National Park Service Multi-Casualty Incident Drill Manual

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MCI Drill Manual

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I. Introduction:

This manual is intended to be a user-friendly handbook for EMS Coordinators outlining how to set up and operate a Multi-Casualty Incident (MCI) Drill for Parkmedics, Paramedics, EMTs and other emergency response personnel. Included here are how-to instructions for an MCI Drill Day starting with continuing education lectures on the Incident Command Systems (ICS) structure, MCI policy review, and START/Jump START Triage procedures. The guide then provides detailed descriptions on how to run a triage tag drill, a tabletop MCI demonstration, and multiple short and long field scenarios. The scenarios include customizable backstories and patient descriptions in order to tailor the scene to the particular park in which the drill is taking place.

II. Format:

This manual follows a timeline, starting with preparation prior to the MCI Drill day leading up to and including the actual drill date.

III. Setting the Date:

EMS coordinators should choose an MCI Drill date that optimizes training, taking into consideration when the most responders will be available to participate in and benefit from an MCI drill. Environmental problems such as heavy snow during the winter or high temperatures during the summer may hinder full participation and thus, should also be taken into consideration. Adding an additional day to an existing EMS refresher course may take advantage of personnel already present in the area. Remember to check for conflicts with other CE schedules such as fire and law enforcement. Also, consider mutual aid agreements with neighboring EMS systems to potentially run joint MCI drills. In urban systems, consider participating in an established MCI drill day if one already exists.

IV. Location:

When selecting a location for the MCI Drill consider a building with lecture capabilities (e.g. fire station with meeting room). Use rooms for lectures and indoor (table top) scenarios and a large parking lot for scene set up and road related MCI's. Ideally there should be natural terrain nearby for subsequent scenarios. Additional considerations include access to water and restrooms, shade and safety precautions specific to each individual area.

V. Drill Participants:

Parkmedics, paramedics, EMTs, physicians, nurses and other emergency response personnel as well as volunteers interested in first response will have the opportunity to participate in and learn from these MCI Drill day exercises. Each participant will be assigned a specific role for each scenario as outlined in Drill Assignments (See XI.-6.) below or given a patient card with a description of the patient they are to portray (See IX.).

VI. Lectures:

1. Introduction to the Incident Command System (PowerPoint, Lecture #1)
   Objectives:
      Understand why Incident Command System (ICS) is used
      Overview of the ICS including:
         ICS Structure

Position responsibilities
Position assignment

Note: The abbreviated ICS structure described in this lecture is designed for the limited/delayed manpower often faced by NPS EMS providers. (Appendix L).

2. NPS MCI Policy (PowerPoint, Lecture #2)
Objectives:
Become familiar with the NPS MCI Policy
Know where to go for information
Learn the major roles in an MCI

Note: This lecture stresses frequent mistakes made during real MCI's. Special attention is also spent on roles, responsibilities, checklists, and logs.

3. Triage Tags (METTAGs) and START/Jump START Triage (PowerPoint, Lecture #3)
Objectives:
Triage Tag (METTAG) overview
Description of Priority Levels- Immediate/Red, Delayed/Yellow, Minor/Green, Deceased or Morgue/Black
Review START Triage Algorithm Examples- Review at least one of each designation/color
Review Jump START Triage Algorithm Examples- pay specific attention to Jump START differences

VII. Preparing the Scenarios:

Three small scenarios or one large scenario fit well into an MCI Drill day. Smaller scenarios allow people to participate in several different roles during the day (see Shadows XI., 6-B) and allow the opportunity to practice several different possible disaster situations. Longer scenarios permit moulage for more realistic patients, and more time for practice with extrication and treatment. EMS coordinators should consider creating specific MCI scenarios that address issues unique to their park; a list of suggested scenarios is in Appendix P. EMS coordinators should also take into account the location of the disaster in the park as this affects which personnel may need to be dispatched to the scene. In addition, mutual aid agreements may necessitate creating scenarios that cross park boundaries. Consider a scenario where two simultaneous MCI's occur, in order to practice redispatch and redistribution of resources. Consider hiding a patient in a scenario to make sure the scene is properly swept for patients or adding a victim who is without medical complaints.

There are three detailed scenarios included in this handbook. Of the three scenarios, the first scenario has been designed to be generic and thus applicable to all parks. It includes six patients requiring the most complex pathways through the START/Jump START triage algorithm. These six patients are initially presented in the START/Jump START Triage Lecture as examples of how to triage patients. Scenario One is again used in the Table Top demonstration and also as the first outside scenario of the day so that the EMS personnel have practice with triaging each patient set prior to their first actual drill. The example for Scenario One is presented below.

