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# Development of an Emergency Preparedness Protocol in an Office Setting

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## Introduction of the Problem

With diminishing healthcare reimbursement and growing consumer demand, a large portion of healthcare delivery has shifted from in-hospital settings to outpatient facilities and, more recently, to physicians' offices (Urman, Punwani & Shapiro, 2012). Office-based procedures continue to increase at a rapid pace due to decreased costs, increased patient and surgeon satisfaction, consistent staffing, efficiency, patient privacy, increased autonomy of practice, and decreased risk of infection (Bogan, 2012). However, there are disadvantages to office-based procedures that include absent or inconsistent state regulatory oversight, lack of credentialing, and logistical limitations (Bogan, 2012).

Safety concerns are enhanced in office-based practices since they are not regulated in the same way hospitals or ambulatory surgical centers are regulated (Urman et al., 2012). The lack of government oversight places the responsibility heavily on office-based practitioners to properly exercise their professional ethics to guarantee that their patients are receiving the highest quality of care and remain safe in the office setting. However, available data have shown that the office-based practice can be as safe as any ambulatory surgical center or hospital, as long as patients, regulators, and physicians become educated advocates of safer practices (Urman et al., 2012). Procedures can be performed safely with general anesthesia or conscious sedation, provided that there are adequately trained personnel, adequate equipment, and facilities (Urman et al., 2012). Implementing the emergency activation protocol can assist providers in becoming adequately trained personnel to handle a medical emergency in an office setting. The purpose of this practice project was to improve the confidence of the staff at a local gastroenterologist office in handling a medical emergency. This office practice did not have an emergency activation

protocol and was interested in the development of an emergency activation protocol to enhance emergency preparedness.

## Literature Review

Preparation is key to preventing most medical emergencies (Alberto, 2008). A protocol gives guidance for how the office will handle a medical emergency (Alberto, 2008). The anesthesia provider (or other trained personnel) will be the team leader in an emergency and will direct the activities of other team members. Assigning roles to staff will limit chaos and save critical time (Alberto, 2008). Procedural staff should obtain basic life support (BLS) certification (Alberto, 2008). Key clinical staff should be advanced cardiac life support (ACLS) trained (Urman, Punwani & Shapiro, 2012). Advanced cardiac life support (ACLS) algorithms should be easily found. There should be established guidelines for checking the emergency cart weekly (Alberto, 2008). There should also be a well-known, accessible location of the crash cart (Alberto, 2008). There should be a consistent organization of the crash cart.

Biannual mock simulations should occur to increase confidence in the office for dealing with emergencies (Alberto, 2008). Mock simulations should reflect the possible complications from the standard procedures that are performed in the office (Urman et al., 2012). A cardiopulmonary resuscitation curriculum based on lectures and low-fidelity manikin simulations can be an effective way to educate settings with limited resources. A simulation will prevent chaos and save critical time when an actual emergency occurs (Alberto, 2008). There should be a debriefing after simulations to reflect and identify areas of improvement (Urman et al., 2012).

At a minimum, ACLS medications should be available (AANA, 2013). Necessary medications suggested for the office to have include: epinephrine, atropine, ephedrine, lidocaine, cortisone, nitroglycerin (sublingual or spray), bronchodilator inhaler, dextrose, aspirin,

diphenhydramine, and aromatic ammonic (Alberto, 2008). Consider making a label that contains the correct dosing of the medications (Alberto, 2008). Available medications should be appropriate for the patient population and suffice to complete ACLS (AANA, 2013).

Each office-based practice should determine the appropriate emergency equipment supplies to have available (Zimmerman, 2010). This decision should take into account the type of emergencies that may present in the office, how fast emergency medical services can arrive, the distance to the nearest emergency facility, and the training and comfort level of the staff in handling emergencies (Zimmerman, 2010). At minimal, the monitors that should be available in the office setting are pulse oximetry, electrocardiogram, blood pressure, and end-tidal carbon dioxide (AANA, 2013). A body temperature monitor should be used when clinically significant changes are intended, anticipated, or suspected (AANA, 2013). Equipment should be organized for easy access (AANA, 2013).

