
EMS Response To Columbine: Lessons Learned

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Citation

H Mell, M Sztajnkrzyer. *EMS Response To Columbine: Lessons Learned*. The Internet Journal of Rescue and Disaster Medicine. 2004 Volume 5 Number 1.

Abstract

The events that unfolded in Littleton, Colorado on 20 April 1999 would leave an indelible mark on the psyche of America. Images of frantic adolescents fleeing their school while Special Weapons and Tactics (SWAT) operators prepared to make entry were televised throughout the world. The name Columbine became synonymous with the worst school shooting in United States history. On that day, two Columbine High School students, Eric Harris and Dylan Klebold, attacked their school using semiautomatic weapons and nearly 100 improvised incendiary and explosive devices. This article is based in part on the work done by the U.S. Fire Administration as documented in Report 128 of the Major Fires Investigation Project conducted by Varley-Campbell and Associates, Inc. / TriData Corporation under contract EME-97-CO-0506. That document is available on the web from the USFA WEB Page at <http://www.usfa.fema.gov>. HKM was a participant in the creation of that report.

INTRODUCTION

The events that unfolded in Littleton, Colorado on 20 April 1999 would leave an indelible mark on the psyche of America. Images of frantic adolescents fleeing their school while Special Weapons and Tactics (SWAT) operators prepared to make entry were televised throughout the world. The name Columbine became synonymous with the worst school shooting in United States history. On that day, two Columbine High School students, Eric Harris and Dylan Klebold, attacked their school using semiautomatic weapons and nearly 100 improvised incendiary and explosive devices. Many of these devices were designed to inflict damage on fleeing students and on responding emergency personnel. In the aftermath of the attack, 15 people were dead (including both perpetrators). In all, one hundred and sixty persons were triaged by Fire and EMS personnel, 24 of whom had serious injuries. These patients were triaged in one of four different sites. Many mutual aid ambulances and EMS personnel were on scene. As a result, prioritizing patients for transport was far easier than would otherwise be expected.

The attack required an enormous and complex response from law enforcement, fire and EMS personnel. Although there had been previous school shooting incidents, events at Columbine changed the rules for active shooter incidents [1]. Many of the initial responders were at significant risk of physical injury. As noted in the timeline of events, EMS arrived on scene began operations prior to the cessation of

the attack. Three distinct and critical missions needed to be simultaneously addressed: 1. law enforcement mitigation of the active shooter event, 2. EMS triage and treatment of the casualties and 3. fire suppression and rescue.

The purpose of this article is to summarize the EMS response to this attack. It will attempt to highlight challenges faced by the EMS units working on the scene and the methods they used to address them. It is hoped that the lessons learned that tragic day will be of benefit to other communities, so that errors made will not be repeated.

OVERVIEW OF THE LITTLETON EMS SYSTEM

A suburb of Denver, Littleton, Colorado covers a total area of 13.9 square miles (36.1 square kilometers). According to the 2000 US Census, 40,340 people live in 17,313 households [2]. The Littleton fire department utilizes the cross-trained / dual role model of fire-based EMS. All of Littleton's firefighters are at least trained to the Emergency Medical Technician – Basic level. In February 1999 (two months before the attack), the Littleton Fire Department increased the level of fire and EMS integration by adding advanced life support (ALS) equipment to all fire apparatus and deploying at least one paramedic and one EMT on every apparatus.

Littleton Fire Department Rescue Ambulances (RAs) serve as the primary EMS transport units in the service area. These ALS-capable RA units are staffed with one Emergency

Medical Technician – Paramedic (EMT-P) and one Emergency Medical Technician – Basic (EMT-B). The community is also served by several small private ambulance transport companies who perform routine, non-emergent transports. While these companies do not have direct “911” responsibilities, they did respond to the Columbine High School incident, providing assistance with site triage and patient transport.