An adult and a child are bicycling down a hill when they lose control and go over an embankment, landing on the road. A car with four passengers swerves to avoid the bicycle and runs into a tree on the rear passenger's side. One person laying in the dirt and the four passengers of the car are visible.

VIII. Creating Patients for Scenarios:

This handbook includes patients for three scenarios (See Sample Scenarios, Appendix N) as follows:

Scenario One- 6 patients
Scenario Two- 8 patients
Scenario Three- 6 patients for Part One, 4 for Part Two

Note: For this third scenario part one starts and then approximately thirty minutes later a second MCI, (part two) occurs in a different location.

EMS coordinators creating their own scenarios may choose to vary the number of patients depending on their parks needs. Appendix P contains a list of ideas for ways to customize the scenario for a particular park.

The START and Jump START Triage have a total of 16 different triage possibilities; it is recommended that each triage possibility is used at least once in the scenarios. The six used in the lecture and Scenario One were chosen to include the most complex pathways to learn (pediatric black and red, and adult yellow).

IX. Patient Cards:

For each patient created, an index card is made which includes a series of answers delineating how each mock patient should be triaged using the decision points in the START/Jump START algorithm. Answers to the questions "Can you walk," "Breathing," and "Respirations" along with notes/bullet points on how to act (role play), and vital signs are included on individual cards given to each mock patient. More detail allows for more accurate patient role playing, however it also adds to preparation time. Also included on the card is the correct triage priority for that patient so the volunteer can see if they are triaged correctly and if not, report later during the debrief period.

Example:

Patient #4
Rear, passenger side of car
9 year old trapped in car due to two foot space intrusion into car by tree
Unable to walk- you have severe pain in your right leg and a laceration over your thigh which is pumping bright red blood everywhere
Normal breathing and respirations are 24 per min.
No palpable pulse in your right groin or foot, your right foot is white and cool to the touch, if the bleeding continues your entire body is going to be the same. You have an open right femur fracture with an arterial injury and are going into shock due to blood loss.
Immediate/Red
Vital signs when taken on secondary survey: BP 70/30 HR 150 RR 24

X. Patients:

Personnel who participate in the drill as MCI patients should ideally be a combination of EMS personnel participating in the drill day, plus adult and child volunteers. If children are available, this is a great opportunity for EMS personnel to practice their pediatric Jump START triage skills. Be aware

some young children have a hard time following the patient cards and often end up triaged to different priority categories depending on the answers they give to triage questions. Also, written vital signs, triage decisions etc. may need to be modified depending on the age of the participating child.

XI. MCI Day:

Overview of day:

With adequate planning, the MCI drill day can be completed in eight hours including a one-hour lunch break. Starting times may need to be adjusted depending on park needs (i.e. starting late afternoon to avoid the heat or to practice during the night).

1. Introduction:

First, introduction packets are handed out to each drill participant including the following:

MCI Drill Schedule (See Appendix M)
MCI Policy
IC, Triage, Extrication, Treatment, Transport and Dispatch checklists (Appendix A-F)
START and Jump START Triage algorithms (Appendix G and H)
Triage/Transportation Log (Appendix J)
Resource/Personnel Request Log (Appendix K)

2. Lectures:

Averaging 15-20 minutes long, each lecture is presented in the following order. (See Section VI)

A. Introduction to ICS
B. NPS EMS MCI Policy
C. Triage Tags (METTAGs) and START/Jump START Triage

3. Table Top Scenario:

After the lectures are concluded, a tabletop drill of Scenario One is performed. This is an opportunity for everyone participating to sit in a room and listen to experienced EMS responders verbalize how they would respond to and triage the MCI. The patients used in this scenario are again the ones used in the START/Jump START Triage Lecture so that everyone is already familiar with how these patients should be triaged. The EMS drill coordinator should pre-select one of the more experienced EMS responders in the room to play the role of IC.

The EMS drill coordinator will begin the drill by giving the dispatch assignment: “A 911 call has come in reporting a crash involving five people on the road to XYZ, do you copy?” The Incident Commander (IC) will then respond to dispatch by verbalizing their arrival on scene. The EMS drill coordinator then describes out loud the scenario. “An adult and a child are bicycling down a hill when they go over an embankment and land on the road. A car with four passengers swerves to avoid the bicycle and runs into a tree on the rear passenger’s side. One person laying in the dirt and the four passengers of the car are visible.”

The IC then begins by giving the “initial multi-casualty call in report” including requests for additional resources from dispatch and then starts triaging patients. At some point the EMS coordinator, playing the role of dispatch, will announce the arrival of back up. The IC then will give a summary of the situation and assign a new role to each of the oncoming personnel. The

drill will then continue until the Transportation Leader gives the "multi-casualty patient report" as filled out on the Transportation Log (Appendix J) to the Base Hospital. This table top also provides the opportunity for each observing participant to simultaneously practice filling out the Resource/Personnel Request Log (Appendix K) and Transportation Log (Appendix J) and to hear the complete call in format to dispatch and a Base Hospital.

