Mass Casualty Incident Program
Advanced MCI Training

Curriculum

Sponsored by A.E.M.S.

INDEX

PURPOSE

Successful scene management of a mass casualty incident (MCI) occurs in a standardized, predicable fashion. The procedures, tactical objectives and operational approach must be consistent across various EMS agencies to ensure maximum effectiveness and optimum patient outcome when operating at major medical incidents.

The purpose of the A.E.M.S.-sponsored MCI Training program is to increase first responder readiness to respond, triage, treat and transport patients arising form a multiple patient or mass casualty incident. This program is offered in two modules.

The first module is called "*Initial S.T.A.R.T. Training*" (previously refereed to as "*Phase I/II MCI Training*") and teaches participants how to triage patients using the S.T.A.R.T. triage method. It also introduces students to the Arizona Triage System.

The second module, "*Advanced MCI Training*" (previously referred to as "*Phase III MCI Training*") gives a brief triage review to first responders and provides company officers and incident commanders with an overview of command responsibilities during an MCI. It also allows EMS agencies to test their ability to manage a large scale MCI during a simulated multi-agency MCI exercise.

GOAL

The goal of *Advanced MCI Training* is to improve an EMS agency's ability to manage a mass casualty incident by simulating a multi-agency response to a major medical incident.

When confronted with a simulated MCI involving 25-35 patients, participants will:

- Remove endangered occupants and treat the injured
- Stabilize the incident and provide for life safety
- Ensure the function of triage, extrication, treatment and transportation are established
- Provide for the safety, accountability and welfare of rescue personnel and victims

OBJECTIVES

Given that the participants have completed *Initial Start Training,* upon arriving at an MCI, the first responder, on direction of the company officer, will:

- Triage patients using *S.T.A.R.T.*
- Utilize the Arizona Triage Tag System
- Identify appropriate treatment modalities
- Operate under various sectors (Extrication, Triage, Treatment, etc.)
- Assist in patient transportation

The first-arriving Company Officer, upon arrival at a simulated MCI, will:

- Give an accurate on-scene report
- Perform a rapid hazard assessment
- Initiate traffic control
- Provide for occupant protection
- Call for additional resources
- Initiate Triage
- Radio a Triage Report to Dispatch
- Identify a treatment area
- Assign crew(s) specific tasks to accomplish
- Establish sectors
- Initiate patient assessment and treatment functions
- Coordinate patient transportation
- Transfer Command to a Command Officer

The first-arriving Command Officer, upon arrival at a simulated MCI, will:

- Establish a Command Post
- Develop an appropriate command organization
- Establish objectives
- Request resources
- Provide for the triage, extrication, treatment and transportation of all patients
- Establish a treatment area or areas
- Provide for scene safety
- Allocate resources to sectors
- Notify area hospitals
- Distribute and account for all patients
- Liaison with other agencies
- Update Dispatch with progress reports
- Complete EMS Tactical Objectives

Emergency transport services (ground ambulances, aero-medical services), upon arrival at a simulated MCI, will:

- Stage in an appropriate location (ambulance staging, landing zone)
- Report to assigned sector (e.g., Transportation)
- Receive patient information from treatment personnel
- Load patient in to unit
- Transport patient as assigned (hospital, urgent care, etc.)

Hospitals, upon notification of a nearby MCI, will:

- Advise EMS Dispatch on current capability (number/severity of patients currently able to receive)
- Activate Disaster Plan
- Update EMS Dispatch as status changes (upgrade to Level I status, ability to receive more Immediate/Delayed patients, etc.)

MATERIALS NEEDED

- Lesson Plan
- Handouts
  - Scenario Description
  - *START* Wallet Cards
  - Sector Checklists
  - Sample Command Charts
  - Exercise Critique Form
  - Participant Evaluation
- *START* video
- Triage Kits (6-8)
- Triage tags and ties (100)
- Video projector
- Disaster Mannequins (50)
- "Fire Dept. Drill In Progress" Signs
- Personal Communicators (6)
- Red Baseball Caps (12)
- Clipboards (12)
- Pens (12)
- CME Forms (50)
- Refreshments

OUTLINE

Introduction (15 minutes)

MCI Exercise Overview (15 minutes)

- Goal
- Objectives

Breakout Session (1 hour)

Group I -- First Responders

Review *START* Video

Review use of Arizona Triage System

Perform Triage Practice on Mannequins

Review MCI Safety Procedures

Group II -- Company & Command Officers

Review Basic Operational Approach

Review Sector Responsibilities (See Appendix II – Sector Checklists)

Review Command Responsibilities (See Appendix III – Sample Command Charts)

Review EMS Tactical Benchmarks

Review Evaluation Benchmarks

Review MCI Safety Procedures

Break

Participants Staged/Players Ready

Exercise Begins

Exercise Ends

Post-Incident Critique

NARRATIVE—Incident Management for Multi-Patient and Mass Casualty Incidents

Introduction

The first-arriving company officer at the scene of a multi-patient or mass casualty incident shall establish Command. The initial Incident Commander (IC) shall remain in Command until Command is transferred or the incident is stabilized and Command is terminated. Command is responsible for the completion of the tactical objectives. The general tactical objectives, listed in order of priority, are:

- Remove endangered occupants and treat the injured.
- Stabilize the incident and provide for life safety.
- Ensure the functions of triage, extrication, treatment and transportation are established as needed and performed appropriately.
- Provide for the safety, accountability and welfare of rescue personnel and victims.
- Conserve property.

In addition, the EMS TACTICAL objectives to be completed during any multi-patient/mass casualty incident include:

- Completion of a "Triage Report"
- Declaration of "All IMMEDIATES Transported"

The Incident Management System is used to facilitate the completion of the tactical objectives. The IC is the person who drives the Command system towards that end. The IC is responsible for building a command structure that matches the organizational needs of the incident to achieve the tactical priorities.

When possible, patients should be treated and transported in the following priority order:

- IMMEDIATE
- DELAYED patients upgraded to IMMEDIATE
- DELAYED
- MINOR

First Arriving Company Officer

The initial actions of the first arriving officer shall be directed toward scene size-up, requesting appropriate resources and initial organization of the scene. Initial actions include:

1. Give an on-scene report and assume command. Initiate triage.
2. Perform a rapid hazard assessment and establish a safe zone to operate.
3. Initiate traffic control and provide a safe work/treatment area.
4. Provide for occupant protection (charged hand line).
5. Call for additional resources.
6. Radio a Triage Report to Dispatch.
7. Stabilize hazards and/or remove patients to a treatment area.
8. Assign crew(s) specific task(s) to accomplish.
9. Sectorize as needed by function (triage, extrication, etc.)or by location (north, south, etc.).
10. Initiate patient assessment and treatment functions.
11. Coordinate patient transportation.

