

Our Darkest Hour: Las Vegas Mass Shooting

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Date : December 21, 2017



Abstract

In times of tragedy, people have to band together to work towards one cause. In this article, a medical laboratory professional describes her experiences during a recent catastrophic event in Las Vegas that required coordination from not just front-line healthcare workers but also the medical laboratory professionals that helped to coordinate the treatment of the victims. The rigorous training of the laboratory professionals meant that even amidst all of the chaos, everyone was receiving the appropriate treatments, and reducing the 'guess work' for the front-line workers.

Main Article

October 1, 2017, Las Vegas, NV.

Most mass casualty stories are told from the victims' point of view, or the first responders, doctors, medics, nurses, or police.

This is not that story.

Sunday night began as an ordinary night at Desert Springs Hospital Medical Center (DSH), a 293 bed acute care community hospital in Southeast Las Vegas. In the laboratory, three medical laboratory workers and four phlebotomists were on duty. Everyone was hoping for an ordinary night to wrap up their 3rd 12-hour consecutive shift. This was the last day of their shift, which was a relatively slow night.

Three miles west on the Las Vegas strip, across the street from Mandalay Bay and the Luxor hotel casino properties, 20,000 attendees reveled and celebrated one last night of live country music at the Route 91 Harvest Festival. However, everything rapidly changed, where ordinary turned into extraordinary as disaster and tragedy struck, courtesy of a lone shooter. At 10:05 pm, shots rang out upon the crowd below from the 32nd floor of the Mandalay Bay Hotel and Casino. Chaos ensued. More than 900 rounds were fired into the crowd, injuring 498 people and killing 58. [1]

Shortly thereafter, the crew in the medical laboratory was shaken out of their slow night, as an overhead page announced, "CODE TRIAGE EXTERNAL, CODE LOCKDOWN." DSH is not a trauma center, but it was the closest hospital to the mass shooting.

News might travel fast in our modern world, but the news of the mass shooting had not traveled fast enough yet to hit the staff on duty. This was their first warning that something big was happening nearby in the outside world.

Every hospital practices, drills, and works on policies and procedures for how to handle disasters. No amount of

practice, drilling, or procedure writing will ever prepare someone for the real deal. While we have learned a great deal with the growing number of mass casualty incidents (MCI) in the United States and abroad, we are still learning lessons in the “controlled chaos” of an MCI. [2]

It All Happened Quickly

It all happened quickly. Victims with gunshot wounds started pouring into the ER at a rapid pace. They came by Uber, buses, taxis, private vehicles, police escort, ambulances, and even on a stolen truck. Drivers were Googling and Yelping the nearest hospital – DSH. They came by any way they could, the walking wounded, the seriously injured, all with various shapes and sizes of injuries and trauma levels. With only 11 nurses on staff in the ER, nurses and hospital personnel from all across the hospital came down to help, as more were called in for the crisis. One ER doctor recalls that it escalated quickly from a trauma to more of a war zone mentality. DSH essentially became the combat support hospital. The ER quickly began to run out of supplies and patient identification was difficult. Many patients had field tourniquets on, as doctors were quickly writing diagnoses and treatment instructions on victims’ arms, hands, or on paper and pinning it to their shirts. IVs were being hung on walls by thumb tacks as there were no longer any spare IV poles in the hospital.

The hospital did not have time to set up the labor pool, implement the triage telephone tree, or set up an official incident command. Initially, DSH was notified to expect no more than 50 victims. The final count was over 100 injured and that does not include the dozens handled by the hospital transfer center, sending victims anywhere and everywhere they could. “Send us your walking wounded,” was the word coming in from hospitals across the entire Valley, “We can take them.”

As soon as the code went off in the laboratory, the staff did what any modern curious individual did – look it up on their smart phones. They saw news of an active shooter on the strip, but did not think anything of it at that time because shootings are not uncommon in major metropolitan areas. The lab was still fairly quiet. It was not until the ER hit 50 patients that phlebotomist Jennifer Grant stepped into the ER, just on the other side of the door from the lab, to investigate. Her return was greeted with shock and dismay. “They need towels to soak up all the blood!” she announced in horror. Quickly, Jennifer Grant and Noe Huerta, another phlebotomist, had found their task for the crisis: passing out towels; holding pressure; spiking IVs; moving beds; supplying gloves; handing out water, food, and free hugs to all the victims. Jennifer rolled up towels to form makeshift pillows for the victims on the floor, as bed capacity was swiftly surpassed. Noe gave away his cell phone charger to someone who needed it more than he did.

The other two phlebotomists had a daunting task: they drew blood *from every single victim that showed up in the ER*, not waiting for orders from the attending doctors. Every patient had a type and screen, plus every color of the rainbow drawn in preparation. Some had patient stickers on, some were hand-written because admitting had not yet caught up with the mass influx of casualties. Over 100 patients in the ER had blood drawn by AJ Ramos and Shelly Co Yu that night. They triaged by drawing the GSW victims first. Patient identification was not always easy. AJ even donned a surgical gown to draw the patients in the OR. The teamwork and organization of the phlebotomy staff that night was incredible. They paved the way for the medical laboratory science professionals to manage blood supply and run critically important laboratory tests with minimal interruptions.