Upon completion of the Table Top, time should be reserved to answer questions and debrief the drill.

4. Triage drill:

This drill will reinforce the importance of being able to quickly and accurate triage patients during an MCI. For this drill a "trainee" refers to any EMT, Parkmedic, Paramedic, Emergency Medical Responder, or other MCI drill participant. The "educators" include any individuals helping to run the MCI day, e.g. physicians or the volunteer patients.

Print out cards that have brief patient scenarios covering each of the START and Jump START triage pathways (Appendix Q). Hand one card to each educator, and have each of the educators stand outside in a large circle facing inward. Then have each trainee stand in front of one of the educators, creating an inner circle. Have one person act as the Timer. When the Timer calls "start", the educator will read the scenario to the trainee. The trainee must then decide into which triage category the patient will be sorted. The scenario will last 30 seconds, at which point the Timer will call "next!" and each trainee will rotate to the next educator. At the next station, the educator will immediately start reading the scenario and the trainee will answer. This will proceed until the trainee has rotated through every station.

If the trainee sorts the patient into the wrong color category, the educator must explain the reasoning behind the correct answer.

Between START and Jump START there are 16 different triage possibilities, so there will ideally be at least 16 stations. As each station takes only 30 seconds, this entire drill can be completed fairly quickly. If you are short on educators, simply double the cards given out to the educators. The 8 educators can then review all 16 triage possibilities during 60 second stations.

5. Lunch Break:

Consider using this time to moulage the patients for the afternoon scenarios.

6. Scene Set Up:

Designate six patient volunteers and give each of them their patient cards with a description of the general scenario and their individual instructions. Ensure each patient understands their role and how to respond and react when examined. All other drill participants should be sequestered with no prior knowledge of the scene set up. Move cars, use buildings and natural terrain to try and make the scenario as realistic as possible.

7. Field Scenario One:

The first scenario of the day is again Scenario One, using the same patients presented in the lecture and during the tabletop drill. This is for reinforcement of concepts and to reduce stress for the first IC of the day. The drill coordinator will send in the first responder who assumes the role of IC following the MCI Policy and IC Checklist (See Appendix A). The EMS drill coordinator will

then send requested resources (EMS providers, ambulances, helicopters, etc.) in a timed fashion designed to mimic real world conditions, but also to complete the scenario in a reasonable time. The general rule is that 1-2 minutes of drill time equals 10 minutes of real time. The IC should assign each new provider a role as they arrive according to the needs of the scene. The drill then progresses until all patients have been triaged, extricated, and transported off scene.

8. Drill Assignments:

These positions are designed to evaluate the performance of the key EMS provider roles in each drill scenario and/or learn by "shadowing" these same key players.

A. *Leader Evaluators*- Experienced EMS personnel should be assigned to each of the leaders (IC, Triage/Extrication, Treatment/Transport, and Dispatch). Each of these evaluators will observe the actions of their assigned leader and participate in the critique of their performance. Evaluators should have the check off list for the leader they are assigned to evaluate, as well as information about the overall scenario and copies of each patient card and triage designation.

B. *Shadows*- In order for more participants to have exposure to the roles of IC, Triage Leader etc. shadows can be assigned to each role. For example the IC's designated shadow would follow the IC around and only observe their actions without any direct participation. These shadows should also have the appropriate checklist. This practice increases the number of participants who experience the drill first hand.

C. *Scene evaluator*- If additional personnel are available a scene evaluator can be assigned to roam the scenario and assist patients with cards and compliance and note incorrect triages.

D. *Observers*- Personnel not in any of the above roles may observe but should be placed in a designated area which will not interfere with operations.

Note 1: Observers may be used to add to the complexity of the scene by designating some of them as bystanders who offer help, get in the way, disrupt scene management, etc.

Note 2: If manpower is limited, priority should be given first to an IC Leader Evaluator, then an overall Scene evaluator who can monitor triage and observe all other leaders. These positions are important sources of feedback during the critique following each scenario.

9. Identification:

In order to identify all the drill participants, each assigned person should wear a vest or large colored t-shirt with their title marked in tape or written in black marker on their back. Ideally all Shadows should be specified by one color t-shirt, all Evaluators by another and all Leaders by a third. Example of titles on the back would be- IC, IC Shadow, IC Evaluator, Triage Leader, Triage Shadow, Triage Evaluator, etc…

All volunteer patients should be identified with a colored wrist band, moulage or with scenario appropriate clothing.

