



NYCEM CERT Basic Training

Participant Manual





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Unit 1: Introduction to NYC CERT / ICS

Unit Instructor Information

Name	Agency	Contact Information

Unit Introduction

As you embark on the next few weeks of NYC Community Emergency Response Team (NYC CERT) training, it is important that you think about your role in the NYC CERT team you will join regarding neighborhood and community preparedness activities, disaster planning, and response.

With regard to protocol and procedure for preparedness and response, the NYC CERT program in New York City is managed and directed by the NYC Emergency Management (NYCEM). Each individual team represents the neighborhoods and communities in which it serves.

All NYC CERT members must follow the Standard Operating Procedures (SOPs) that have been developed for your protection. The NYC CERT SOPs are a set of policies and procedures that outline deployment, team structure, team development, uniforms and equipment, and identified roles. You may access the SOPs at: http://www.nyc.gov/html/oem/downloads/pdf/cert/cert_web_sops.pdf

UNIT OBJECTIVES

You will learn:

- About the NYC CERT program and its mission;
- The principles of READY New York and how to prepare yourself, your home, and your community;
- A NYC CERT team's role and how NYC CERT teams behave in action;
- What you can expect from training and the course curriculum;
- An overview of the Incident Command System and how NYC CERT fits in; and
- The NYC CERT Deployment Protocol.

UNIT REVIEW

From this point on, everything you learn will fit into the Incident Command System (ICS). Please review the SOPs as the weeks go by.

LOOKING FORWARD

Next week you will begin the Urban Environment units, starting with high-rise building and utility emergencies. The information presented to you in the following weeks will raise your personal awareness to help you stay safe and inform you as to your role as a NYC CERT member.



Unit 1: Introduction to NYC CERT / ICS

Introductions

- Who are you?
- Why are you here?
- What do you hope/expect to learn in this program?



Introduction to NYC CERT/ICS



Key Points

- Introduce yourself and say a bit about why you wished to join the NYC CERT program.
- Take a moment to write down something about your classmates and their background.
- One of the great things about NYC CERT is each and every individual has something to bring to his or her team: a special interest, professional experience, language competency, etc.
- You start this training as an asset to your team!

Notes:



Unit 1: Introduction to NYC CERT / ICS



Key Points

Role of NYC Emergency Management

- Emergency management is a relatively new field
- Started with the wildfires out west in the mid-1980s
- NYCEM disseminates critical emergency information
- Interagency planning
- Logistics/stockpiles/shelter system

NYC Emergency Management is a coordinating agency for the City of New York. The agency plans and prepares for emergencies, educates the public about preparedness, coordinates emergency response and recovery, and collects and disseminates emergency information.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Coordinating Emergencies

Introduction to NYC CERT/ICS



Key Points

NYC Emergency Management responds to any complex incident with large-scale impact that requires coordination of multiple agencies.

Response coordination happens **at the site** of an incident as well as in the **City's Emergency Operations Center (EOC)**.

- On site – NYCEM Citywide Interagency Coordinators, response command vehicles, conducting interagency meetings
- Emergency Operations Center (EOC) – Coordination center for New York City, includes representatives from City agencies, not-for-profit and private industry.

Notes:

Emergency Operation Center



Introduction to NYC CERT/ICS



Key Points

Emergency Operations Center

- The EOC is the City's **decision-making center** for coordinating the response to and recovery from complex, large-scale incidents.
- When is the EOC activated?
 - Large scale activation
 - Hurricanes
 - Large snow storms
 - Heat waves
 - Significant incidents that can affect traffic, cause collapses and tenant vacates, and cause residents to be displaced.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Watch Command