PRELUDE TO THE ATTACK

Prior to commencing their attack on the school, Klebold and Harris set off a diversionary explosion approximately three miles southwest of the high school at the intersection of Chatfield and Wadsworth Boulevards (Figure 1). At 11:15 am, Littleton Engine 13 was dispatched to investigate the explosion, along with Littleton police units. Engine 13 is normally the closest fire unit to Columbine High School. As a result, the diversionary explosion left this unit three times further than normal from the high school and took it out of service while addressing the resulting fire.

Figure 1

Figure 1: Location of the Diversionary Improvised Explosive Device



THE ATTACK ON COLUMBINE HIGH SCHOOL

Klebold and Harris arrived at the school and first placed two duffel bags containing propane canisters and improvised explosive devices inside the school cafeteria, in full view of students. They returned to their cars, armed themselves and then began their assault on the school. At 11:19 am, the attack on the school began. Klebold and Harris opened fire on students seated outside the west entrance of the cafeteria,

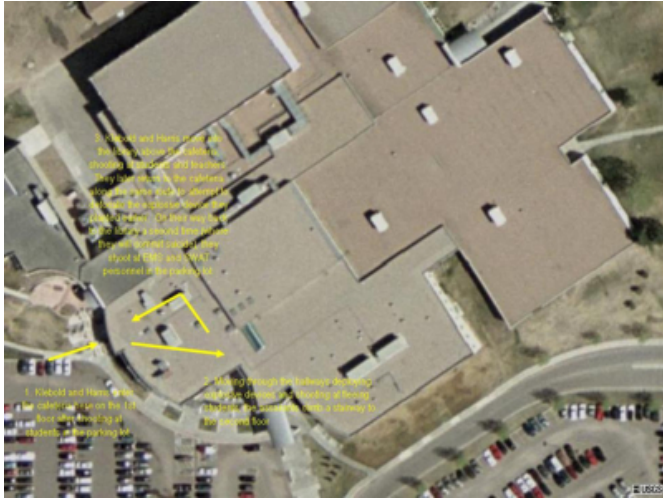
killing two and injuring five. Then, after throwing an improvised explosive device (IED) onto the roof, they entered the school, continuing to fire on now fleeing students and throwing “pipe bombs” and other IEDs. After action debriefing revealed that some students thought that the gunfire was actually fireworks being released as a “senior prank”. A majority of the students and faculty were initially unaware that an attack was in progress. However, the violent nature of the incident became quickly apparent. Some faculty barricaded their classrooms while others ushered students outside the building.

Soon after entering the west entrance, Klebold and Harris exchanged gunfire with the school's resource police officer; neither that officer nor the gunmen were hit. Klebold and Harris then proceeded to the library, where they continued the assault, eventually killing 10 students, and injuring 11 others. From the library they returned to the cafeteria, where they fired at one of the improvised explosive devices they had deployed immediately prior to beginning their assault. The device they struck did ignite and activated the school's sprinkler system. That device consisted of a pipe bomb with an electro-mechanical detonator attached to one metal canister filled with a flammable liquid, one plastic canister filled with a flammable liquid, and a 20 lb propane canister. While the gunfire breached the metal canister, igniting its contents, neither the propane canister nor the plastic container was breached by gunfire or during the resultant incipient fire, and the IED failed to explode.

The gunmen then left the cafeteria and entered the science wing of the school where they shot out glass panel windows and deployed additional pipe bombs (Figure 2). They subsequently returned to the library, where they fired out windows at paramedics who were attempting to rescue victims lying just outside the cafeteria. Post incident reconstruction suggests that shortly after firing upon the paramedics, Eric Harris and Dylan Klebold committed suicide. This was unknown to emergency personnel at the time, who continued to respond as though gunmen were still actively seeking to kill or injure others.

Figure 2

Figure 2: The Route Taken By The Assailants



Because of the long and varied path the gunmen took through the school and the ready availability of cellular telephones to students making 911 reports, there was a great deal of initial confusion as to the number of perpetrators and their location. At one point, law enforcement personnel believed as many as eight perpetrators had seized control of the school in an organized attack.