10. Media/Moulage:

For publicity purposes, notification to news groups in advance of an MCI Drill can facilitate public awareness of a park's disaster preparedness. If you chose to involve the media, they especially like moulage, however, moulage is time consuming and can get expensive. If moulage is to be used consider preparing patients during the lunch break. If there is an extra volunteer during one of the scenarios, consider asking them to film/photograph the event.

11. Debrief:

After each drill, 15-20 minutes should be reserved for review of the drill and critique. Priority in descending order should be given to self-critique of leadership roles (starting with the IC), then evaluators, shadows, patients and lastly observers. Participants should give their observed experiences and ideas for future improvements. Communication problems among leaders is a common topic and often shows significant improvement in subsequent scenarios. Use Leader check lists during critique to evaluate completeness and timeliness of performance.

12. Dispatch:

If dispatch in your park typically occurs through an NPS dispatcher, he or she should also be involved in the drill and critique. Other dispatch arrangements should be considered on a case-by-case basis.

13. Communications:

All communications should occur using regular park equipment (cell phone, radio, etc.) and should begin and end with "This is a drill." If a Base Hospital is available, normal park communication and an assigned MICN or Base Hospital Physician, aware of the drill, should be used to answer the call.

14. Additional Field Scenarios:

Scenarios Two and Three are carried out in the same format at Scenario One, except personnel are assigned to a different role for each drill. Drills should be tailored to each park's likely threats.

15. Wrap-up:

Upon completion of all scenarios the EMS drill coordinator should summarize the take home points and lessons learned from the drill. Participant Evaluation Forms (Appendix O) should be handed out, completed and then collected prior to people leaving.

16. What to Bring:

Handouts for each drill participant:
- Schedule for MCI day
- MCI Policy
- START/Jump START Triage Algorithm
- IC, Triage, Extrication, Treatment, Transport and Dispatch Checklists
- Resource/Personnel Request Log
- Transportation Log

Sample Scenarios

Cards for each “patient”
Participant Evaluation Forms
Identification Vests or T-Shirts
Broselow Tape/ NPS Pediatric Resuscitation Tape
Triage Tags/METTAGS
Lectures (Computer and PowerPoint Program, Projector)
Extrication equipment (backboards, K.E.D., etc…)
Moulage Makeup
Sunblock and other weather/environment protection
Cushions/Pads for “patients” to lie on
Water and Food

Appendix M
Sample MCI Drill Schedule

9:00 am	Welcome, introductions, and agenda
9:15 -10:30	Lectures (15-20 minutes each)
	ICS Overview
	NPS MCI Policy
	START/Jump START Triage, Triage Tags (METTAGs)
10:40 - 11:30	Table top scenario
11:40 -12:00	Rapid triage drill
12:00 - 1:00	Lunch & moulage of volunteer patients

Afternoon Option 1: three short scenarios

1:00-2:00	Scenario 1
2:00- 2:15	Debriefing while resetting the patients for next scenario
2:15- 3:15	Scenario 2
3:15- 3:30	Debriefing while resetting the patients for next scenario
3:30- 4:30	Scenario 3
4:30- 5:00	Final debrief and wrap up

Afternoon Option 2: two scenarios

1:00-2:30	Scenario 1
2:30-2:50	Debriefing while resetting the patients for next scenario
3:00- 4:30	Scenario 2
4:30- 5:00	Final debrief and wrap up

Afternoon Option 3: one long scenario

1:00-4:00	Scenario 1
4:00- 4:30	In-depth debrief and wrap up

Note: Consider alternating between shorter and longer scenarios each year. When enacting a longer MCI drill, consider joining with other nearby parks and agencies to increase the number of participants.

Appendix O
Participant Evaluation Form

Please take a few minutes to fill out this form. Your opinions and suggestions will help us prepare for future MCI Drill's.

1. What were your roles or assignments?

2. Please rate the overall exercise on the following scale.
   Very Poor 1 2 3 4 5 6 7 8 9 10 Very Good
   Comments:

3. Did the exercise realistically simulate an emergency environment and emergency management?
   Disagree 1 2 3 4 5 6 7 8 9 10 Agree
   Comments:

4. List 2 examples of medical disasters in your area that you would like to see in future MCI drills.
   1.
   2.

5. The following parts of the lectures/MCI Policy/drills should be revised (and why?).

6. I suggest you add/delete the following to the lectures/MCI Policy/drills (and why?).

7. As a result of this drill do you feel better prepared to handle an MCI?
   Not Prepared 1 2 3 4 5 6 7 8 9 10 Very Prepared

8. Were the date and location convenient? Please suggest dates and locations for future MCI Drill days.

Please add any additional comments on the back of this sheet.