Key Points

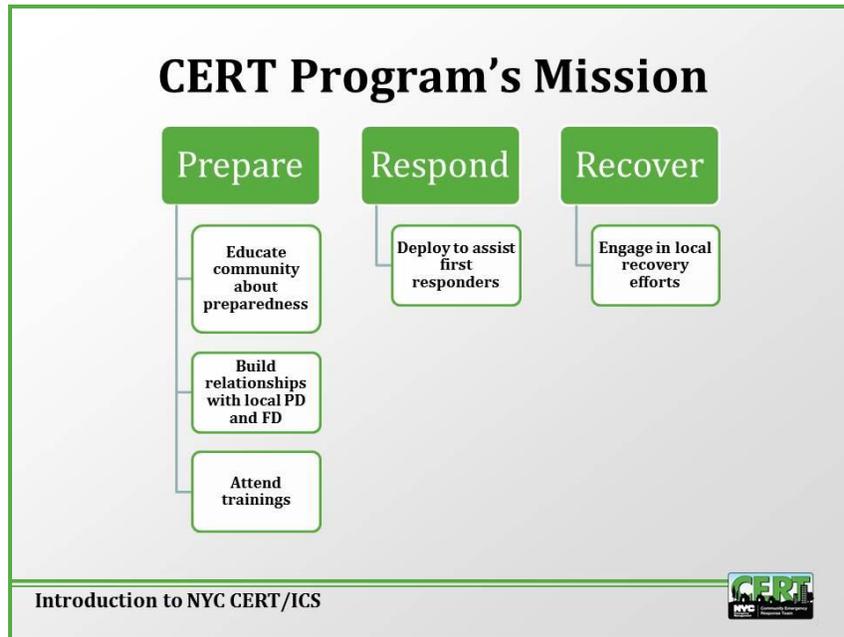
Watch Command

- Monitors responder radios, TV news and web communications for incidents happening in the tristate area
- Ensures that the correct agencies are informed and present, if needed.
- Open 24/7
- Coordinates NYC CERT team chiefs
- Coordinates Notify NYC messaging
 - Members are encouraged to sign up to receive Notify NYC emergency messages.

Notes:



Unit 1: Introduction to NYC CERT / ICS



Key Points

The mission of the NYC CERT program is to train and manage community-based volunteer teams that will:

- Inform, educate, and train their neighbors on disaster preparedness.
- Respond to locally occurring disasters by strictly following NYC CERT protocols and support emergency personnel upon their arrival and request.
- Assist public safety agencies and local community organizations with public events including those focused on recovery.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Being a NYC CERT member



Introduction to NYC CERT/ICS



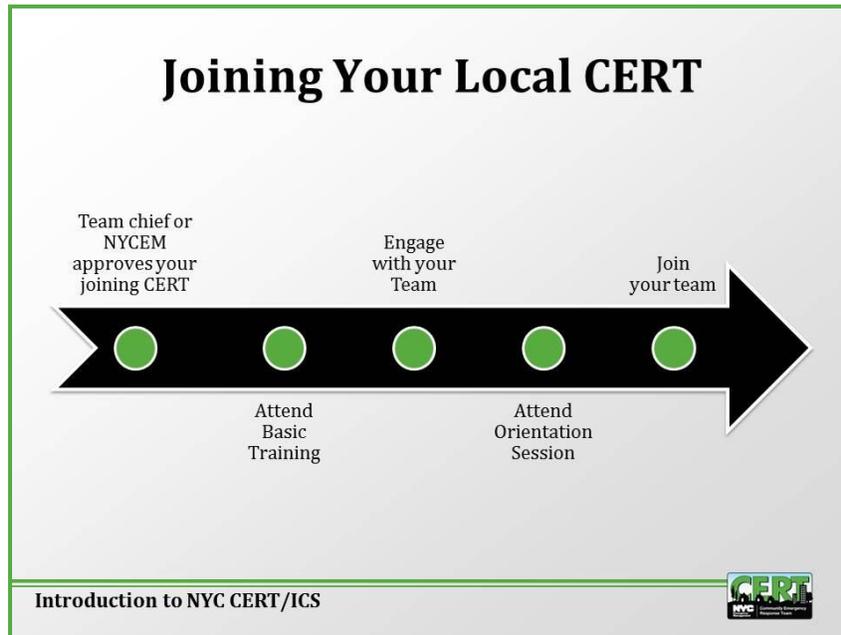
Key Points

- Safety is your first priority.
- Respect others.
- Follow all rules and regulations as indicated in the “NYC CERT Standard Operating Procedures.”
- Accommodate community members with special needs.
- Inform New York City Emergency Management of all attempted CERT response activities.
- Relinquish control of the disaster/emergency site once first responders arrive on the scene.
- Communicate actions and information taken during emergencies to local emergency responders once they arrive on the scene.
- Follow directions of first responders (FDNY, NYPD, and NYCEM) once on scene.
- Obey all city, state, and federal laws and regulations.