Responding personnel are encouraged to use triage tags and IMMEDIATE labels on smaller multi-patient incidents. Triage tags should be used any time there are three (3) or more IMMEDIATE patients or more than ten (10) patients.

The first arriving company officer at a multiple patient incident will assume Command and give an on scene report which will answer the question. . . *What do I have? What action will I take? What resources do I need?* The type of situation and the approximate number and condition of patients should be communicated to Dispatch as soon as possible.

Command should rapidly survey the scene to identify any hazards or safety concerns and establish a safe zone for crews to operate. This can be accomplished through proper defensive rig positioning, use of flashing lights and the placement of flares or reflectors. Additional traffic control should be requested from law enforcement through Dispatch.

Command should immediately request additional assistance if the need is indicated. Dispatch will begin to notify other agencies and medical facilities based on the amount of assistance requested at the scene and the progress reports from Command. The initial reports should indicate the scale of the incident to allow Dispatch to notify other agencies.

Triage will be initiated early in an incident, especially when the number of patients and/or the severity of their injuries exceeds the capabilities of the on scene personnel to provide effective extrication, treatment and transportation. Once triage is complete, a Triage Report should be radioed to Alarm. A Triage Report at a two-vehicle collision may

sound like: *"Triage to Command. Triage is complete. We have 9 total patients: 2 IMMEDIATES, 3 DELAYED and 4 MINORS."*

A Triage Report signifies that triage has been completed and communicates to all responding crews the size of the major medical incident. It also provides essential information regarding decisions to call for additional resources or to scale back the response.

The first arriving company officer needs to quickly determine the most effective means to treat patients. In incidents with few patients, it may be more effective to treat patients "in place." At EMS incidents with a greater number of patients, a treatment area should be established. In a case where two or more distinct groups of patients are separated by distance, multiple treatments areas may be needed. Treatment area(s) can be clearly identified by using colored salvage covers (red, yellow and green) to designate treatment areas for IMMEDIATE, DELAYED or MINOR patients.

If the incident involves a building collapse or a hazardous material release, it may be more effective to remove victims to a safe area rather than stabilize hazards. This is also true of motor vehicle collisions involving a train wreck or bus. In these cases, triage will be performed at the entrance to the treatment area.

Additional Resources should be requested using standard assignments and alarms as much as possible (e.g., 2-1 Medical, 1st Alarm Medical, 2nd Alarm Medical, etc.) This will facilitate an incremental approach to the incident, similar to firefighting operations, and provide predictable resources.

The first arriving company will go to the scene, as well as the first paramedic unit, first ladder, first chief officer, and first ambulance. All other companies will use Level I staging upon their arrival.

Command should consider implementing Level II Staging early in the incident. All First-Alarm-Medical Incidents (or greater) require a Level II Staging Area for all fire department resources, including rescue companies.

All outside agencies responding to a medical incident should be sent to the Staging Area. This area should be at a sufficient distance to keep the scene clear and maintain access. Staging officer will assign units as directed by Command.

Units assigned to sectors, unless carrying special equipment, should park at a distance from the scene. This parking area should be located out of the access paths. Crews should report to Extrication or Treatment Sectors carrying their medical equipment. If a treatment area is designated, medical equipment and supplies should be stockpiled there.

Apparatus with extrication tools or other heavy equipment needed at the scene should be brought up closer to the actual incident site.

Command Responsibilities

The Incident Commander (IC) is responsible for the strategic level of the command structure and should:

- Determine the appropriate strategy
- Establish overall incident objectives
- Set priorities
- Develop an action plan, communicate plan.
- Obtain and assign resources.
- Planning-based on evaluating interventions and predicting outcomes
- Communicate specific objective to tactical level units
- Initiate a Unified Command with other agencies

The First-Arriving Command Officer, upon arrival at an MCI, shoud:

- Establish a Command Post
- Develop an appropriate command organization
- Establish objectives
- Request resources
- Provide for the triage, extrication, treatment and transportation of all patients
- Establish a treatment area or areas
- Provide for scene safety
- Allocate resources to sectors
- Notify area hospitals
- Distribute and account for all patients
- Liaison with other agencies
- Update Dispatch with progress reports
- Complete EMS Tactical Objectives

Basic Sectors

Most multiple-patient incidents require patient triage, extrication, treatment, and transportation. Because of potential vehicle congestion at the site, a staging sector for apparatus is also a major consideration during larger incidents. These needs form natural basic sectors for the Incident Management System. Additional sectors may be assigned depending on the situation, consistent with the Incident Management System.

Triage Sector

The purpose of triage is to categorize patients base on the severity of their injuries, prioritize their need for treatment and transportation and stabilize life-threatening injuries before additional resource arrive on scene.

With this in mind, extrication and triage sectors will be assigned separately. This follows from the *Model Procedures Guide for Emergency Medical Incidents* (National Fire Service Incident Management Systems Consortium, 1996) and clearly distinguishes between two important, though distinct functions. . . identifying patient number and severity (triage), versus victim disentanglement and removal to a treatment area (extricaton).

Triage Sector Officer Responsibilities

The following items represent the standard operations that will normally be performed by the Triage Sector Officer:

1. Determine the location, number and condition of patients.

2. Determine, in close coordination with Extrication Sector, if triage will be performed at the treatment area.

3. Determine resources needed for triage. Communicate needs to Command.

4. Assign and supervise triage teams.

5. Ensure that patient triage is based on *S.T.A.R.T.*, that life-saving emergency medical care is provided as needed, and that patients are accounted for and tagged appropriately.

6. Ensure safety and accountability of all assigned personnel.

7. Provide frequent progress reports to Command.

8. Coordinate activities with other sectors.

9. When triage is complete, provide Command with a "Triage Report." Forward triage tracking slips to Command.

10. Terminate triage activities and report to Command for reassignment.

At smaller incidents (up to 10 patients), triage may be handled by the first arriving company officer and his/her crew. At larger incidents (more than 10 patients), the first arriving company officer should assume Command and assign Triage to the next arriving company.

As a general rule, patients should be triaged and tagged before movement to a treatment area. IMMEDIATE patients are moved first, followed by DELAYED patients. However, there are instances when triage is performed away from the impact area. Depending on the safety of the site and the arrangement of the patients, it may be necessary to triage patients at the entrance to the treatment area.

In a very large incident, it may be necessary to establish multiple triage locations. Regardless of where triage is performed, the triage process requires close coordination between triage, extrication and treatment sector officers.

Triage Report

Triage should be completed using the "Arizona Triage System." These red fanny packs are located on all fire apparatus. Once the triage crew(s) has tagged and labeled all patients, they should forward their tracking slips to the Triage Officer.