As news started to trickle in, the shift lead in charge, Jennifer Patterson, made a quick decision to call in another medical laboratory professional. Julia Wierzbicki, a day shift blood banker, had just fallen asleep when she received the phone call to return to work. She was back at work within thirty minutes.

The blood bank at DSH was quickly informed that the blood supplier had “logistic issues” and that the trauma centers

would take priority. In other words: DSH was not getting more blood. What we had was all we were going to get. It was going to take some creativity to make the blood supply last. Pathology swiftly gave approval to give O positive in lieu of O negative to all male patients and to give O positive to all female patients once the small supply of O negative ran out. DSH had a total of 37 units of type O blood on hand and over 100 victims in the ER.

Jennifer Patterson coordinated with key staff members in the ER and OR to only use emergency blood if absolutely needed, and to return it as swiftly as possible after the patient was triaged and found to be hemodynamically stable, as the blood supply across the entire Valley was instantly critically short. With the help of the other two medical laboratory science professionals on duty, Michael Leonardo and Allan Luzon, along with the swift return of Julia Wierzbicki from her peaceful slumber, all 37 units of type O blood were setup for emergency release. Jennifer Patterson stated that it evoked a somber and eerie feeling to look at all those units with uncrossmatched labels on them.

Julia handled running types and screens while Jennifer set up coolers of blood and issued, delivered, and managed the inventory of emergency uncrossmatched blood. The entire staff was humbled and amazed, as phone calls came in and coolers were returned, as soon as it was determined that blood was not needed. I hesitate to say that angels were watching over us that night, but by 4 am, we still had 33 units of type O blood on the shelf, and the crisis was over. We transfused more units the next day during surgery; patching people up after they were stabilized than we did during the entire crisis itself, and we never once ran out of any type of blood. This would not have been possible if the doctors and nurses did not make those critical decisions and follow-up phone calls.

Jennifer recalls one trip to the ER to deliver emergency uncrossmatched blood:

"I wasn't prepared for what I saw. There were people, beds and blood everywhere. So many men were running around without shirts and I found that odd. Later I learned it was because their shirts were used as tourniquets for the victims. Making my way to the back of the ER was like walking through a crowded bar. There was chaos all around. Having a hospital badge around my neck made me a target for those needing assistance. That was the hardest part. We are trained from day 1 that no matter what you are doing you stop and help anyone who needs it for whatever reason. I had life-saving blood that needed to be delivered and I had to walk by those in need. A young man informed me that the girl he was with needed to use the restroom. I could only tell him where the restroom was and it broke my heart to see her lying in a bloody bed in the middle of the hallway. There was no way she could just get up and walk to the restroom. I had to keep going and felt like a horrible person because they had no way of knowing that I was on a different mission."

Meanwhile, back at the medical laboratory after dealing with the blood crisis, things were settling down and running smoothly. The blood bank might have gotten the spotlight, but the rest of the medical laboratory still needed to function. Michael and Allan were running the show, taking care of hematology, chemistry, all the daily maintenance, QC, and other required bits and pieces. The rest of the night shift hospital staff knew what the laboratory was dealing with in the ER. The normal issues that pop up throughout a shift just did not seem very important that night. The interdepartmental cooperation and solidarity had never been higher.

By 4 am, the crisis was wrapping up. The Code Lockdown had ended and the hospital entrances were no longer under guard. The DSH laboratory staff finally had a chance to breathe, take a break, and catch up on the news. What they learned astounded them. Of nearly 500 people injured, DSH had received a total of 105, more than any Level 1 Trauma Center in the Valley had received. Of the 105 victims, only four passed away. One hundred and one people had their lives saved with the help of my medical laboratory staff.

By 6:30 am, when I came into work, my staff looked exhausted, worn down, tired, bloody, and battered, but not beaten. Haunted expressions in their eyes and fueled on sheer adrenaline and determination. I asked Jennifer Patterson why she did not call me; I had received a code triage and code lockdown text, but I was asleep, and the texts were very vague, so I did not think anything of it, knowing if it was a real crisis and I was needed, they would have called and wake me. Her response was "I had considered it, but we were able to handle it, and someone has to come in and

clean up this mess and keep everyone going through the rest of this, and that's you."

The crisis might have been over, but the emotional roller coaster was just beginning as the entire city went through the grief cycle. But we did it together, my staff and I did it together. As one we cried, we shouted our anger to the skies, we bargained, we mourned, and we accepted our losses. The marquees of all the casinos and hotels displayed messages of solidarity for weeks: "#VegasStrong," "We were there for you during the best of times, thank you for being there for us during the worst," "Las Vegas is the city of lights. Even in our darkest hour we still shine."

We received cards, gifts, and care baskets from across the country, and messages from around the world. My staff was humbled and grateful and in awe at the kindness of strangers. Thank you for being there for us in our darkest hour. We still shine.

