



September 11th — the Pentagon disaster Response and lessons learned

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An ordinary autumn morning, September 11, 2001, saw the worst terrorist attack in the history of the United States, an enormous tragedy by any measure and a particularly shocking experience to Americans unaccustomed to such events on their home soil. Although we have long seen the media reports of bloody terrorist attacks in faraway places such as the Middle East, Bosnia, and Northern Ireland, most of us felt immune to such events, living as we do in the world's only superpower, seemingly protected by geographic isolation, military might, and economic prosperity. Given these circumstances, Americans everywhere were stunned and disoriented by the catastrophe that unfolded on that day (Fig. 1).

Others, however, had the charge—indeed, the privilege—of caring for the victims of these attacks. Hospitals and healthcare professionals everywhere undergo training and make plans to handle external disasters of varying types. No one, however, foresaw a disaster of this magnitude and the mode of its occurrence. In Washington, DC, the healthcare community was put to the ultimate test after the terrorist attack on the Pentagon. With an impressive display of organization and professionalism, providers in our nation's capital rose to that challenge, rallying from across the region to unite in a common effort to treat the victims and serve the community. In the end, however, the anticipated outpouring of patients never materialized as, sadly, most of the victims proved to be fatalities, and in some ways the emotional challenge became the somber wait for those who never arrived.

Every major disaster warrants retrospective review so we can learn how to improve our disaster preparedness. The unique lessons learned as a result of the terrorist attacks on the Pentagon and World Trade Center can be used by other critical care nurses and hospital administrators to understand, review, and upgrade their own disaster plans. This chronicle and commentary on the Pentagon attack is written from the perspective of the closest (and official) hospital to the Pentagon, Virginia Hospital Center-Arlington, in Arlington, Virginia.

Hospital response and preparation

As news of the tragedy unfolding in New York City dominated the airways, in Arlington, Virginia, just minutes away from the Pentagon, Dr. John Sverha asked one of the newly hired emergency department physicians if he was familiar with the hospital's disaster plan. Dr. Sverha, Assistant Director of the Emergency Department, began reviewing with his coworkers the locations and main points of the in-house disaster response plan. Within moments the call came that suddenly put our hospital in the middle of America's tragedy.

Virginia Hospital Center-Arlington is a 335-bed community teaching hospital located within 5 miles of the Pentagon. This close proximity makes it the Pentagon's official hospital. Despite the turmoil that was inevitable after the Pentagon became the next target of terrorism, we were able to organize and effectively deploy our hospital's disaster response plan. New experiences were many. In this article a description of the days events is presented with a retrospective review and lessons learned.

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Fig. 1. Healthcare providers at Virginia Hospital Center-Arlington, the official hospital for the Pentagon, await the arrival of victims. (Courtesy of Mike Garrett.)

Events unfold

9:47 AM

Virginia Hospital Center-Arlington received a call from Arlington County EMS stating that they were responding to a report that a plane had crashed “somewhere near Crystal City” (a highly developed area near the Pentagon). No additional information regarding the number of casualties expected was provided.

9:52 AM

Code Yellow was announced and an external hospital disaster declared. Hospital administration quickly established their Command Center, which included representatives from administration, medical staff, nursing, safety and security, and public relations.

9:52 AM to 10:30 AM

Each department head notified his or her staff of the Code Yellow disaster status. The off-duty staff was alerted, inpatients began to be discharged or transferred, and all the patients currently in the emergency department were either admitted or discharged within 20 minutes. All scheduled surgeries and diagnostic studies were postponed. A triage team was estab-

lished, treatment areas expanded, and prestocked disaster supply carts brought out. A pool of medical personnel including more than 50 physicians and 100 nurses gathered in the emergency department waiting room to await patient arrival.

Response on the scene

While the staff at Virginia Hospital Center-Arlington was preparing to receive the casualties from the airplane crash into the Pentagon, Major Lorie Brown, RN, MSN, FNP, was coordinating the healthcare team at ground zero. The DiLorenzo Tricare Health Clinic is located in the subground level of the Pentagon’s large nerve center. As Major Brown watched the burning World Trade Center towers on the television in her office, a hijacked jetliner struck the Pentagon itself. With the clinic situated in a different part of the building, neither Brown nor her patients felt any force of the impact when the plane hit the massive Pentagon structure. They found out about the attack when someone came running into the clinic yelling that something terrible had happened and that everyone needed to get out of the building. Soon thereafter, smoke filled the clinic almost simultaneously with the

arrival of new patients. These patients had a variety of injuries including smoke inhalation, burns, head wounds, and lacerations. Major Brown then instituted the clinic's mass casualty disaster plan and quickly began to organize the turmoil that threatened to engulf the scene [1].