The Triage Sector Officer arranges the tracking slips to determine the number of patients and their condition. The Triage Sector Officer then radios Command with a "Triage Report." The Triage Report includes the number of patients and their classification. For example, a Triage Report at a two-vehicle collision may sound like: "*Triage to Command. Triage is complete. We have 9 total patients: 2 IMMEDIATES, 3 DELAYED and 4 MINORS.*"

A Triage Report signifies that initial triage has been completed on the incident using the *S.T.A.R.T.* criteria. It communicates to all responding crews the nature of the major medical incident, based on their condition and the severity of their injuries. It also provides Command with essential information regarding decisions to call for additional resources or to scale back the response. Once triage is complete, Command may reassign triage crews to other functions.

Triage Tagging

Triage is a process used at multi-patient or mass casualty incidents to:

- Categorize patients based on the severity of their injuries
- Prioritize their need for treatment and transportation
- Stabilize patients until additional treatment resources arrive on scene

Triage should be initiated at those incidents where the number of patients and/or the severity of their injuries exceeds the capabilities of the on scene personnel from the initial dispatch to provide effective extrication, treatment and transportation. A single person, or a two-person "triage team" can perform triage.

While, it may be appropriate to use triage tags at EMS incidents with as few as five patients, triage tags should be used any time there are more than three (3) IMMEDIATE patients or ten (10) or more patients. The decision to triage and to use the triage fanny pack carried on all fire companies should be made as early as possible by the first arriving company officer.

Some incidents may require patients to be extricated from the scene to the treatment area before triage has been performed. This may be due to safety considerations, such as a building collapse or hazardous materials release, or due to the nature of the incident, such as a bus collision or train wreck. Under these circumstances, the triage team performs triage under the direction of the Triage Officer at the entrance to the treatment area.

Regardless of where it is conducted, triage will be performed using the "*S.T.A.R.T.—Simple Triage and Rapid Treatment*" method.

The *S.T.A.R.T.* Algorithm

ACTION	**Tagged as . . .**
Move the walking wounded	MINOR
No respirations (after head tilt or insertion of an OPA)	DEAD/DYING
Respiration over 30	IMMEDIATE
Pulse—No radial pulse	IMMEDIATE
Mental Status—Unable to follow simple commands	IMMEDIATE
All others	DELAYED

* Used by permission of the Newport Beach (CA) Fire and Marine Department

For a further description on the use S.T.A.R.T., or the Arizona Triage System, refer to the Initial START Training Curriculum.

Triage Tag Documentation and EMS Incident Reporting

Major medical incidents will tax any EMS agency. Patient care and transportation should never be delayed in order to complete an EMS encounter form. In the setting of a large number of patients, it may be appropriate to use triage tags in lieu of standard

EMS incident reporting. In this setting, the triage tag will be the only form of EMS documentation at the impact site. Formal patient documentation to can be conducted after the incident at the hospitals by specifically assigned "Documentation Teams." Patient triage tags can be used to collect date for proper documentation.

The most critical patient information **is located on the front of the tag.** This includes patient age, sex, major injuries, transport unit and hospital. (Note to ALS Personnel: This is the most essential information, along with an ETA, to relay to a trauma center when performing a Courtesy Notification.) Other information such as age, address, medical history, vital signs, physical findings and treatment rendered, can be completed on the back of the tag as time permits.

Extrication Sector

Extrication Sector is utilized in multiple patient incidents that require physical disentanglement and/or the removal of trapped victims. Extrication is responsible for locating, removing and delivering patients to a treatment area. Extrication is also responsible for any patient treatment that is necessary prior to disentanglement.

Unlike past practices, extrication and triage sectors will be assigned separately (see *Model Procedures Guide for Emergency Medical Incidents,* National Fire Service Incident Management Systems Consortium, 1996). This clearly distinguishes between two important, though distinct functions. . . identifying patient number and severity (triage), versus victim disentanglement and removal to a treatment area (extrication).

Extrication Sector Responsibilities

The following items represent the standard operations that will normally be performed by the Extrication Sector:

1. Determine the location, number and condition of all patients (coordinate with Triage).

2. Determine if triage will be performed in place or at the entrance to the treatment area (see "Triage Sector").

3. Determine resources.

4. Assign and supervise extrication teams.

5. Extricate and deliver patients to the treatment area(s) or to a casualty collection point.

6. Provide frequent progress reports to Command. Ensure safety and accountability of all patients and assigned personnel.

7. Coordinate activities with other Sectors.

8. Notify Command when all patients have been removed and that companies are available for reassignment.

The Extrication Officer should be positioned in a readily visible location that is accessible to arriving companies and has a view of the scene. Face-to-face communications should be used within the sector. Company officers should use messengers to relay information to the sector officer. The sector officer shall wear a sector vest for identification purposes and provide frequent progress reports to Command.

As a general rule, patients should be triaged and tagged in the impact area. However, depending on the safety of the site and the arrangement of the patients, there may be instances when triage is performed at the entrance to the treatment area. Regardless of where triage is performed, the triage process requires close coordination between triage, extrication and treatment sector officers.

The first priority for removal to the treatment area will be IMMEDIATE patients followed by DELAYED patients. IMMEDIATE patients should be moved to a treatment area without delay. These patients can easily be spotted with night-reflective IMMEDIATE labels placed on or near their bodies by the triage team(s). In some cases of confined entrapment, removing “DELAYED” patients may occur before access can be gained to “IMMEDIATE” patients. These patients may need to be moved to the treatment sector ahead of “IMMEDIATE” patients.

All non-ambulatory patients should be moved on backboards, with cervical spine precautions if indicated. Companies may be assigned as "litter bearers" to assist in this movement. Pick-up trucks, baggage carts or similar conveyances may also be used. Full spine immobilization may not be possible during the early stages of an incident.

The Extrication Officer should assign personnel to help size-up the situation. An evaluation of the number of patients involved and the complexity of extrication requirements is an immediate priority. A reasonable guideline is an initial commitment of one company per five (5) victims.

This is reasonable for extending initial and immediate care when numerous patients are involved in a major incident. The goal, as resources and priorities permit, is to provide all resources necessary to extricate and move patients to the Treatment Sector.

If the patients are spread over a large area, Extrication should assign companies to a specific area or group of patients. The company officer assigned will determine the immediate needs of those patients and request assistance if necessary. The

Company Officer has responsibility for all those patients until they are delivered to a treatment area or assigned to another company.

If the incident site involves a large area, it may be necessary to create more then one Extrication Sector. Responsibility should be divided geographically with appropriate sector designations. (e.g. “North Extrication). Branch operations may be required to coordinate this effort.

Most ALS personnel should be assigned to the Treatment Sector. However, some paramedics may also need to be assigned to the Extrication Sector to provide ALS treatment for critical patients undergoing extended extrication efforts.

When victims require forcible extrication, ladder companies should be assigned. Ladder apparatus should be brought in close to the scene while other apparatus is parked at a distance to avoid congestion. If the extrication requires specialized equipment (i.e., wreckers, cranes, cutting torches), these must be requested through Command.

