos, and often, the right care is not given or care is delayed due to the confusion and anxiety around performing resuscitation. It is important to have a team leader that is skilled in running a code, and that each team member has had a pre-assigned role before the event. Operation Smile has a policy that prior to the start of the surgical week, a mock will be done [2,3]. This code would be useful in all patient-care settings.

Method

For each mission, a team of medical professionals, including nurses, a Pediatrician, a Plastic Surgeon and an Anesthesiologist, evaluates patients. Despite patients having been evaluated by local doctors, each team does its own evaluation to ensure the child is healthy enough to have surgery. No child will be cleared for surgery unless they are completely healthy. Therefore a mock code on these missions is even more important, because the team does not expect the child to decompensate after having had an elective surgery.

The mock code is a safety tool that is used on all Operation Smile international medical missions to improve communication between physician and nurses and to maximize patient safety. It is an interactive tool that improves outcomes [4-6].

The first minutes are crucial to stabilize the patient and reduce sequelae. The goal is to prepare an emergency team to successfully manage an emergency situation. It is also a good teaching tool for the local staff members helping on the mission who are not necessarily credentialed by Operation Smile. Our work can be summarized in eight key points shown in Figure 1.

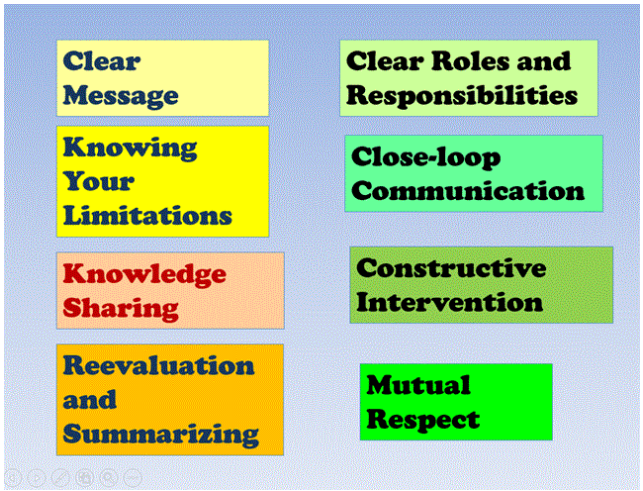

Figure 1: Key points of operation`s smile mock code.

The Pediatric Intensivist leads all staff through the exercise prior to any patient care being initiated on the mission (Figure 2). The presentation includes a delineation of team members and roles, communication within the team, and communication with the family. The team leader then does a quick review of skills such as use of the defibrillator and the location of equipment, drugs and supplies that are available. Staff is assured that a competent code team is available should the need arise.

Figure 2: Pediatric intensivist prepares the mission team.

The mock code follows PALS (Pediatric Advance Life Support) AHA guidelines, stressing the importance of identifying key team members, closed loop communication and good documentation (Figure 3). Each Operation Smile medical Team member is PALS certified. This is a must in order to be credentialed. The mock code is not a PALS review, but a short review of what the expectations are of each member and the equipment and medications available.

Figure 3: Staff teaching PALSE AHA guidelines to local team.

The best teams are composed of members who share mutual respect and work together in a collegial, supportive manner. To have a high-performing resuscitation team, members of the team must respect one another, regardless of differences in culture, language, training or experience. This increases the ability to provide the best care to our patients.

The mock code will reinforce prior knowledge and build confidence [7].

The presentation, sometime translated in all necessary languages, should answer the following:

- Who will lead the code, notify others, designate roles and ultimately be responsible?
- Who is responsible to notify the family of the child?

- Where emergency equipment is located (ambu bag, crash boxes and medications, oxygen, suction and defibrillator)? This should include instructions of how to open the crash box and the internal organization of the box (Figure 4).
- How is the defibrillator used (i.e., attached the electrode pads correctly and know when to use two different sizes, depending on the age of the patient)? (Figure 5)
- Familiarize everyone with the pre-printed code sheet.

Figure 3: Everybody knows the location of equipment and drugs.

Figure 4: Quick review of skill: everybody can operate the defibrillator and attached the electrode pads correctly.

Discussion

During medical international missions when volunteers come from different backgrounds and cultures and speak different languages, it is especially important to review the management of a hypothetical emergency situation. Sometimes, these individual acts of altruism are tempered by criticisms about lack of preparedness, coordination and appropriate skills [8]: these interventions require careful planning and communication to achieve optimum results.

The volume of cases, the variety of professional backgrounds, unfamiliar equipment and protocols, language and culture barriers, and the fact that these individuals have not previously worked together makes it essential to develop an emergency-preparedness plans.

Especially in this case, the mock code represents an important tool to prepare for a potential medical or surgical emergency. Successful resuscitation teams not only have medical expertise and mastery of resuscitation skills, but they also have effective communication and appreciate the importance of good team dynamics.

Emergency management is not a new invention but is developed over time and grows from experience gained over the years.

Operation Smile is not only a volunteer organization, but we strive to give the best quality care for children that otherwise would live a life of isolation and marginalization. Quality care means not only doing the elective surgeries with great precision, but also being prepared for to care for a child with peri-operative complications, and minimizing sequelae.

Teaching emergency preparedness in the pediatric realm is our goal. We reinforce prior knowledge to the local and international team, encouraging active participation by asking questions and voicing concerns. Assuring clinical competency and maximizing team dynamics of a medical team that is brought together to provide unique services in a clinical setting is essential to providing ideal care [9-11].

Conclusion

When the patient's life depends on the quality of your staff's response, having competent staff is imperative. The goal is to prepare

the entire team to be able to successfully manage an emergency situation that may arise.

Using pediatric mock code simulation for training has been shown to decrease fears and anxiety related to CPR, improve communication between physicians and nurses, and increase the knowledge and familiarity with pediatric resuscitation guidelines which translates directly to improving performance on resuscitation skills.

This procedure may be more challenging during medical international missions when all volunteers are not coming from the same background, culture and may speak a different language.

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