Notes:



Unit 1: Introduction to NYC CERT / ICS



Key Points

- NYCEM has provided your contact information to your local team chief reviewed your application.
- You should have already made contact with your team chief prior to basic training
- If you have not made contact with your team chief, please try to do so during the training cycle.
- Your team leadership contact information can be found through your profile page on the Volunteer Management Database: nycem.samaritan.com
- You are encouraged to attend a team meeting during your basic training.
- All team members are assigned to a team prior to the completion of the training cycle.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Team Dynamics

- Teams are diverse in:
 - Energy and activity level
 - Focus – some focus more on education; others on emergency response.
 - We encourage teams to be both preparedness-oriented and response-oriented.
- New members bring energy and new ideas.
 - In the beginning, listen more.
 - Always keep your team chief informed.

Introduction to NYC CERT/ICS



Key Points

- Some teams prefer to focus on preparedness education and deploying to planned events.
- Other teams are more likely to focus on emergency response.
- The happy medium is a team that does both education and response.
- Meetings
 - Some teams meet monthly.
 - Many teams meet bi-monthly.
- New members should encourage the team chief and other members to do more and try new things, respectfully. Ask if you can take charge of an initiative if team leadership feels they themselves cannot take on a project.

Notes:



Teams Working Together

- Community-based
- Assigned based on work/home
- Switching teams
- Inter-team collaboration on drills/exercises

Introduction to NYC CERT/ICS



Key Points

- Your placement is dependent upon either of the following:
 - Place of residence
 - Work address
- Transfers to other teams must be reviewed and approved by NYCEM
- Collaboration with other teams is encouraged

Notes:



Unit 1: Introduction to NYC CERT / ICS

Team Structure

- Team structure differs from team to team.
- Required roles
 - Team Chief and Deputy Chief(s)
 - Recorder (volunteer activity and reporting)
 - Ready New York Liaison

Introduction to NYC CERT/ICS



Key Points

- Get to know how your team operates.
- Don't be afraid to make suggestions.
- Leadership roles
 - Teams have one team chief, but may have multiple deputy team chiefs.
 - Recorder/secretary can obtain hours for administrative duties.
 - Ready New York liaisons obtain guides for preparedness events.
 - You could be a deputy chief or team chief one day!
 - Elections will be held according to SOPs.

Notes:



Unit 1: Introduction to NYC CERT / ICS





Get Informed.



Make a Plan.



Gather Supplies.

Introduction to NYC CERT/ICS



Key Points

- Ready New York is NYCEM's emergency preparedness public education program.
- The three main steps New Yorkers need to take to be prepared for emergencies in NYC are: make a plan, gather supplies, and get informed (i.e., know how to get emergency information).
- Ready New York guides are available in the following languages: English, Spanish, Traditional Chinese, Russian, Korean, Haitian Creole, Italian, Bengali, Arabic, Polish, French, Urdu and Yiddish. Guides are also available in audio format.

Notes:



Unit 1: Introduction to NYC CERT / ICS



Key Points

- The Ready New York video examines hazards common to NYC and why it is important to prepare for them.
- This video is available on NYCEM's website (www.nyc.gov/nycemergencymanagement) and is available to NYC CERT volunteers for use in their communities. A DVD is available in English, Chinese, Spanish, and Russian (with subtitles).
- All NYC residents can receive direct messages from NYCEM:
 - Notify NYC is a service that provides you current information about emergencies specific to your neighborhood. You can sign up by calling 311 visiting to www.nyc.gov/notifynyc to register.
 - New Yorkers are also encouraged to follow or "like" NYC Emergency Management's social media channels, and sign up for updates from NYC Citizen Corps' Communications Network at www.nyc.gov/nycemergencymanagement.

Notes:

Packing A Go Bag

Everyone in your household should have a Go Bag – a collection of items you may need if you have to evacuate in a hurry. Your Go Bag has to be personalized and include items to meet your personal needs.