TIMELINE OF THE RESPONSE

11:15 – 11:28 a.m. At 11:15 a.m., Littleton Engine 13 is dispatched to the diversionary explosion and fire at Chatfield and Wadsworth Boulevards (Figure 1). At approximately 11:20 am, the Jefferson County Sheriff’s Office 911 center begins receiving calls for help. The 911 center also receives automated notification that the sprinkler system and fire alarm at the school have been activated.

11:29 – 11:43 a.m. Littleton Engine 11, Rescue Ambulances 11 and 13, and Battalion 1 respond to the report of an explosion and shots fired at Columbine High School. En route to the school, RA 13 requests that two additional ambulances be added to the response and Engine 11 requests that an aeromedical helicopter be placed on stand-by. When Rescue 13 arrives on the scene, they establish a staging area at Weaver and Pierce Streets (Figure 3). Battalion 1 arrives at Pierce and Fair Streets five minutes later and assumes command (Figure 3). A specific dedicated radio channel for the incident is requested and Pierce Street is ordered “closed”. The intersection of Weaver and Pierce Streets is designated as a staging area. A law enforcement representative is requested to respond to the command post.

Figure 3

Figure 3: Map Of The Response



Battalion 1 then orders Engine 11 and RA 11 to man a second staging area at Leawood and Pierce Streets (Figure 3). One victim is found outside near the location of RA 11. The Engine 11 Officer instructs student athletes fleeing the school to assist in triaging students into injured versus uninjured, and to separate out students who might have seen those involved in the assault. The Communication Center notifies responding personnel that the shooting suspects are believed to be wearing long black trench coats. They also broadcast reports of multiple victims with head, face, and possible spinal injuries at various locations in and around the high school. The Engine 11 Captain orders all Littleton Fire Department Personnel to remove their blue, button-up uniform shirts and badges, leaving them in department issue grey t-shirts, in order to assist students in differentiating between Fire/EMS and Law Enforcement personnel.

With command established and the staging process underway, initial incident size-up by Battalion 1 reveals:

- An active, violent scene, with ongoing gunfire.
- Multiple dead and injured teenaged shooting victims.
- An unknown number of assailants inside the school, obviously heavily armed, whose specific location and intent were unknown.
- Confirmed casualties requiring medical assistance both inside and outside of the school, many remaining the lines of fire.
- Faculty and students fleeing the building, hiding

behind vehicles and natural barriers.

- An activated fire alarm and sprinkler system.
- Reports of the odor of natural gas.
- Reported explosions.

At this time Sheriff's Office 911 operators notify Littleton Fire Department dispatchers that students are congregating at several locations outside of the school. Battalion 1 recognizes that multiple triage/treatment sites will be required and orders the first triage/treatment area to be established in Clement Park, just north of the school grounds (Figure 3).

11:44 – 11:51 a.m. At the request of Battalion 1, a unified Fire/Law Enforcement/EMS command post is established. RA 11 is dispatched to Fair and Pierce Streets for a victim with a gunshot wound to the leg (Figure 3). They transport the patient to Jay and Bowles Streets, and transfer care to a private ambulance crew who complete evacuation to definitive care. The Fire/EMS command post is moved to Leawood and Pierce Streets, where LFD Chief 11 assumes command. A callout of all senior fire officers is initiated; Littleton Fire Chief, Chief 1, responds from Headquarters.

11:52 – 11:59 a.m. About the time that Klebold and Harris shoot at and ignite one of the pre-deployed incendiary devices in the cafeteria, R11 and R13 are deployed to the Southwest Parking Lot (Figure 2) where they join with a police SWAT team in an effort to rescue multiple victims. Although SWAT advises the EMS crews that the scene is secure, R11 and R13 report by radio that they are "taking gunfire". They position their ambulances to protect the patient loading areas from the direct line of fire. SWAT remains on scene with weapons aimed at the second floor of the library while EMS affect the rescue of 3 critically injured victims and confirm that a fourth is dead. No law enforcement or EMS personnel are injured.