The Extrication Officer is responsible for assuring the safety of the area where patients are being extricated. This will require the commitment of personnel with protective lines and extinguishing equipment where a fire risk exists. If fire is involved, coordination with firefighting sectors will be required. The safety of patients and Fire Department personnel must be primary concern.

To reduce confusion and congestion, Triage will initially direct all MINOR (ambulatory) patients using the *S.T.A.R.T.* criteria to a specific area. Extrication Sector is later responsible to further assess these patients once more critical activities have taken place. Extrication may decide to remove these patients to an "Assembly Area." Green salvage covers can be used to identify this area. A bus or other vehicle can be used to transport these people to a suitable location.

As patients are moved from the extrication area, fewer resources may be required. The Extrication Sector should advise Command when companies or personnel are available for reassignment.

Treatment Sector

Treatment Sector is utilized to provide a site to manage the treatment of multiple IMMEDIATE and DELAYED patients at medical incidents. Treatment Sector is responsible for establishing a treatment area to provide stabilization and continuing care of patients until they can be transported to a medical facility. The objective of the treatment sector is to rapidly treat and transport all patients.

Treatment Sector Responsibilities

The following items represent the standard operations that will normally be performed by the Treatment Sector Officer:

1. Identify whether patient treatment will occur "in place" or in a designated treatment area. Coordinate with Triage and Extrication Sectors.

2. Determine resources.

3. Identify and establish a large treatment area. If incident is large, establish separate "Immediate" and "Delayed" treatment areas.

4. Assign and supervise treatment teams.

5. Ensure that all patients have been triaged, assessed and re-triaged as needed.

6. Aggressive treatment and rapid packaging of patients.

7. Provide frequent progress report to Command.

8. Ensure safety and accountability of all patients and assigned personnel.

9. Verify transportation priorities with Transportation Sector.

10. Coordinate with other sectors.

11. Notify Command when all patients have been moved from the treatment area.

The Treatment Sector Office should determine together with Command whether patients will be treated "in place" or treated at a specific treatment area.

If treatment will occur "in place," companies should be directed by the Treatment Sector Officer to specific patient or vehicle (e.g., "Engine 20, you have the patients in the red sedan. Ambulance 17 will assist."). Crews should initially focus their effort on treating and transporting IMMEDIATE patients. These patients can easily be spotted with night-reflective IMMEDIATE labels placed on or near their bodies by the triage team(s). Treatment teams should communicate with Command to obtain additional ambulances.

If patient treatment will occur in a designated "treatment area", then the Treatment Sector Officer should establish a treatment area and prepare for the arrival of patients from Extrication. The treatment entry point should be readily identified (e.g. traffic cones) and have personnel to direct arriving patients. The treatment area must be in a readily accessible location for patient entry and transportation loading but away from any dangerous conditions associated with the incident.

The treatment area should be large enough to absorb all patients and the large numbers of treatment personnel-THINK BIG! This area should be located in a safe area with consideration given to allow for easy access by ambulances. If the incident is large enough, Treatment should designate separate "IMMEDIATE" and "DELAYED" treatment areas.

The treatment area(s) should have a readily identifiable entrance using traffic cones, signs or other markers. Red and yellow salvage covers can also be used to identify the IMMEDIATE care and DELAYED care areas, for IMMEDIATE and DELAYED patients, respectively. One salvage cover provides ample working room for up to three patients.

If the incident scene is very large, it may be necessary to establish more than one treatment area in different locations. Branch operations may be required to coordinate these efforts. Geographic designations (i.e., “East Treatment”, “West Treatment”) should be utilized (see “Multiple Treatment Site Coordination” below).

Treatment shall advise Command when ready to receive patients.

Treatment should assign personnel to meet and direct first arriving litter-bearers on the placement of patients in "IMMEDIATE” and "DELAYED" Areas. Patients in the treatment area should be arranged in an orderly manner with adequate space provided between patients to allow working room for treatment personnel. First arriving patients should be placed near the exit transportation point. Rescuers should first fill from exit towards the entrance as patients are delivered to treatment. This will eliminate personnel from having to step over or move around patients as they are delivered or transported.

Non-triaged patients arriving at the treatment area must be triaged and tagged at the entrance. A triage team should be located at the entrance for this purpose. As these new patients are tagged, the Treatment Sector Officer should forward a “Triage Update” to Command to include these newly-discovered patients.

Treatment personnel must continue to assess all patients for changes in conditions, through an ongoing basis to maintain appropriate triage classifications. Once initial triage activities have been completed, triage teams can be reassigned to Treatment to continuously re-evaluate patients. ALS treatment will be given primarily in the "IMMEDIATE" treatment area. Less intensive patient monitoring and treatment will be given to the "DELAYED" treatment area with mostly BLS personnel assigned to this area. Medical information (vital signs, injuries, treatment rendered) should be documented on the appropriate side of the triage tag.

If the condition of a patient changes significantly (better or worse) it may be necessary to transfer the patient to a higher or lower priority area. The Treatment Sector Officer should be advised. Once all IMMEDIATE patients have been treated, DELAYED patients who have significant mechanism of injury should be reevaluated and upgraded to IMMEDIATE as necessary.

The Treatment Sector must cause aggressive treatment and packaging of patients with an emphasis on rapid transport. The Treatment Sector Officer must maintain an immediate awareness of which patients are ready for transport. The Sector Officer must ensure treatment is rapid, adequate, and appropriate numbers of treatment personnel are assigned to each patient. The only time extended treatment should be considered is when immediate transportation is not available. Close coordination with the Transportation Sector Officer must be maintained to ensure rapid transportation.

When transportation is immediately available, transportation of the patient becomes a priority over extended on-site treatment. Rapid transportation is of the essence.

The Treatment Sector Officer will consult with the Transportation Sector on the allocation of patients to various medical facilities.

The Treatment Sector Officer should forward progress reports and triage updates to Command as needed. The Treatment Sector Officer is responsible for determining the need for additional medical supplies at the scene and should request their delivery through Command.

Transportation Sector

Transportation is established to manage patient transportation from the scene to appropriate medical facilities. Transportation Sector is responsible for arranging all of the transportation needs for a multiple-patient incident and for allocating those patients to appropriate medical facilities.

Transportation Sector Officer Responsibilities

The following represent the standards operations that will be performed by the Transportation Sector.

1. Determine/request resources.

2. Determine (with Command) the rescue loading area and helicopter landing zone as needed.

3. Determine hospital availability status by contacting Dispatch on Med-9.

4. Coordinate patient allocation and destination with Treatment Sector.

5. Aggressively supervise the movement of patients from the treatment area to the ambulance loading area or helicopter landing zone.