Major Brown was responsible for dispatching three teams consisting of physicians, nurses, and medics to establish the main triage areas in the central courtyard, the Pentagon gym, and the heliport site where the crash took place. Smaller triage areas were also established in a variety of areas, and all sites kept lines of communication open, allowing Brown to relay what help or medical supplies were needed and at which location. Recognizing the gravity of the situation and acting with great bravery, the medical teams were able to rescue a number of seriously injured victims before portions of the Pentagon collapsed at the site of the plane's impact [1].

Rescue workers from the Arlington County civil authorities soon arrived at the scene to help with the efforts underway. Because there were just a handful of ambulances available at the site, many patients were loaded into private cars, vans, and sport utility vehicles and taken to the nearest hospitals for treatment. Walter Reed Hospital quickly sent two busloads of nurses, physicians, medics, and patient administration specialist to the Pentagon to provide immediate emergency medical support to Major Brown and her teams. By the time the buses finally arrived, however, all of the crash victims had been taken to nearby hospitals, a strong testament to the rapid response of Brown and her teams [1].

At around 3:00 AM on September 12, a large American flag was placed on the ground in front of the crash site. The flag was then hoisted by a civilian crane operator with the assistance of a service member and placed on top of the wreckage. It is an image that has since endured [2].

Patient arrival

10:35 AM

Virginia Hospital Center-Arlington began to receive the first patients. As in the Oklahoma City bombing, many of the patients arrived by private vehicle. There was no control over the number or timing of patients' arrival. A triage team met the patients at the entrance to the emergency department. This team included a nurse, physician, and a staff member from hospital registration. A color-coded disaster tag was affixed to each patient, after which the patient was transferred to one of several available treatment areas. Initial treatment areas were expanded

to include the main emergency department, Express Care, and post anesthesia care unit (PACU) [3].

10:30 AM to 12:00 PM

The majority of patients arrived within the first 60 minutes. The patients were entirely Pentagon employees, both military and civilian.

12:00 PM to 5:15 PM

A few other Pentagon employees with minor injuries and rescue workers arrived and were treated. Staff remained on stand-by, still expecting the influx of a larger number of casualties.

5:15 PM

Code Yellow terminated after conferring with Arlington County EMS and Pentagon personnel. Emergency department and other key hospital personnel kept on alert. Coordination of care in the Emergency Department and ICU continued.

Triage and injuries

When American Airline Flight 77 crashed into the Pentagon on September 11, 121 Pentagon employees were killed. All 68 passengers and crewmembers onboard the aircraft died instantly.

Virginia Hospital Center-Arlington saw the highest number of casualties from the event, treating 44 patients at our facility. Thirty of the patients arrived within a 1-hour time frame. If an external disaster had not been declared, the severity of the conditions and time frame would have undoubtedly strained the system. Dr. Sverha was clearly and comfortably in charge of patient admission and triage. Given the circumstances, the atmosphere was not chaotic but professional and organized. Response from our staff physicians and nurses was overwhelming and as it turned out we had more medical help than was actually necessary.

Of the 44 patients seen in the emergency department, 17 were admitted to the hospital, with 9 admissions to the ICU and 2 patients for orthopedic surgery. These patients suffered from critical burns, debilitating smoke inhalation, various orthopedic injuries, abrasions, and lacerations. Thankfully, there were no fatalities. Two of the patients were transferred to Washington Hospital Center's Burn Unit as soon as they were stabilized. Within 1 week, all but 2 of the patients had been discharged. The last patient was discharged on October 26, 2001.

The Washington Hospital Center received the bulk of the burn cases from the Pentagon, with more than 15 patients admitted to the hospital's burn unit. The

initial 7 to 8 patients suffered full thickness burns over more than 40% of their bodies. Dr. Marion Jordan, director of the Washington Hospital Center's burn service, noted that these initial patients underwent immediate excisions, a procedure that is usually not done until 48 hours after admission. By the first week in November, Dr. Jordan and his burn team had performed 92 burn surgeries on this patient population [2,4].

Lessons learned

The terrorist attacks of that day were tragic and horrifying. Although Virginia Hospital Center-Arlington is the closest hospital to the Pentagon, we, along with the rest of the nation, were not expecting what took place on September 11. Because an event of this nature had never occurred in the United States, we encountered many situations that we had not experienced in our mock disaster drills. The following are some of our recommendations and strategies used on September 11.

Disaster plan fundamentals

- Each staff member should have a role in your hospital's disaster plan
- Plans should be updated regularly
- Key departments should have more in-depth plans
- Drills should be coordinated to iron out details
- Additional training should be available for all staff
- The realities of biologic and chemical weapons should be included

Be prepared to function without external support

The staff needs to be prepared to function without external support. During the first few hours after the plane crashed into the Pentagon, police support, for example, was unavailable. If this happens, be ready to "deputize" staff members for traffic and crowd control as well as basic security. You should also have a way to identify additional security guards and disaster personnel, such as an orange vest. Because of jammed traffic there was no means of getting additional supplies, and it was difficult to transport patients. For this reason, additional stock should be kept on hand for use at the hospital, as well as for EMS and other rescue workers. EMS was quite busy at the accident site. There was no initial triage information and the allocation of patients will almost

inevitably be uneven. The closest hospital will get the most patients, and those patients will come in waves. Timing is critical and certain shifts will need to be able to handle the first hour of a crisis independently. Special training for employees on overnight and weekend shifts is recommended.