Chief 1 arrives with a Deputy Fire Marshal and a Paramedic Captain and assumes Fire/EMS command. Battalion 1 is then designated as "operations sector chief". A "liaison officer" is designated to help coordinate the various responding agencies' efforts. Public information officers from both the Fire Department and Sheriff's Office are on scene. By this time there is some division within the staging areas: the North Staging Area contains mainly law enforcement and EMS personnel while the South Staging

area is predominantly fire and EMS personnel (Figure 3).

12:00 – 12:05 p.m. Law enforcement requests the use of E11 as a shield to provide cover to a SWAT entry team. Fire Command agrees and E11 is stripped of all first aid equipment. The windows are covered with body armor and a police officer is quickly instructed in driving the engine. E11's crew is reassigned to other areas and EMS units and does not directly participate in the SWAT entry. Jefferson County Sheriff's Deputies begin transporting students to the south side of Clement Park. Some students are injured, and Fire/EMS personnel and apparatus respond from staging. An order to centralize all EMS units staging at the intersection of Pierce and Leawood Streets is issued.

12:06 – 12:10 p.m. R13, having completed its rescues under fire, stops at the command post to transfer one of two patients it is carrying to a waiting Denver Health ambulance. That ambulance transports the patient to Denver General Hospital. R11 and R13 transport their patients to Swedish Medical Center. A landing zone is established for medical helicopters at Clement Park. This area is large enough to land two helicopters simultaneously and is not in line of sight of the building. The area surrounding the LZ is sufficient to prepare patients for transport and there is ready access to the street.

Students, some of whom are injured, congregate in a cul-de-sac in a residential area near the school (Figure 3). Law enforcement officers also begin transporting students to this area. R18, with a complement of 5 EMS personnel (two paramedics, two EMT-Bs and one Emergency Medical Dispatcher (EMD) doing a "ride-along"), creates a triage and treatment sector at this location (near the intersection of Yukon and Caley). A mutual aid engine and ambulance are also dispatched to this area, and an off-duty LFD fire captain (who went to the school to find his daughter) is also present. Unfortunately, radio communications at this site are limited due to a previously unknown "dead zone" (A "dead zone" is an area where, due either to topography or physical line of sight distance to a radio repeater, radio communications are limited to the range of the transmission unit. These exist in almost all jurisdictions, and when discovered, are usually addressed.) at the cul-de-sac. As a result, R18 is unable to receive hospital assignments over the trauma-net hospital radio link at this location.

12:11 – 12:20 p.m. There are continued reports of shots being fired in and around the school. Unknown to responders at the time, this is believed to be when Klebold and Harris

commit suicide. The off-duty LFD captain returns to Station 13 to shuttle medical supplies from there back to the triage site, while E13 is dispatched to Yukon/Caley to further augment staffing there. One gunshot victim is presented to Denver T10 in the middle of Clement Park. An American Medical Response ambulance transports this patient. R18 requests 10 ambulances to transport 11 injured students (four “critical”, four “serious”, and three “stable”). One victim is airlifted from the site with a gunshot wound to the head.

12:21 – 12:30 p.m. The regional hospitals set up a “trauma network” and conduct a bed count and resource assessment at their facilities. Three more patients are transported, including one transported to University Hospital by R18 with an open chest wound.

12:31 – 12:40 p.m. All off-duty Littleton firefighters are recalled to assist the mutual aid crews at the Littleton Fire Stations. One more patient is transported.

12:41 – 12:50 p.m. SWAT operators report that fire suppression may be needed inside the school. There are reports of a fire in the cafeteria and the strong odor of natural gas (later determined to be from the improvised device in the cafeteria). An entry task force, with members from several different fire departments under the command of the Littleton E16 officer, is quickly organized. It is determined that if entry into the school is required, the ingress will be through the main entrance of the school. The task force coordinates closely with law enforcement, but is never activated.