6. Maintain an accounting of all patients and patient destinations.

7. Provide progress reports, allocations, ETA's, to receiving hospitals.

8. Ensure the safety and accountability of all assigned personnel.

9. Provide frequent progress reports to Command.

10. Coordinate activities with other sectors, especially Treatment.

11. Notify hospital (through Dispatch) of estimated arrival time of specific rescues or helicopters.

12. Notify Command when all IMMEDIATE patients have been transported.

13. Notify the hospitals when all patients are transported and operations are terminating.

The Transportation Sector Officer must assume a visible position in the treatment area or patient loading area and wear a sector vest.

The Transportation Sector Officer must “size up” the transportation needs, including ground ambulances, helicopters or other transportation modes, as well as staffing needs and communicate those needs to Command. Additional personnel may be needed to assist with medical communications (“Hospital Communications Coordinator”), transport loading (”Loading Coordinator”), record keeping, air medical transport coordination (“LZ Sector”) and staging (“Staging”).

Transportation should determine, in concert with Command, the location for staging units. If helicopters are used, Transportation should establish a landing zone a safe distance from the scene, assign at least one Engine Company to the LZ and designate an “LZ Sector.” LZ Sector will keep track of patient destination, communicate landing instructions with incoming and outgoing aircraft and enforce established safety standards for landing zones.

It may be necessary to use ground ambulances or other vehicles to carry patients from the treatment area to the landing zone. Helicopters should be used to transport critical patients to more distance medical facilities, allowing closer hospitals to receive patients by ground ambulance.

Transportation should also determine a suitable location next to Treatment to establish a patient loading area. Ambulance should be staged off site and brought in to the loading area as needed, no more than two at a time. Transportation must coordinate closely the preparation of patients with Treatment and have ambulances immediately ready in the loading area. Transportation should aggressively seeks patients from Treatment and have two ambulances in the loading area at all times. These ambulances should have a separate entry and exit point into the loading area to eliminate the need to back ambulances.

Transportation Sector must ensure that contact with appropriate medical facilities is accomplished as soon as possible to determine individual hospital capabilities to receive patients. Hospitals should be advised of the location and type of incident, along with the triage report indicating the number of patients, nature (e.g., trauma, burns, medical), and the severity of their injuries. Transportation should initiate medical facility inventory by contacting their Dispatch Center, or through other means, early during the incident.

Treatment Sector will normally advise Transportation when patients are ready for transport. Transportation will allocate patients to medical facilities according to patient injury and priority, hospital capacity and specialty (pediatric, burns, Level I Trauma, etc.).

Transportation of IMMEDIATE patients will receive priority followed by the transport of DELAYED and MINOR patients. If needed, transport of MINOR patients to a medical facility may be accomplished by using city busses or vans. In general, it is preferred to "leap-frog" MINOR patients to distant hospitals to minimize transport times for DELAYED patients to closer facilities.

Personnel assigned to Transportation will remove patients from the treatment area and deliver them to the selected ambulances or other transport units (vans, buses, etc.). Treatment and Transportation Sectors must maintain close coordination to determine the most appropriate allocation for each patient.

Prior to transport, the Transportation Sector Officer (or his/her designee) will remove a transportation tracking slip from each triage tag and write in the transport unit and hospital destination on the slip. These tracking slips are kept by Transportation to maintain an accounting of all patients leaving the scene. They can also be verified by Command, who has the initial triage tracking slips.

When ambulances or helicopters have left the scene, Transportation should advise the Dispatch Center on the estimated arrival time and patient status. The Dispatcher will relay this information to the appropriate medical facility.

When all IMMEDIATE patients have been transported from the scene, Transportation should notify Command. A declaration by Command to Alarm of "All IMMEIDATES Transported" is an EMS tactical benchmark.

Multiple Treatment Site Coordination

In large, complex medical incidents, it may be necessary to coordinate the transport of patients from two or more treatment areas simultaneously. This requires the creation of a Transportation Branch and the assignment of a Transportation Branch Director to coordinate transportation functions for all of the treatment locations.

Transportation Branch has the following responsibilities:

- Ensure the functions of transportation are carried out.
- Supervise and coordinate the transportation functions and personnel assigned.
- Determine/request resource needs to Command.
- Communicate direction to tactical units (sectors).
- Ensure units are completing objectives.
- Maintain incident documentation.

The following represents the standard operations that will be performed by the Transportation Branch Officer:

The following represents the standard operations that will be performed by the Transportation Branch:

1. Coordinate the assignment of rescues from Staging area to various sectors (e.g., East Transportation, West transportation, LZ).

2. Determine hospital availaiblity status through Dispatch.

3. Coordinate all patient allocation and hospital destination.

4. Coordinate the movement of patients from treatment areas to Rescue loading areas or helicopter landing zone.

5. Maintain an accounting of all patients and patient destinations.

6. Ensure the safety and accountability of all assigned personnel.

7. Provide frequent progress reports to Command.

8. Notify hospital (through Dispatch) of estimated arrival time of specific rescues or helicopters.

9. Notify Command when all IMMEDIATE patients have been transported.

The Transportation Branch Director will be stationed at a central location, preferably at or close to the Command Post. Transportation Sector personnel will be assigned to each treatment area as well as at Staging and at the Helicopter Landing Zone. The Transportation Branch Director will coordinate all of these assignments and assign necessary resources to them. Each Sector (e.g., “East Transportation Sector”,” West Transportation Sector,” “Staging,” “LZ”) will require at least two personnel with a portable radio.

Due to the complexity of this operation, a separate radio channel should be assigned exclusively to the Transportation Branch. This will facilitate the amount of communications necessary between the Branch Director and the assigned Sector Officers at each location. The Transportation Branch Director will handle all communications with Dispatch.

The Transportation Sector personnel in each location will communicate their transportation needs directly to the Transportation Branch Director to obtain resources. The Transportation Branch Director will then direct Staging to assign one or more ambulances to a specific loading area.

When an ambulance is ready for loading, a Transportation Sector Officer should advise Transportation Branch of the number of patients being loading into an ambulance and their severity. The Branch Director will then advise the Transportation Sector Officer on the destination hospital. This Sector Officer will advise the ambulance personnel of their hospital destination. The Transportation Branch will advise receiving hospitals of enroute patients, their triage status and provide an ETA.

Each Transportation Sector Officer will also remove a transportation tracking slip from the triage tag of each patient and write in the transport unit and hospital destination. Other information (name, age, injuries) can be completed on the tracking slip as time permits. These tracking slips are kept by Transportation to maintain an accounting of all patients leaving the scene. They can also be verified by Command, who has the initial triage tracking slips.

The Transportation Branch Director will assign necessary resources to the Helicopter Landing Zone to move patients from the treatment areas over to LZ. This may require the use of an ambulance. Helicopters should be used to transport IMMEDIATE patients to more distant appropriate medical facilities.