Post Commentary

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A mass casualty incident (MCI) or disaster occurs when "a destructive event causes so many casualties that extraordinary mobilization of medical services is necessary." [3] During an MCI, it is understood that the emergency department (ED) and all of its personnel must be prepared to handle and prioritize the care for the (usually) massive patient volume that occurs in such a short span of time. Typically, the first 24 hours are critical to saving lives. While it may be known by most that the physicians, nurses, and other front-line responders in the ED are in critical demand during these events [4], *we must not forget the vital role that the medical laboratory and its highly trained personnel in laboratory medicine play during an MCI and other emergencies.*

Since June 2012, several mass casualty incidents have occurred in the United States, including the Aurora, CO, movie theater shootings, the Sandy Hook Elementary School shootings, the Texas fertilizer plant explosion, and the San Francisco/Asiana plane crash. Initial reports of these complex mass casualty incident events focused on the rapid medical response associated with the ED, [5] but little has been reported on how the medical laboratory must be included in the discussions of training (drilling), resources, and preparation for an MCI.

The terrible events of that tragic day (and night) in Las Vegas remind us all of the critical lifesaving personnel that we often take for granted. We have so many medical and first responder professionals to thank in these types of events. While most of the world understands the importance of the physician, nurse, police officer, EMT, and others on the front line of healthcare or justice, most people do not know about the lifesaving professionals of the medical laboratory. Specifically, the science and art of immunohematology (blood banking) is most critical during an MCI. In the preparation of a medical laboratory professional (medical laboratory scientist, medical laboratory technician, or other specialists), blood banking is a core element of their academic and clinical training. It is one of four core areas along with clinical microbiology, clinical chemistry, and hematology. During an MCI, a blood bank is THE HUB of handling the crisis of massive blood shortages. The physicians, nurses and others are reliant on the blood bank and the medical laboratory personnel that prepare the lifesaving blood and associated products required by the need on the front line of patients losing large amounts of blood.

I asked my colleague and medical laboratory scientist, Shannon Billings, if she would consider interviewing her staff at DSH about the events of that day that we will not soon forget. I wanted to purposefully and personally share the events that her staff experienced that tragic day because their quick actions and sharp thinking in the complex world of laboratory medicine helped save lives. The professionals in the medical laboratory save lives every day.

In 2014, I authored an Elsevier article about our profession entitled “The Hidden Profession that Saves Lives.” [6] Yet, when I ask almost anyone in the public who we are (medical laboratorians) and what we do, they typically do not know the answer. Since we are often doing your important and critical medical laboratory work, you do not see us in the immediate healthcare environment (bedside, family physician office, etc.). You see the physician, the nurse, the respiratory therapist, the physical therapist, and others. These healthcare professionals may even take blood from you or other types of specimens for analysis. However, most people do not know what happens to their specimens (blood, sputum, urine, etc.) once they arrive in the laboratory. They do not know that medical laboratory professionals will conduct some of the most complex and important work on those specimens, and that knowing the results of that work may very well save your life. [6,7] Did you know that medical laboratory professionals provide up to 70% of the medical lab results/data for physicians and others to make informed decisions about one’s diagnosis and treatment plan? [6,7]

In a recent TEDx talk at Texas State University, I used the metaphor of the airline industry to help explain this issue. [8] Most people know who the doctor (airline pilot), nurse, respiratory therapist, etc. (flight attendant), or medical staff at the front desk of an ED (ticket taker) are when they go to the hospital of their family care office; however, they have no idea who the medical laboratory professionals (airline ground crew) that are taking care of everything else. [7] *The medical laboratory professionals are the healthcare ground crew!* In addition, just as you may not think about the critical role that the airline ground crew plays in your safe flight, you probably do not think about the lifesaving role that your healthcare ground crew – the medical laboratory professional – plays in your healthcare! Nevertheless, I bet you want them doing their job well every day!

Ask your physician, nurse, pharmacist, or biology graduate about Vitamin C acting as interference in glucose and triglyceride testing, or causes of false positives in pregnancy testing, or World Health Organization (WHO) classifications for Hodgkin disease and diagnostic criteria, or ways to test for swine flu (H1N1) and avian flu (H5N1), or genetic testing modalities for cystic fibrosis, or who is most likely to show antibodies to Kell during a STAT emergency test for life-saving blood in surgery, or any other critical laboratory test and its interpretation. These aspects of laboratory testing are generally not in the body of knowledge of any of these medical professionals, and yet it is completely in ours. Formal coursework training in medical laboratory testing comprises a small portion of the curriculum for physicians, nurses, pharmacists, physical therapists, occupational therapists, and biology graduates. However, for MLS and MLT students, medical laboratory theory for all 1,000+ available laboratory tests, sources of interference, and connections between test results and diagnoses is the primary focus of their studies. [6,7]

We must share lessons learned, short-term remediation, and future opportunities so other medical laboratories and their personnel can be better prepared for future mass casualty incidents. I, and many of my medical lab colleagues, hope to reveal this profession to the masses that do not know about this college major and amazing career path and journey.

Learn more about this lifesaving profession today and share it with everyone. We just might end up saving your life one day!

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