Command requests that the Littleton Fire Department's new 800 MHz radios be immediately entered into service (they had been purchased, but not yet deployed). A dispatcher from the Littleton Communications Center is deployed to the scene. Command operations are now coordinated on the 800 MHz frequencies, leaving VHF frequencies available for fire task force operations and staging operations. All ambulances not currently staged are ordered to a new staging area at Bowles and Wadsworth Avenues.

12:51 – 1:00 p.m. Parents are told that uninjured student can be met at Leewood Elementary School. As a result, what is described as a “crush of frantic parents” arrives at the school.

1:01 – 1:10 p.m. All patients have been transported from the Yukon and Culey cul-de-sac. After one ambulance reports to dispatch that it is possibly being followed by the assailant(s), a police officer accompanies each patient to the hospital.

These officers also continue to gather intelligence and are “ready” to record any dying declarations. Returning ambulances restock medical supplies at Littleton Fire Station 13. Some units bring supplies to the Yukon / Culey area in anticipation of additional patients.

1:11 – 1:29 p.m. Command requests that the American Red Cross respond to the scene to assist both with victim's families and with the food and rehydration needs of the emergency responders. Command receives bottled water from local retail stores for emergency responders. Jefferson County Dispatch Center receives a report of eight injured students and an injured teacher trapped in the school. R13 is ordered to the east entrance of the school to assist SWAT operators attempting to reach a reportedly critically injured patient inside the school. As it is deemed unsafe for paramedics to enter, SWAT members are to extract patients out to R13. Unable to enter the school, R13 sets up the “East Triage” sector at the east entrance of the school. At this point, they discover a “suspicious” backpack near the school's entrance. Law enforcement receives reports that the assailants have changed clothes and are attempting to leave the school by hiding among other students. Law enforcement orders all students leaving the school be considered suspects until “cleared”.

1:30 – 1:59 p.m. Command requests refueling services be brought to the scene.

2:00 – 2:29 p.m. Command receives new reports of multiple victims still remaining in the school. E17, R18 and an explosive ordinance disposal (EOD) unit are dispatched to one suspect's home for report of a natural gas leak.

2:30 – 2:59 p.m. R18 reports live explosives at the suspect's home. A new triage sector is established at the West Entrance to the school, tasked with treating victims that might exit the building from this entrance, as well as supporting ongoing SWAT operations in the school. The whereabouts of the suspects remain unknown and incendiary and explosive device are still being discovered throughout the school.

3:00 – 3:30 p.m. Homes surrounding the suspect's house are evacuated. The IEDs found in the suspect's house are safely deactivated by EOD personnel.

3:30 – 3:45 p.m. Reports of more than 20 injured persons still inside the school are received. Additional reports indicate the suspects are dead. An unfounded “officer down” call is issued for three police officers reportedly shot by the

suspects. At 3:37 p.m., the last surviving wounded student is transported from the library. At 3:40 p.m., a wounded teacher, also found in the library, is treated and transported. At 3:44 p.m., a radio report is issued indicating there are no further survivors, drawing the assault-related EMS operations to a close.

LESSONS LEARNED: ANALYSIS OF THE EMS RESPONSE

The tragedy at Columbine represented a complex multi-agency operation under circumstances of active and on-going threat of violence. An event of this nature and of this scale had never before been managed. The following represents some salient lessons learned from the EMS response.

INCIDENT COMMAND SYSTEM

The assault on Columbine High School was a dynamic and very complex challenge for responding emergency personnel. The Incident Command System (ICS) has been developed and tested as a method of coordinating multiple responding agencies with varied responsibilities operating in close proximity to one another at large scale emergencies [3,4]. The ICS was used at Columbine High School in the aftermath of the attack. An advantage of ICS is that all command responsibilities are clearly defined and universally understood by emergency personnel, actual specific interagency drills become less important than a complete understanding of the system and a willingness to forego normal command structure in favor of ICS during large scale responses. As a result, even though many of the responding units had never participated with one another in interagency drills or responses, they performed their duties extremely well and with a minimum of confusion.