Introduction to NYC CERT/ICS



Key Points

- Everyone in your household should have a Go Bag.
- A Go Bag is a collection of things you would need if you have to leave your home in a hurry.
- There are many different types of Go Bags. Here are a few you may want to think about:
 - Pet Go Bags
 - Go Bags for children/infants
 - A Go Bag for your car

Notes:



Unit 1: Introduction to NYC CERT / ICS

General Go Bag Items:

- Copies of your important documents in a waterproof container
- Extra set of house and car keys
- Cash, in small bills
- A bottle of water and some nonperishable food
- Flashlight and batteries
- Battery-operated radio and extra batteries
- Copies of your prescriptions
- First aid kit
- Your completed My Emergency Plan booklet
- Mylar blanket, etc.

Introduction to NYC CERT/ICS



Key Points

- As a requirement for graduation, you must present your personal Go Bag during your basic training.

Notes:



Unit 1: Introduction to NYC CERT / ICS

What are some special personal items that you want to have in your Go Bag?

Introduction to NYC CERT/ICS



Key Points

- A Go Bag should be personalized to include items for your own needs.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Let's Review:

1. Develop an emergency plan.
Why is it important to have two different meeting places? <ul style="list-style-type: none">• The first place is somewhere outside your home where family members can go after leaving.• You need a second meeting place outside your neighborhood that everyone could get to in case there was an emergency in your neighborhood.
2. Work with family and friends to build a support network.
<ul style="list-style-type: none">• Is there someone that might need your help in an emergency?• Who could you call to help you in an emergency?
3. Gather emergency supplies – Go Bag.
<ul style="list-style-type: none">• Most evacuations happen quickly and with little warning. If you and/or your family were forced to evacuate your home, what should everyone bring with them?
4. Gather emergency supplies – Emergency Supply Kit.
<ul style="list-style-type: none">• Are you prepared to shelter in place, which means to stay where you are when it is not safe to leave your home? (Example: Snow storms, high winds, tornadoes, or contaminated air.)• How are these supplies different from those in a Go Bag?

Please draw a map of your home layout and an escape route in the box below.

Notes:



Unit 1: Introduction to NYC CERT / ICS

The Next Ten Weeks

Introduction to NYC CERT/ICS



Notes:



Unit 1: Introduction to NYC CERT / ICS

CERT Basic Training

Preparedness for the Urban Environment I, II, III

Light Search and Rescue

Disaster Medical Operations I and II



Terrorism & Police Science

Fire Safety

Disaster Simulation

Introduction to NYC CERT/ICS



Key Points

Basic Training

- These are the different classes during your training.
- Look over and study your participant manual each week to prepare yourself for the next week.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Expectations of Students

- Commitment
- Attendance
- Timeliness
- Participation
- Assemble Go Bag
- Homework
- Engage with your team



Introduction to NYC CERT/ICS



Key Points

- Students are expected to bring the unit for the week.
- Commitment – You are making a commitment to your team, your community, and to the NYCEM.
- Attendance – If you cannot attend your scheduled class, you must speak to the NYCEM liaison that will provide you with a schedule of other classes that you can attend.
- Timeliness – You must be on time for class. If you miss the first 15 minutes, you must make up the class.
- Participation – It is to your benefit to actively participate— the more engaged you are, the more you will learn!
- Homework – You must complete your homework assignments on time and be prepared to discuss them in class.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Graduation

- All cycle classes graduate together.
- Attended by Mayor, Deputy Mayor, NYCEM, NYPD and FDNY Commissioners, and other VIPS.
- Graduates' families and friends invited.



Introduction to NYC CERT/ICS



Key Points

- Students who miss two classes may graduate with the current cycle.
- Students who miss three or more classes cannot graduate until they attend make-up classes the following cycle.
- Successful completion of NYC CERT training is a big celebration.
- You will get more information on the time and date of your graduation ceremony closer to the end of your training from NYCEM and your NYCEM liaison.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Expectations After Graduation

- Each member is asked to volunteer for a minimum of one calendar year.
- You receive your temporary ID at your disaster simulation and your permanent credential six months after graduation provided that you're an active member.
- Strike a balance between CERT work and other areas of your life.