## Project Methods

This practice project utilized a non-experimental quality improvement design to assist in the development and introduction of an evidence-based emergency activation protocol for a local gastroenterologist office in Southern Illinois. The primary purpose of this project was to increase the confidence and knowledge of handling a medical emergency amongst the staff members. With the assistance of the literature review, the protocol provided the staff at the local gastroenterologist with research-based evidence for emergency preparedness in an office setting.

The project was implemented at a local gastroenterologist office in Southern Illinois. Eleven staff members completed the video recorded Zoom lecture and attended the mock code simulation. All personnel completed a seventeen-question survey that evaluated the video and

the mock code. A seven-point Likert scale was used to identify the benefits and weaknesses of this practice project.

The project received exempt status from the Institutional Review Board at Southern Illinois University Edwardsville. There were minimal risks to participants that completed the survey; the main risk was the inconvenience of time. Participation in the survey was completely voluntary.

## Evaluation

Results from the surveys concluded that the majority of the participants either agreed or strongly agreed that the Zoom lecture was beneficial, conducted professionally, practical, easy to understand, and applicable to the clinical setting. One participant did not review the Zoom lecture before the simulation, therefore, did not agree or disagree with the questions about the Zoom. Participants either agreed or strongly agreed that the simulation was beneficial, conducted professionally, supported adequately by the moderator, and overall a positive experience. Ninety-one percent of the participants strongly agreed, and nine percent agreed that they understood their role in a medical emergency. Seventy-three percent of participants strongly agreed, eighteen percent of participants agreed, and nine percent of participants somewhat agreed that they obtained the information needed to play an active role in a medical emergency. Sixty-four percent of participants strongly agreed, eighteen percent agreed, and eighteen percent somewhat agreed that they are adequately prepared for their purpose in a medical emergency. All eleven participants agreed or strongly agreed that they know where the equipment and medications for the medical emergency are located. Seventy-three percent of participants strongly agreed that their confidence in handling a medical emergency improved, with the remaining twenty-seven percent agreeing.

At the end of the survey, there were two open-ended questions. The first question was to comment on the overall perception of the effectiveness of the Zoom lecture and simulation. The feedback received revealed it was informative, helpful, and needed. Staff believed that a mock code simulation should be a "regular event." The team was also thankful for the quality improvement project. The next open-ended question gave staff the ability to provide suggestions on how to improve the learning experience, what they would do the same, and what they would do differently. There were no suggestions for improvement. Participants stated that they would use the notecards, discuss the various roles, and discuss item locations the same way as it was conducted in the simulation.

There were not any unforeseen complications during the viewing of the video recorded Zoom lecture or simulated mock code event. The limitations of this project were the sampling size and sampling bias. Due to time constraints and staff availability, a convenience sample size was obtained for this project. Eleven participants completed the survey; therefore, the results from the project are not generalizable to a larger population.

## Impact on practice

The purpose of this project was to enhance provider confidence in handling a medical emergency. The results of the survey concluded that the creation of a video recorded Zoom lecture explaining the emergency activation protocol, and the simulated mock code event improved the confidence of staff members in handling medical emergencies. This project has the potential to enhance patient care with an improved assurance of healthcare providers in a medical emergency. Patients are provided with a safe environment due to the protocol created that can be used as a reference for staff. The safe environment is also supported by checking the crash cart weekly for proper stocking of medications and equipment, including the monitoring of expiration

dates. Additionally, the conduction of mock codes every six months, and a Zoom lecture to educate future staff members or to refresh current staff on the protocol will enhance patient safety as well as the provider comfort level in handling a medical emergency.

## Conclusion

The results of this quality improvement project identified that the Zoom lecture and the simulation improved the confidence in handling a medical emergency in participants. Future implications of this project would be the continuance of checking the crash cart weekly for proper stocking of medications and equipment, including the monitoring of expiration dates. Additional future implications include mock codes every six months, and the use of the Zoom lecture to educate prospective staff members. The Zoom lecture that included the Emergency Activation Protocol, Code Blue Recording Form, and Code Blue Checklist, along with the simulation of a mock code, had a positive impact on staff awareness in handling a medical emergency. Through the education and the mock code simulation, medical assistants, registered nurses, nurse practitioners, physician assistants, and certified registered nurse anesthetists can improve their confidence in handling an office emergency and increase self-awareness of preparedness for a medical emergency.

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