This is not to downplay the role of joint-agency training, but rather to suggest that having participated in a disaster drill with a specific agency is not a prerequisite to successfully working with that agency during a disaster. Having a universal understanding of ICS (or another organized interagency command structure) among all responding personnel is a prerequisite to successful incident mitigation. According to Eckstein and Cowen, “use of the Incident Command System, establishment of a liaison with law enforcement, and the provision of protective gear for EMS personnel are vital to effectively and safely manage these types of incidents.” [5]

TRIAGE

Separating a relatively low number of severely injured persons from literally a sea of uninjured people was the biggest triage challenge faced by the emergency responders at Columbine High School. While still en route to the initial call, the response complement was increased from two to four ambulances and an aeromedical helicopter was placed on stand-by by the Littleton Fire Department. Soon after arriving on the scene, further additional ambulances were requested. This quick action prevented the EMS resources from becoming completely overwhelmed. As severely injured persons were identified, they were transported. In several cases throughout the incident, fire department ambulances or other fire department units initially transported patients away from the scene and then turned care over to private ambulances for transport to a hospital. This system worked well and was aided by a very strong and welcome response from private ambulance services in the area. By doing this, fire department EMS personnel remained on the scene to continue triage and be available to treat the severely injured as they were found. Traditional triage, deciding which patients should be transported first, was not routinely needed at this incident, as enough ambulances were available to transport the injured when they were identified. For example, as the Yukon / Caley triage sector was opened, R18 requested 10 additional units and an aeromedical helicopter to handle 11 victims. Within 5 minutes, six ambulances were at that location and a secondary staging area had been established. From an EMS operational standpoint, this was more of a multi-victim scenario than a true mass casualty scenario (generally defined as when the number and needs of the victims overwhelm available EMS resources).

EMS – LAW ENFORCEMENT INTEGRATION IN RESPONSE TO ON-GOING VIOLENCE

This particular incident created two specific challenges, which while not precisely unique to this incident, are unique to incidents involving ongoing violence. The first, and perhaps the most serious challenge, is violence directed towards EMS personnel. Unfortunately, this risk is not limited to large-scale acts of wonton violence such as occurred at Columbine High School. As these incidents can occur at any time and at any place, the U.S. Fire Administration has made the following recommendations [6]:

- Training specialized fire department personnel (such as hazardous materials technicians, paramedics, EOD personnel, or drivers) to know

how the mission and tactics of special law enforcement units (such as SWAT teams or riot police) impact special fire/EMS operations. This is best accomplished through joint planning and training between law enforcement and fire and EMS services. Operational procedures should be documented and distributed to all involved personnel.

- Determining what ballistics protection the fire/EMS personnel need, given their likely assignments, and securing this equipment in sufficient quantity to ensure that all personnel who will be in harm's way have appropriate protective equipment.
- Deciding what means will be used to identify fire and EMS responders.
- Promoting policies, practices, and protocols that foster use of a common jargon by fire service and law enforcement personnel with regard to the transmission of essential messages so that miscommunications are minimized.
- Establishing a policy on whether and how to assign personnel with family members who are directly involved in the incident.
- Determining what role or authority the incident commander should grant to experts (physicians, building engineers, etc.) who are called to the scene to assist, establishing a policy for handling outside experts who exceed their authority, and ensuring that they are cognizant of the ICS structure and operations.”

Additionally, “it would have been of great benefit if the SWAT teams, EOD technicians, and fire/EMS personnel at Columbine had been able to train in joint operations. Where joint training is especially critical is in the interface of the law enforcement teams and the EMS units. Emergency medical personnel are responsible for treating any EOD, SWAT team, or other law enforcement casualties. Generally, EMS personnel are not armed or trained in size-up of a criminal scene. EMS providers also need to have rapid and safe access to civilian victims who require medical attention” [6]. A survey of 800 Police Chiefs and Sheriffs in the U.S. performed in 1997 revealed that most “would support additional medical training and new or expanded

roles for themselves in EMS systems” [7].