Introduction to NYC CERT/ICS



Key Points

- Once you finish the course, you will graduate and join your neighborhood team.
- You need to be an active member of your team in order to remain credentialed by NYCEM.
- Being a NYC CERT member should enrich your life and not overwhelm.
- NYC CERT requires a one-year commitment to your local team and community. As with any professional volunteer organization, once you have received your initial training, it is expected that you remain active for this minimum amount of time.
- You will take the education and experiences you have with NYC CERT with you wherever you go.

Notes:



Unit 1: Introduction to NYC CERT / ICS

How to Be an Active Team Member

- Attending team and NYCEM meetings
- Giving Ready New York presentations and fairs
- Building a Community Disaster Network
- Deploying to planned events or emergencies
- Attending trainings at NYCEM, online, etc.

Introduction to NYC CERT/ICS



Key Points

Available opportunities for training and events can be found at nycem.samaritan.com

Notes:



Unit 1: Introduction to NYC CERT / ICS

Incident Command System and NYC CERT Protocols

Introduction to NYC CERT/ICS



Key Points

- The intent of this class is to familiarize students with ICS and how it is used to organize and manage your team during an incident/event.
- The unit will also discuss NYC CERT response protocols for both incidents and events.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Objectives

- To understand:
 - The basics of the Incident Command System (ICS)
 - NYC CERT organizational structure and deployment procedures

Introduction to NYC CERT/ICS



Key Points

By the end of the unit, you should be able to:

- Understand the basics of ICS.
- Familiarize yourself with the NYC CERT deployment policies.
- Organize your team using the ICS structure.

As a NYC CERT member, understanding the ICS system and how it operates is one of the most important objectives in this curriculum. Even as this training continues, you will notice that ICS is a standard protocol in any type of emergency response we discuss. You will become more familiar with this concept as the weeks move forward and be able to put it into action during the disaster simulation.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Incident Command System

- Standardized management tool
 - Provides clear leadership and response structure
 - Common terminology
 - Flexible organization

- Used to organize large *or* small incidents and events

Introduction to NYC CERT/ICS



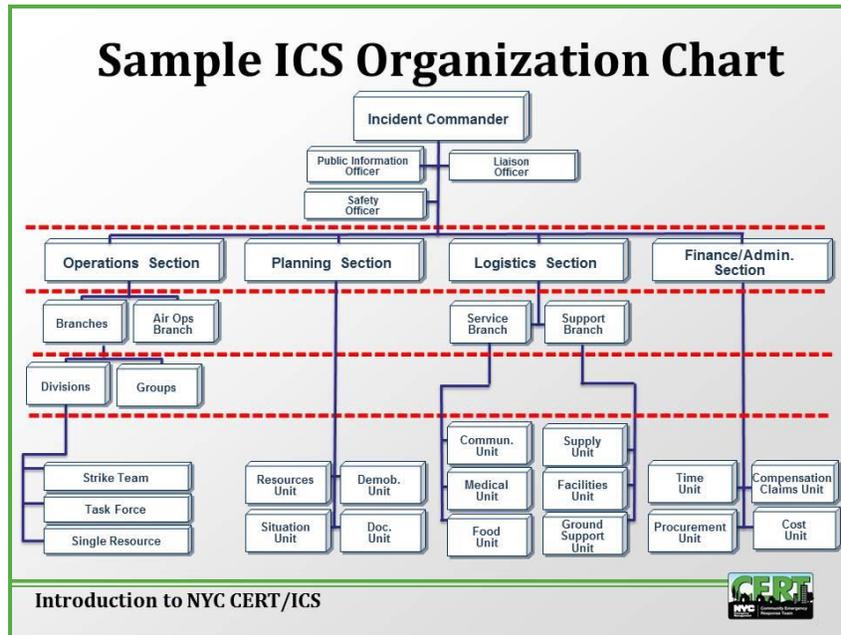
Key Points

- ICS is used by all responder agencies to quickly organize workers into manageable teams.
- The ICS system allows for one incident commander for every event or incident.
- Common terminology allows all responding agencies to speak the same language as they build the organizational structure.
- Flexible modular organization enables the incident commander to expand the size of the response based on need and complexity. As the incident grows, so does the size of the organizational chart. The ICS organization builds from the top down.
- ICS is used in all incidents and events. At small-scale incidents or events, the incident commander is responsible for the majority of the roles within the organization. As the incident grows in size, the incident commander must delegate his/her authority to maintain a manageable span of control.