The Transportation Sector personnel assigned to each Treatment Area will perform the same function as established for an incident with a single treatment area. The Transportation Sector Officer functions as a coordinator and resource allocator, consolidating communications with Dispatch and Command.

ADDITIONAL SECTORS

Safety

Command should assign Safety Sector as soon as the basic sectors have been established.

Staging

As the incident escalates, a Staging Sector may be required. To avoid scene congestion, a Level II staging area will be identified for any multi-patient incident.

Medical Supply

Medical Supply Sector is responsible for the procurement, delivery and stockpiling of medical supplies needed at the scene. This sector should obtain additional medical supplies, oxygen refill capability and oxygen distribution system.

LZ Sector

If helicopters are used, an LZ Sector will be established with a landing zone a safe distance from the scene. LZ Sector will keep track of patient destination, communicate landing instructions with incoming and outgoing aircraft and enforce established safety standards for landing zones (Brush Fire Air Support). At least one Engine Company will be assigned to the LZ.

APPENDICES

Appendix I – Sample MCI Scenarios

Scenario: A summer dust storm strikes Casa Grande on Highway 387 near the airport. The ensuing wall of dust blows over a large highway. Although most motorists slow down, a few continue speeding in blind ignorance. One drifts over the centerline. A crash occurs...then another....then another.

Soon, nine vehicles have collided. A van rolls over; two cars hit head on. As the dust clears, the first-arriving EMS crews find cars, debris and people scattered over 300 yards. There are more than 25 victims, several with life-threatening injuries.

Triage Profile:	Vehicle #1	1	Dead/Dying
		1	Immediate
		2	Delayed (1 pediatric)
	Vehicle #2	2	Delayed (adult, c spine)
		2	Minor (found curbside w/o c/c)
	Vehicle #3	1	Dead/Dying (elderly)
		1	Immediate (elderly)
		2	Delayed (elderly)
	Vehicle #4	2	Immediate
	Vehicle #5	4	Delayed (2 pediatric)
	Vehicle #6	1	Dead/Dying
		1	Immediate
	Vehicle #7	2	Delayed
		2	Minor
	Vehicle #8	1	Immediate
		3	Delayed
	Ejected Patients:	1	Dead/Dying
		1	Immediate (pediatric)
		1	Immediate
	Total Patient Count:		31
Patient Breakdown:		8	Immediate (1 pediatric, 1 elderly)
		15	Delayed (3 pediatric)
		4	Minor
		4	Dead/Dying (1 elderly)

Resource Needs:

- 31 mannequins
- 9 Portable radios
- 2 Demolition vehicles
- 7 Other vehicles
- 2 “Drill In Progress” signs
- 12 Orange Baseball Caps
- CE Forms
- 12 Clipboards/pens
- Refreshments

Manpower:

- 1 Controller
- 7 Evaluators
  - 3 AEMS Evaluators: (CMD, Triage, Treatment)
  - 4 Agency Evaluators: (Extrication, Transportation, LZ, Safety)
- 1 Offsite Staging Officer
- 1 Dispatcher
- 2 Go-fers

Sample Time Table:

Topic	Time Frame	Time of Day
Crew Arrival/Check-In	30 minutes	1630 - 1700
Introduction/Purpose/Objectives/Pizza	30 minutes	1715 - 1745
Triage/Command Breakout Sessions	45 minutes	1745 – 1830
Break / Report to Holding Area	15 minutes	1830 – 1845
Commence Drill	45 minutes	1845 – 1930
Clean Up/ Report to Classroom	15 minutes	1930 – 1945
Debriefing/Evaluation/Wrap-Up	45 minutes	1945 - 2030

Emergency: If anyone has a problem or real emergency, say: *CODE RED* ! ! Notify the Controller immediately by radio. The Controller will suspend the Drill until the nature of the problem or emergency has been determined and/or handled.

Running Order Sequence:

Agency	Radio Call Sign	Unit Type	Crew Chief	# on Crew	Capabilities (ALS/BLS/EXT/TXP)	Running Order
						T +
						T +
						T +
						T +
						T +
						T +
						T +
						T +
						T +
						T +
						T+
						T +
						T +
						T +

Appendix II – Sector Checklists

The First Responder

TASK	YES	NO	N/A
Triage patients us ing *S.T.A.R.T.*			
Utilize the Arizona Triage Tag System.			
Identify appropriate treatment modalities.			
Operate under various sectors.			
Assist in patient transportation.			

First-Arriving Company Officer

TASK	YES	NO	N/A
Give an accurate on-scene report.			
Perform a rapid hazard assessment.			
Initiate traffic control.			
Provide for occupant protection.			
Call for additional resources.			
Initiate Triage.			
Radio a Triage Report to Dispatch.			
Identify a treatment area.			
Assign crew(s) specific tasks to accomplish.			
Establish sectors.			
Initiate patient assessment and treatment functions.			
Coordinate patient transportation.			
Transfer Command to a Command Officer.			

First-Arriving Command Officer

TASK	YES	NO	N/A
Establish a Command Post.			
Develop an appropriate command organization.			
Establish objectives. Request resources.			
Provide for triage, extrication, tx. & txp. of all patients.			
Establish a treatment area or areas.			
Provide for scene safety.			
Allocate resources to sectors.			
Notify area hospitals.			
Distribute and account for all patients.			
Liaison with other agencies.			
Update Dispatch with progress reports.			
Complete EMS Tactical Objectives.			

Emergency Transport Services

TASK	YES	NO	N/A
Stage in an appropriate location (Staging or LZ).			
Report to assigned sector.			
Receive patient information from treatment personnel.			
Load patient in to unit.			
Transport patient to assigned facility.			

Triage Officer

TASK	YES	NO	N/A
Determine the location, number and condition of patients.			
Determine resources needed for triage.			
Assign and supervise triage teams.			
Ensure triage is based on *S.T.A.R.T* & pts. tagged appropriately.			
Ensure safety and accountability of all assigned personnel.			
Provide frequent progress reports to Command.			
Coordinate activities with other sectors.			
Provide Command with a "Triage Report.			
Forward triage tracking slips to Command.			
Terminate triage activities and report to Command for reassignment.			

Extrication Officer

TASK	YES	NO	N/A
Determine the location, number and condition of all patients.			
Determine resources.			
Assign and supervise extrication teams.			
Extricate and deliver patients to the treatment area(s).			
Provide frequent progress reports to Command.			
Ensure safety and accountability of all patients and assigned personnel.			
Coordinate activities with other Sectors			
Terminate extrication activities and report to Command for reassignment.			