Ongoing incidents and static attacks lead to an additional question – can EMS begin rescue operations simultaneous with SWAT or EOD team activities? Without training as members of these specific teams, the answer is traditionally “no”. SWAT team operations are sufficiently complex that incorporating untrained or hastily trained EMS personnel will adversely affect mission safety. This could result in injuries to team members, the EMS personnel, or to innocent bystanders.

Communities who employ SWAT teams should consider the incorporation of tactical emergency medical support (TEMS) personnel onto the team. Such an approach has been used in suicide bombings in Israel, and is currently employed in the civilian contractor response to roadside IEDs in Iraq [8]. It has even been suggested that communities that deploy SWAT teams without TEMS support may be liable for litigation under the concept of deliberate indifference to human life. “Evidence exists within the military, civilian law enforcement, and medical literature that on-scene TEMS serves to improve mission success and team safety and health, while decreasing morbidity and mortality in the event of an injury or illness suffered during operations. National professional organizations within law enforcement and emergency medicine have identified and support the fundamental need for mission safety and the development of a standard model to train and incorporate TEMS into law enforcement special operations.” [9] The presence of TEMS during the attack would have mitigated the need for SWAT operators to extract the wounded to R13’s location for initial care and stabilization.

The second challenge created by incidents such as the attack on Columbine High School is how to handle requests by law enforcement personnel to use fire or EMS equipment as cover or concealment in their SWAT team missions. During the Columbine response, E11 was expeditiously converted into an entry platform for SWAT operators. A similar request was entertained during the North Hollywood Bank of America robbery. There is a feeling among some professional firefighters that fire departments should strive to maintain and portray a “neutral” stance. It is felt that if the use of fire engines or other equipment by law enforcement becomes commonplace, criminals will increasingly direct violence toward fire and EMS personnel. However, that argument must be tempered by the urgent need to preserve life, both of the victims and of the responders. Moreover,

while “neutrality” is a laudable goal, it may be a mistaken one. Fire and EMS represent the community, and are symbols of authority. They are not neutral and unaligned. More fire personnel were injured during the Los Angeles riots than police. The assailants at Columbine High School fired willfully at EMS personnel and set explosive devices as “booby traps” without regard for whom they might injure or kill. These actions are not unique. The secondary device, which originated in the terror campaign of Northern Ireland, has been used in the United States with a specific aim of hindering an effective emergency response to victims of the primary device.

Prior to the onset of these types of actions, fire departments should establish specific procedures for turning apparatus over to law enforcement personnel as appropriate. These procedures should outline specific equipment to be removed from the fire apparatus. Littleton Fire Department stripped Engine 11 of medical equipment prior to releasing it to SWAT personnel. Unfortunately, the self-contained breathing apparatus remained with the vehicle. Engine 11 was not fired on, but had it been, a bullet might well have breached one of these cylinders with a potential for explosion. Other equipment of concern includes gasoline powered hand tools and gasoline supplies to run them.

COMMUNICATIONS

One consistent challenge in any large multi-agency operation is effective real-time communications. At Columbine, a decision was made to immediately place into service new 800 MHz radios which had not yet been deployed. These were distributed to select sections of the ICS, allowing command units on the scene to communicate directly with each other while freeing up the “normal” VHF frequencies for dispatch, fire, EMS, task force and law enforcement operations.

However, communications remained an issue at Columbine. Most, but not all of the responding mutual aid units, had access to the Fire Emergency Response Network (FERN) radio channel. In pre-incident planning, it was assumed that all responding EMS units would have access to this frequency. Certain units did not have access as the channel is reserved for “fire emergencies”. Fire departments and EMS units should insure during pre-planning exercises that a common frequency exists that all units can access.