Notes:



Unit 1: Introduction to NYC CERT / ICS



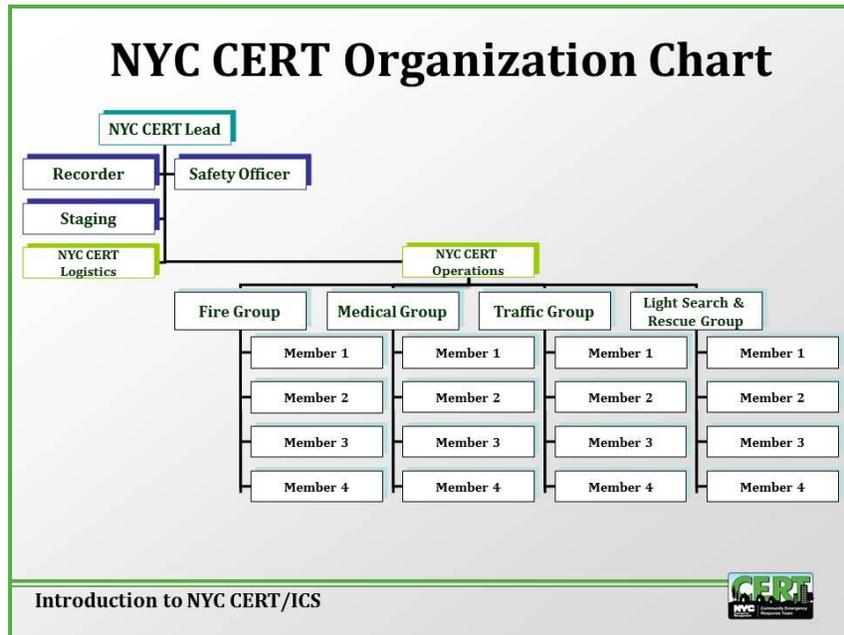
Key Points

- This chart illustrates a large scale incident that requires a full expansion of the ICS organization.
- ICS is adaptable to any emergency, incident, or event.
- Its organizational structure is based on the size and complexity of the incident.
- ICS maintains both chain of command and span of control with all information flowing back to the incident commander.
- Any unit that is not activated is the responsibility of the incident commander.

Notes:



Unit 1: Introduction to NYC CERT / ICS



Key Points

- This chart illustrates a sample CERT team’s organization at an incident.
- The incident commander is referred to as NYC CERT lead to avoid confusion with overall incident command structure.
- Its organizational structure is based on the size and complexity of the incident.
- NYC CERT ICS maintains both chain of command and span of control with all information flowing back to the NYC CERT lead.
- Any unit that is not activated is the responsibility of the NYC CERT lead.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Functional Responsibilities of ICS

<u>FUNCTION</u>	<u>RESPONSIBILITY</u>
▪ Command (CERT lead)	▪ Maintain overall responsibility.
▪ Operations	▪ Direct tactical actions.
▪ Planning	▪ Prepare incident action plan and maintain resource status.
▪ Logistics	▪ Provide support and resources.
▪ Finance/Administration	▪ Handle cost accounting and documentation of expenses.