Treatment Officer

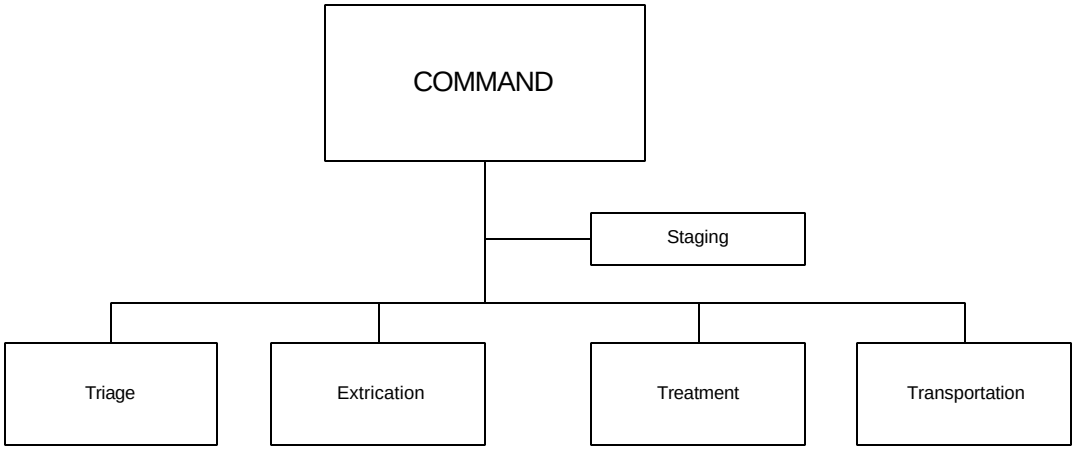
TASK	YES	NO	N/A
Identify treatment area. If incident is large, establish separate "Immediate" and "Delayed" treatment areas.			
Determine resources.			
Assign and supervise treatment teams.			
Ensure that all patients have been triaged, assessed and re-triaged as needed.			
Ensure aggressive treatment & rapid packaging of patients.			
Provide frequent progress report to Command.			
Ensure safety and accountability of all patients & assigned personnel.			
Verify transportation priorities with Transportation Sector.			
Coordinate with other sectors.			
Notify Command when all patients have been moved from the treatment area(s).			

Transportation Officer

TASK	YES	NO	N/A
Determine/request resources.			
Determine ambulance loading area and helicopter LZ.			
Determine hospital availability status.			
Coordinate patient allocation & destination with Treatment Sector.			
Aggressively supervise the movement of patients from the treatment area to the loading area or helicopter LZ.			
Maintain track of all patients & patient destinations.			
Provide progress reports, allocations, & ETA's, to receiving hospitals.			
Ensure the safety and accountability of all assigned personnel.			
Provide frequent progress reports to Command.			
Coordinate activities with other sectors, (esp. Treatment).			
Notify hospitals of ETAs of specific ambulances or helicopters.			
Notify Command when all IMMEDIATE patients have been transported.			

Appendix III -- Sample Incident Command Charts

Intial Multi-Patient Incident Response
First Alarm Medical
5 - 10 Patients



NOTES:

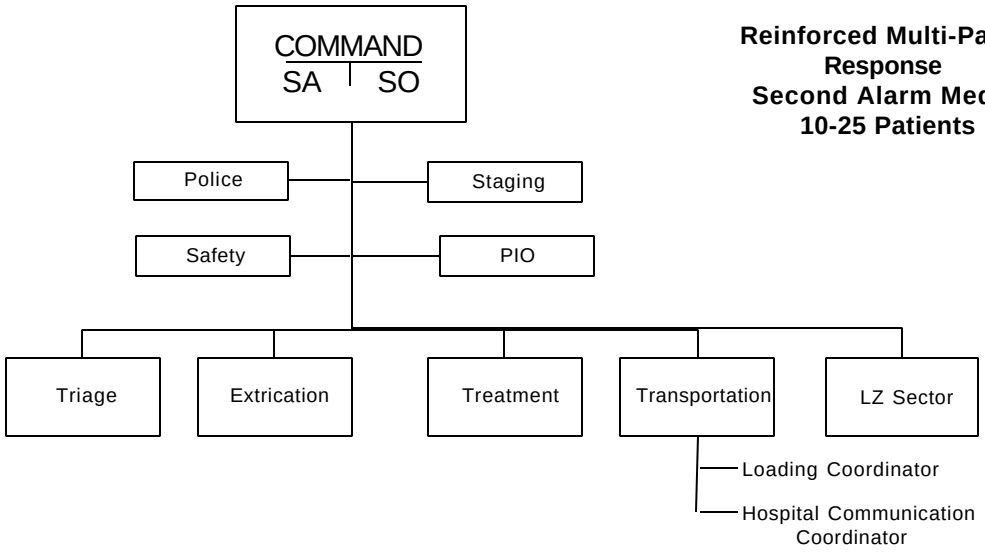
1. The triage function should be performed by the first arriving company. Normally, it will last 4-6 mintues. A sector assignment may not be necessary.

2. Extrication may be assigned, if needed, when physical disentanglement or patient removal to a treatment area is needed.

3. Treatment is preferred in a designated treatment area, or can be performed "in-place," as directed by Command.

4. The Transportation Sector function may be managed by Command or assigned to a designate member, depending on complexity of the incident.

5. A Level II Staging area should be used for the balance of the assignment (after the Level 1 approach). All resources must stage.