Lastly, hard-target locations such as schools should be routinely analyzed for the presence of dead zones. The unanticipated presence of a dead zone left R18 unable to

communicate with command and control.

OPERATIONAL SCENE CONTROL

Several significant events revolved around failures or omissions of scene control and inter-agency communication. The most concerning was a near-lethal misidentification “blue-on-blue” incident, in which Littleton Fire Department's Training Officer (Training 10) was nearly shot by a law enforcement sniper. Training 10 was in charge of coordinating the landing zone for aeromedical helicopters east of Clement Park. Prior to responding to the incident, Training 10 had been involved with live burn training evolutions. He was still wearing his soot covered turnout gear. At 12:12 p.m. a police sniper deployed about a quarter mile away observed Training 10 and considered him a suspicious person because he appeared to be wearing a black trench coat with something (a radio) in his hand. The sniper was given the “green light” to fire. Fortunately, two police officers were very close to Training 10 and forced him to the ground at gunpoint until his identity could be established. Had they not been close by, it is likely Training 10 would have been shot. Training 10 was not wearing a helmet or an incident command vest, which might have better conveyed his operational role. Command vests were not used because the battalion chief's vehicle was out of service briefly for an oil change. All the normally available incident command equipment was left in the vehicle, and the reserve vehicle was not fully equipped.

Another event involved an “all call” bulletin by the press at approximately 3:30 p.m., requesting that all EMS personnel near Columbine High School respond to the scene to assist with the mass casualty incident. This action was unauthorized and unneeded. As a result, a large influx of volunteers, some from as far as two hours away, began to converge upon the high school. This in turn gave responders an additional and unneeded logistic problem to deal with. All interactions with the press should be delivered through an identified public information officer (PIO). The PIO should maintain ready access to the press, to provide needed information and to mitigate the spread of rumor. In circumstances of unauthorized and potentially problematic press releases, incident commanders and designated PIOs should quickly make certain that the opposite request is transmitted – “Please do not report to the scene unless directly requested or dispatched”. Consideration should be given to transmitting a “please do not report” request even before an unauthorized request is aired. This gives the media something to report and can help to prevent unwanted

messages.

A final operational security event concerned the actions of a physician, who was present on-scene to act as a medical control officer assisting in the coordination of patient transportation to the various hospitals. At approximately 4:00 p.m., command began to establish an all-volunteer team of paramedics to enter the school to “pronounce” the dead. This “task force” was to be equipped with ballistic armor and would be accompanied by SWAT and EOD personnel. Unfortunately, prior to deployment, the physician, on his own initiative, assembled a team of on-scene paramedics to search the school with him. At 4:45 p.m., against orders from law enforcement and fire commands, the physician and his ad-hoc team entered the school to pronounce the dead. Their personal safety, as well as that of all emergency responders who were still on the scene, was jeopardized by these actions. As a consequence of the unauthorized entry, one of the medics went on short-term disability leave after the incident due to post-traumatic stress. There should be clearly written policies describing the authority given to “outside experts” under the ICS. These policies should include actions to be taken should the expert “overstep” their bounds. This information should be given to these individuals as they report to the scene. Individuals who are unwilling to accept these rules are potential threats and should be removed from the scene.

CONCLUSION

The attack on Columbine highlights the challenges and complexities that face emergency providers when participating in large scale, multi-agency responses. In this era of domestic preparedness and homeland security, the lessons learned at Columbine take on an even greater importance. The terror alert threat level remains elevated,

reflecting “significant risk of terrorist attacks.” The incident at Columbine High School strongly reinforced many of the lessons of ICS. Concurrent police, fire, and EMS tactical operations necessitate joint incident command structures, robust interoperable communications capabilities, standardized operational practices, and multi-agency exercises to promote and achieve an effective response. The responders at Columbine did this very effectively. While there are lessons to be learned, by both positive and negative examples, it should be remembered that the good in this response far outweighed the bad.

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