Respond to facts, not rumor

In the first few hours after the attack, communication was compromised and rumors were rampant. For example, a bomb was rumored to have exploded at the State Department nearby in the District of Columbia. Significantly, however, all the reports that we at the hospital received through the Arlington County EMS, Pentagon, and local military officials were accurate. The hospital did not deal with any false reports.

Communication is key

During the aftermath of the attack on the Pentagon, communication between area hospitals, rescuers at the Pentagon, government officials, hospital staff, and administration was critical. Shortly after the crash, the District of Columbia Hospital Association Emergency Management Network was activated and each local facility was in constant communication with the EMS agencies [2].

Do not forget the community

Once the police became available, the main roads leading to our hospital were closed to the public; only EMS and hospital personnel were allowed entry. We became concerned that there might be individuals stuck in traffic who were on their way to seek medical care. We became creative and sent nurses out to the main roads to determine if anyone was on their way to the hospital for emergency medical care. The nurse would evaluate the chief complaint and then determine if the person should be brought to the emergency department.

Design an alternative communication system

On September 11, phone lines became hopelessly jammed immediately after the plane was reported to have crashed into the Pentagon. Virginia Hospital Center-Arlington averages 2000 phone calls per day but received close to 5000 calls on September 11, and approximately 3500 on September 12 and 13. Keep communication open by having radios available for use within the hospital and radios to contact other hospitals and EMS. There should also be special pagers for those hospital employees who are critical to disaster response. These key personnel should be paged immediately when a disaster has been reported.

There should be remote operator stations, individuals who are capable of working from home until enough staff members can get to the hospital. A main internal command center should be established with phone lines designated for internal, external, and media calls. An emergency department command center with designated phone lines for media and patient information should also be established. It is helpful to develop a hotline with phone lines designated for family and friends of victims. The hospital's media relations department is critical in providing continuous contact with the public. The staff should be used to gather information, create messages and talking points, coach medical staff, prioritize interviews, and reevaluate and update. They also handle the rule setting to the media, ie, "anyone infringing on our ability to treat patients will be immediately removed [5]."

Organize staff and volunteers

Because the attack occurred in the morning of a normal working day the hospital was fully staffed. In addition hundreds of staff, including off duty nurses and physicians who had closed their offices, arrived to volunteer their services. With so many people available, it is important to organize them quickly and effectively.

Focus on stress management/debriefing

As with the Oklahoma City bombing, news coverage was intense and continuous within moments after the terrorist event occurred. Nurses not only were spending their time caring for the victims, they were spending their off duty hours, like the rest of the nation, watching news reports with graphic scenes from the World Trade Center attack. Activity levels were intense on September 11, but there were plenty of nurses to provide the medical care needed. As in New York, waiting for the patients who never came proved to be more stressful in many ways than caring for the victims who actually arrived [3,6].

Healthcare and prehospital workers involved in a disaster response are susceptible to physical and psychologic incident-related stress. Critical incident stress debriefing should begin early. It can lessen the response to these stressors and is designed to promote emotional health through verbal expression, ventilation, education, and preparation for possible future reactions to similar events. The debriefing should include a thorough review of the traumatic experience encouraging emotional expression. The debriefing sessions should be carried out in group sessions, thus allowing participants to recount their experiences [7].

Internal postcommunication is critical

In the aftermath of an event like September 11, we learned that internal postevent communication is extremely important. An immediate "Thank You" from the hospital CEO and department heads to the staff should be given. Recognition of the event, such as red, white, and blue ribbons, can be distributed to the staff. Articles were published in our *Update & Medical Staff News*. We immediately held debriefings and provided grief counseling. In the weeks after the disaster, we held town hall meetings and educational forums. Because September 11 directly affected our community, a "Thank You" advertisement in the local paper to thank the staff, local EMS, police, firefighters, and other specific organizations was sponsored by the hospital. All of these efforts served to lessen the grief over the event while promoting the justifiable pride in a job professionally performed.

Reflections and impressions

Like most Americans, I experience multiple emotions when I reflect upon the tragic events of that September day. I still get a sizeable lump in my throat when I think about the thousands who were senselessly injured and killed that morning. But I am also filled with pride to be part of the nursing and medical profession. The teamwork that was present that day between nurses, physicians, and other healthcare workers was remarkable and critical to the successful handling of the situation and the treatment of the victims. Nurses from New York to Washington exhibited all that is great about the nursing profession. I agree with Congresswoman Lois Capps who later said, "I was never so proud of being a nurse as I was on September 11."

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