

What Do You Do If No One Knows What to Do?

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What Do You Do If No One Knows What to Do?

David J. Wojs Jr, CHS, CDP

■ ABSTRACT

The Emergency Preparedness Committee in the emergency department at a Level I Trauma Center identified a knowledge gap related to hazardous materials and items (Hazmat) incidents and their associated decontamination procedures. This led to the development of a “user-friendly” resource guide for key staff, specifically charge nurses, to utilize during Hazmat situations. Implementing this reference book has significantly increased the number of identified Hazmat incidents. The staff members involved have utilized the reference book to effectively guide them through the Hazmat incidents.

■ KEY WORDS

Decontamination, Emergency preparedness, Hazmat incident identification

Our network is an academic, community Magnet hospital certified as a level I trauma center. The network services a population of approximately 700 000 local residents and provides services to many of the region’s large attractions and public events. On average, the network’s 3 emergency departments (EDs) treat 155 000 patients annually, with the main campus ED treating 70 000 patients annually. In 2007, an incident involving a chemically contaminated patient prompted the review of current policy and procedures surrounding Hazmat incidents.

■ OPPORTUNITY FOR IMPROVEMENT

The network’s Emergency Management Committee, a multidisciplinary group of clinical, administrative, and

support services personnel, oversees policies and procedures for Hazmat situations throughout the network. The 3 EDs each have their own emergency preparedness committee (EPC), which is responsible for Hazmat situations within each specific ED.

The EPC in the ED at the main campus identified a knowledge gap related to Hazmat incidents and their associated decontamination procedures. Staff members in the ED had a paucity of training related to Hazmat recognition and the availability of resources and personnel to assist with Hazmat incidents. Furthermore, key staff, including ED charge nurses, did not experience routine, standardized education regarding decontamination operations or notification procedures.

Research of the missed Hazmat cases and the situation surrounding those incidents revealed several problem areas. Staff members

1. were unable to consistently recognize possible and actual Hazmat situations,
2. were not familiar with the available resources and chain of command for Hazmat situations,
3. were confused with the process to notify hospital personnel of a Hazmat situation,
4. received insufficient Hazmat and decontamination training, and
5. were unable to easily locate emergency reference materials.

Hazmat and decontamination training was identified as a major component in missed Hazmat situations. Knowledge gaps existed in the following 5 key areas:

1. Hazmat incident identification
2. Hazmat incident command
3. Reference material utilization
4. Ancillary staff awareness training
5. First-receiver training to assist staff with Hazmat situations

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■ METHODS

The EPC investigated the processes that were in place regarding Hazmat situations to detail the current state. The first challenge identified was the noncentral location of Hazmat resources. In addition, these reference materials were unorganized and not “user-friendly” for ED staff. The EPC determined that this was the greatest challenge and, quite possibly, could rectify any other challenges that existed. The committee decided to organize the reference materials with the ED charge nurses as the primary user, as they lead hospital staff and coordinate prehospital providers coming to the ED.

The creation, distribution, and education on *The Disaster and Hazmat Charge Nurse Reference Book* were a 3-tiered process. The first tier of the process was to decide on the content necessary for Hazmat situations. In this particular situation, reference materials for Hazmat, decontamination, Incident Command System for Healthcare (ICS), Hospital Incident Command System, and network policies and procedures were identified for inclusion in the reference manual.

The second tier of the process was to make the reference guide “user-friendly.” The reference book was organized in the order the event would progress. The guide begins with reference materials for determining what type of situation exists, progresses through the evolution of the event, and concludes with incident reporting.

The third tier of the correction process was the rollout of the material. It was determined that ED charge nurses would receive education first, followed by prehospital responders, and all remaining ED staff would be educated last. The validation on the use of this reference guide was completed through situational usage.

Along with this 3-tier implementation plan, a parallel program was initiated to assist ED charge nurses and core trauma nurses in deciphering the technical information within the reference guide. A structured program to prepare them for this level of knowledge was completed by key staff in the ED.

■ IMPLEMENTATION

Prior to the first training session for this reference book, the ED charge and core trauma nurses were required to complete the Federal Emergency Management Agency’s (FEMA’s) IS-100.HC ICS course. The role of the ED charge nurse is similar to a command structure, but it was determined by the EPC that the staff did not fully grasp the structure in which field providers and hospital command staff operate. Completion of the FEMA IS-100.HC assisted the charge nurses in implementing a structured system during a Hazmat situation.

In addition to the ICS course, the EPC obtained approval to make the FEMA IS-5—Introduction to Hazardous Materials course mandatory for all ED charge and core trauma nurses. At first, this information was considered by the EPC members to be common knowledge, but this initial course of thinking could not be further from the truth. There were many ED staff members who did not understand the types of contamination and various routes of entry. For example, some of the staff members believed that a patient with a chemical inhalation injury did not need decontamination because the chemical was inhaled. The failure of the staff to realize that there was contamination of the hair and skin from the vapor cloud confirmed the decision of the EPC to make this course mandatory.

Once the parallel training program was completed, charge nurses participated in education sessions, including simulated Hazmat incidents. The charge nurses worked through each incident, utilizing the reference book. This ensured that charge nurses were not only familiar with the new reference book, but properly educated on Hazmat incidents as well.

The next phase was developing a learning tool for prehospital responders, detailing the steps taken during a Hazmat incident. This tool is distributed to all prehospital responder providers and is utilized during training to facilitate the identification of Hazmat situations.

The final phase of implementation will occur during the “ED Annual Education Days,” when all ED staff utilize the reference book to guide them through a simulated Hazmat incident. The goal during these days is to complete the rollout of the reference guide and provide Hazmat and First Receiver decontamination training to all ED staff members.

The EPC has spent a great deal of time in preparation for the validation of all staff in the use of this guide, as well as validation of the core knowledge obtained through the mandatory FEMA training. Currently, there have been more than 30 scenarios developed for use during initial and annual validation. The EPC utilized information contained in the annual Hazard Vulnerability Assessments to guide the development of these scenarios. Items included in the scenarios range from everyday motor vehicle collisions to college chemistry laboratory accidents, to train derailments, and even to major airplane crashes. Through this range of real-life possibilities, the staff members will have the necessary knowledge of their roles if an incident occurs.

■ OUTCOMES

Since implementing this reference book, along with the mandatory ICS and Hazmat training, the number of Hazmat incidents identified has significantly increased. In

2007, the ED at the main campus was averaging 2 to 3 Hazmat incidents a year. After the implementation of the *Disaster and Hazmat Charge Nurse Reference Book*, the average number of Hazmat incidents in 2008 was 18 and 9 as of July 2009. The staff members involved have utilized the reference book to effectively guide them through the Hazmat incidents. The EPC plans to include functional exercises to facilitate the advancement and retention of the decontamination process, utilizing the reference guide during the “ED Annual Education Days” and annually thereafter.

■ CONCLUSIONS

The need for a “user-friendly” reference guide to effectively manage Hazmat incidents was identified by the EPC in a busy ED. The lack of organized information and training made dealing with Hazmat situations challenging, especially for ED charge nurses. The development, distribution, and education of a concise, organized reference guide, as well as the 100% compliance in the IS-100.HC and Hazmat training programs, have made a huge impact on the identification and management of Hazmat situations in the ED at a Level I Trauma Center.