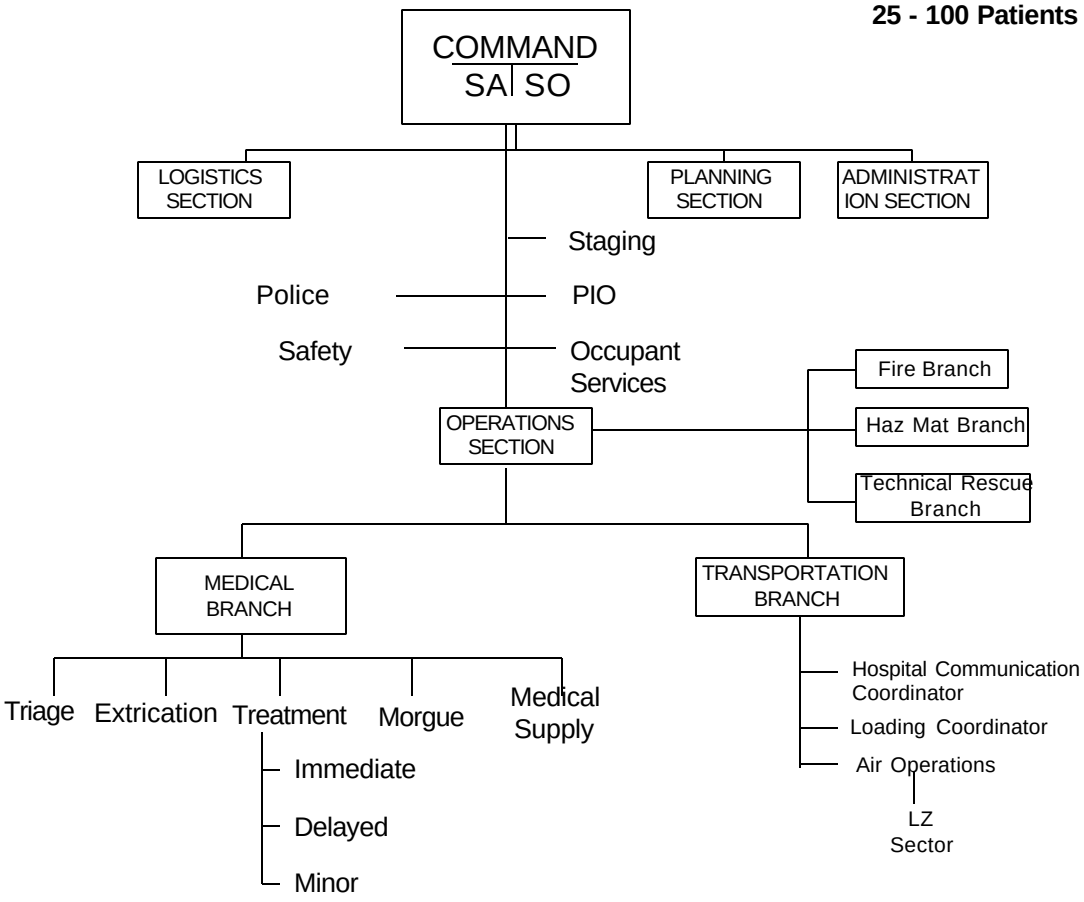


Reinforced Multi-Patient Response
Second Alarm Medical
10-25 Patients

NOTES:

1. A Triage Sector should be assigned.
2. The Extrication Sector should be assigned to manage physical disentanglement or removal of patients from the impact site to a treatment area.
3. A Treatment Sector should be established with colored salvage covers used to identify Immediate, Delayed, and Minor treatment areas.
4. Transportation Sector will need a minimum of one company assigned to perform its functions, and be assigned a separate tactical channel, in addition to Med-9.
5. A LZ Sector will be used for helicopter operations.
6. A minimum of one engine company should be assigned to the LZ, with the Company Officer becoming "LZ Sector."
7. The Hospital Communications Coordinator should check on hospital availability through Dispatch on Med-9.
8. A Level II Staging area must be established for all resonding companies.
9. Rescues should be sent to loading area, no more than two at a time.

Mass Casualty Incident Response
Third Alarm Medical (or greater)
25 - 100 Patients



NOTES:

1. Triage should continue as a Sector and may involve several companies.
2. The treatment area must be identified early and include patient re-evaluation.
3. Medical Branch and Transportation Branch should be considered with a large number of patients.
4. Transportation Branch has a Loading Coordinator assigned to the treatment area.
5. Transportation Branch will need a minimum of one company assigned and should operate on a separate tactical radio channel, in addition to Med-9.
6. A minimum of one engine should be assigned to the LZ, with the Company Officer assigned as "LZ Sector."
7. The Hospital Communication Coordinator should check and re-check hospital availability through Dispatch on Med-9.
8. Rescues should be sent to the loading area, no more than two at a time.
9. Medical Support 19 and one medical supply truck will be dispatched to the scene when a Third Alarm is requested (see Medical Supply Sector).

03/2000

Appendix IV -- MCI Exercise Critique

Directions: Following response to a simulated multi-patient or mass casualty, Evaluators should complete the information below and review it with all drill participants.

General Information

Location:				Date:
Nature: 962 Fire Hazmat Shooting Other:				Time:
Final Alarm Type (1-A-M, 2-A-M):				Shift:
Description of Incident:				
Total # Patients:	# *Immediate*:	# *Delayed*:	# *Minor*:	# *Dead/Dying:*

Sector Assignments

CMD:	Treatment:	Air Ops:	Medical Supply:
Triage:	Transportation:	LZ:	Rehab:
Extrication:	Staging:	Safety:	Other:

Triage

	Yes	No	N/A*
1. Was triage performed?			
2. Were triage hip kits with triage tags and Immediate labels used?			
3. Was triage accurate (based on interviews, EMS forms, patient follow-ups)?			
4. Was a "Triage Report" given to AHQ? At what time:			
Explain:			

Extrication

1. Were rescue tools used effectively?			
2. Was a protective hand line pulled and charged?			
3. Were litter-bearers used to move patients to the treatment area?			
4. Did Extrication report an "*All Clear*" indicating that all patients were extricated?			
Explain:			

Treatment

	Yes	No	N/A
1. Was a central treatment area designated?			
2. Was the treatment area large enough?			
3. Were salvage covers, signs, flags or tape used to signify treatment areas?			
4. Were any patients upgraded from *Delayed* to *Immediate* due to mechanism?			
Explain:			

Transportation

1. Was a separate channel used to communicate transportation needs to Dispatch?			
2. Were any *Delayed* or *Minor* patients transported before *Immediate* patients?			
3. Were *Immediate* pediatric patients taken to pediatric trauma centers?			
4. Was an "*All Immediates Transported*" declared? At what time?			
Arrival time of first fire department unit:	Time of transport of first *Immediate:*	Time of transport of last *Immediate:*	
Explain:			

Hospital Utilization

1. Were hospitals notified and updated in a timely manner?			
2. Did any hospital refuse or divert patients?			
3. Was communication with hospitals effective?			
Explain:			

Safety

1. Were sectors established early and in safe areas?			
2. Were sector vests worn by sector officers?			
3. Were sectors effectively managed?			
4. Was there adequate staffing assigned to each sector?			
5. Did personnel don appropriate PPE?			
Explain:			

Appendix V – Participant Evaluation

The goal of Advanced MCI Training Program is to give EMS personnel an opportunity to improve their ability to manage a multi-patient incident or mass casualty incident. Thank you for you input and ideas.

Date: _____ Location: _____ Agency: _ _____

Excellent Good Fair Poor

1. Please rate the usefulness of the Introduction/Overview

2. Which Breakout Session did you attend? Triage Review
   Command Review

Excellent Good Fair Poor

3. Please rate the usefulness of the Breakout Session.

4. Please rate the quality of the Breakout Session Presenter

5. During the drill, to what sector were you assigned? _____

6. Were you a Sector Officer? Yes No

7. In your assignment, were you given clear assignments and directions? Yes No
   If no, please explain below.

8. Were your individual efforts effective? Yes No
   If no, please explain below.

9. Were your sector actions effective? Yes No
   If no, please explain below.

10. After today's MCI drill, how comfortable or confident do you feel if you had to perform triage at a multi-patient or mass casualty incident?

    Very Confident Confident Somewhat Unsure of Myself Very Unsure of Myself

11. Additional Comments (What did you like the MOST about the program? The LEAST?)

_____

_____

_____

_____

Thank You!