How to Handle a Mass Casualty Incident

By Christopher Suprun

Engine 103, Engine 102, Engine 106, Battalion 103, and Engine 115 – respond to 110 Calhoun Street for multiple shots fired.

This dispatch or a similar one happened Wednesday, June 17 as Charleston, South Carolina was awakened to a mass shooting that found its way into its city limits.

Nine people would end up dying. Eight were dead on scene and a ninth victim aggressively resuscitated by Charleston Fire Department's engine based EMS responders who managed the victim until arrival of transport EMS.

This scene, like many others, across the country that play out without violence are perhaps our biggest fear: how to handle a mass casualty incident. These are not new situations and it is important for the person riding the officer seat for the first time being comfortable managing a mass casualty incident (MCI).

The two most important questions that should be asked are:

- What are my goals on an MCI?
- How do I start the incident off correctly?

The straightforward answers to these two questions are discussed in this article. As importantly though is that the newest member of our team can implement and understand these points.

Our goals for every mass casualty incident should be:

- Do the best we can for the most we can.
- Manage scarce resources.
- Do not relocate the disaster.

These ideas should be easy to understand and apply, but we have a tendency to forget them at critical times and become overwhelmed. First, when there are more patients than providers, we must move away from the typical response model where we can place two or more responders to each patient. Instead we must re-focus our attention on doing the best we can for the most we can. This idea means we may have to move on during triage from a patient who cannot keep an airway open to someone who needs more help doing the same so that we can help the next person. This is uncomfortable for many of us as we are used to having the resources to wage these individual battles against disease and injury, but scenes are less opportune when we are working with multiple patients.

Out second goal is to manage limited resources. Which of our resources are limited in a given scenario will be determined by how large the event is, but resources that may be lacking will include simple things such as non-rebreathers and long backboards on auto accidents or as significant as ambulances to move patients and ventilators during natural disasters or fires at the local nursing home.

Finally, it is inappropriate for providers to take a large group of patients and dump them on the closest ER, because this simply relocates the disaster from the scene to our colleagues in the hospital. Our friends in hospital administration and nursing are our partners and we need to give them as much time as possible to get ready for what is coming. While EMS may not have gotten the same opportunity, once we know a situation is bad, we need to utilize all available resources, but not in a coordinated way.

Beyond our goals, managing the incident should be our first focus, even before patient care. The initial response crew to the Oklahoma City bombing described being inundated by a "sea of patients." We need to avoid this issue by taking control of the scene first as the initial incident commander for the mass casualty event.

While this seems odd, we need to train our responders that from day one we are confident with them leading an incident. The ordered steps we need them to follow are embodied in the following:

- Safety
- Scene size up
- Send information
- Set up the medical group
- Start triage

Safety

Safety is a reminder that our own safety must always come first. It is critical that we develop the personal conviction that safety has to be the first and last step on every call. It is not enough to simply parrot "BSI, scene safe..." as we get out of our response vehicle. We have to own the idea that we are going home the same way we arrived on the shift.

During the Charleston scene not only was there the possibility of the gunman still at large, but also a bomb threat was phoned in to indicate an improvised explosive device might be on scene targeting responders.

Size Up

Scene size-up is always your next step in any emergency. As you approach the scene, observe for indications of the type of emergency. For example, look to see if

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people are running away from a building where an obvious explosion has occurred, or are they all on the ground seizing? Is this a school shooting where you see four bloody kids on a playground and 16 others on the ground crying and scared?

Ask the same questions you would normally ask. That is, after you assure your own safety and identify the mechanism of injury or nature of illness, you must determine the necessary resources. You should find out the number of patients involved, if any hazardous materials are on scene, and if specialized rescue teams should be called in. Size-up should also include determining the correct address or location of the incident, establishing command and evaluating the probable "hot zone."

In this incident multiple 9-1-1 callers were telling the tale of multiple gunshot victims. This alone is enough to prompt a follow up to my dispatcher to add resources. We always say it is easy to turn them around if you don't need them, but hard to get them if you do.

Unfortunately, in many incidents we feel like we are on an island. Responders need to understand they have information others might need and be willing to share it after their size up.

Send Information

Send Information refers to getting your size-up information to the appropriate agencies and personnel as quickly as possible. It is important to spread the facts of a disaster to the appropriate agencies as soon as you can. There are many who can and will assist you. Almost all disasters will involve some sort of investigation agency. A commercial bus accident on an interstate highway usually brings in the state highway law enforcement agency. Aircraft accidents involve the National Transportation Safety Board, and any act of terrorism is going to involve the FBI and other federal resources through the Department of Homeland Security.

At a local level, additional EMS, fire, and police personnel will likely need to be called in. Local hospitals must be warned so they can prepare for the number of patients and their types of injuries. They too will need to call in additional staffing and key personnel. Finally, expert hazmat crews or other technically trained teams will need to be activated to confront the emergency. All of these factors were at play in Charleston with the possibility of a bomb on scene requiring a hazardous device unit, multiple DOAs requiring the coroner, and the assistance of the FBI in tracking the assailant.

Set up the Medical Group

Setting up the medical group, or EMS sector, is critical. The earlier you establish command and put a multiple-casualty response plan in place, the more successful the response is likely to be. Triage will be important, but even before responders arrive on the scene, the lowest priority patients will probably leave and travel to hospitals in their own vehicles while bystanders or other victims may rescue second priority patients. The highest priority patients will likely be found in a disaster's "hot zone" waiting for rescue.

By setting up command and an incident direction early on, we can request the units we need to start fixing the disaster in front of us and account for all of our patients.

This sounds mundane and many will say they fear having the wrong direction. The truth of the matter is you will be Monday morning quarterbacked, but having served on multiple scenes that fell into the MCI definition I can tell you a bad plan is much better than no plan.

Start Triage

The scene should be stabilized as soon as possible and then decisions can be best made with good data about how many patients you have and the severity of their conditions.

Specifically, a triage system should be used and I personally teach the START method which looks at whether or not a patient has an open airway, the respiratory rate, presence or absence of a radial pulse and mental status. START is used in adults and there is a modified version for children, known as JumpSTART.

Questions exist as to whether or not START is the most effective way to assign patients a priority, and there are many other systems out there including FDNY (Fire Department of New York), Sacco, SMART, and others. My assertion is that whatever system you use, it should be started early in the incident so that patients can be accounted for and categorized for injury severity.

This might seem at first like a complicated way to manage an incident, but it boils down to three simple objectives and a streamlined method of MCI management. This ensures more favorable outcomes when compared to attempting a piecemeal approach where we handle one patient with one ambulance and then request another for the next and another for the third. Here's hoping the next time I see you it won't involve the Mass Casualty Incident Management System and that the escalators will be working properly.

Christopher Suprun is a 20 plus year firefighter/flight paramedic. He currently serves as Chairman of the Emergency Medical Services for Children National Resource Center Advisory Council and Director of Education and Outreach for Never Forget Foundation, a 9/11 based 501(c)(3).