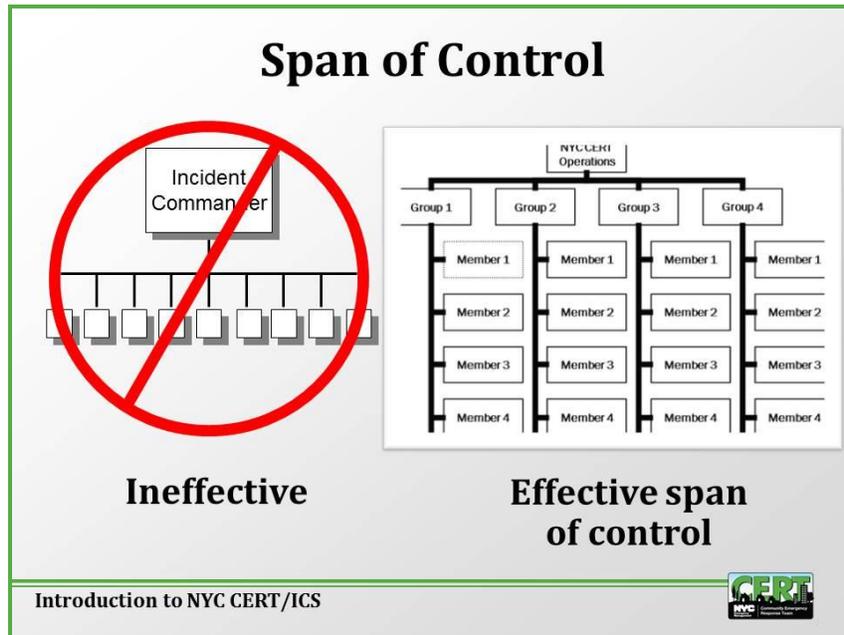
Introduction to NYC CERT/ICS



Key Points

- Command, Operations, Planning, Logistics and Finance and Administration are the major components of ICS.
- The incident commander (NYC CERT lead) has the responsibility for establishing the command structure, the objectives for the incident or event and management of the entire incident.
- As the incident grows in size or complexity, the incident commander must expand the ICS structure and **delegate authority** to members of the team.
- The general staff (Operations, Planning, Logistics and Finance and Administration) will carry out the objectives of the incident commander.
- The incident commander should recognize the anticipated need to expand the incident.
- Tasks should be delegated based on prior training and experience of the member.
- Tasks that are not delegated are the responsibility of the incident commander.

Notes:



Key Points

- Span of control is the key to effective and efficient incident management.
- An acceptable supervisor-to-subordinate ratio ranges from 1:3 to 1:7 based on the type and complexity of the incident, nature of the task, distances between personnel and resources, and hazards and safety factors.
- Monitoring the span of control in the ICS organization is a major responsibility of the NYC CERT lead.
- The optimum span of control is one supervisor to five members.
- NYC CERT members should maintain a buddy system (teams of two or three), who work in close proximity.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Resources

Introduction to NYC CERT/ICS



Key Points

- The following pages will define resources and how a NYC CERT can become a deployable resource.
- All resources must be accounted for and the incident commander must be notified of their availability before objectives can be established.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Definition of Resources

- Consists of all personnel *and* major items of equipment available for assignment to incidents.
- **CERTs** can be a resource *only if we are ready.*



Introduction to NYC CERT/ICS



Key Points

- A NYC CERT team cannot be considered a resource unless its members are properly equipped with their **NYC CERT helmet, vest and ID card.**
- The CERT lead will establish a plan of action based on the objectives of the incident.
 - Tactics may have to be altered based on the resources available.
- The logistics section lead is responsible for organizing the resources and informing the CERT lead of resource availability.

Notes:



Unit 1: Introduction to NYC CERT / ICS

A large rectangular area with a light gray gradient background, containing the word 'Facilities' in the center. At the bottom left of this area, the text 'Introduction to NYC CERT/ICS' is visible. At the bottom right, there is a small version of the NYC CERT logo.

Facilities

Introduction to NYC CERT/ICS



Key Points

- The following pages will be used to describe facilities and discuss the common terminology in the ICS structure.
- A facility is established at every incident.

Notes:

A large, empty rectangular box with a green border, intended for taking notes during the training.



Unit 1: Introduction to NYC CERT / ICS

Incident Facilities

- **Command Post**
- **Staging Areas**
- CERT facilities may *also* include:
 - Assembly area
 - Tool cache



Introduction to NYC CERT/ICS



Key Points

- Every emergency is different, so the type of facility that will be set up will be based on the incident.

Notes:

Command Post



Introduction to NYC CERT/ICS



Key Points

- There is only one command post per incident.
- Command post may be moved if current location poses a safety risk
 - Uphill
 - Upwind
 - Beyond the collapse zone
- The NYC CERT lead reports to command post to receive instructions for the rest of the team.
- NYC CERT does not form its own command post unless no other agency is on scene.
 - Once lead agency arrives, command post will then be established. NYC CERT will fall under the lead agency's supervision.

Notes:

Staging Area



Introduction to NYC CERT/ICS



Key Points

- Staging area is where reserved resources – equipment, supplies, and personnel – are kept.
- Resources at the staging area must be ready to deploy at any moment.
- Staging areas should be remote from the command post.

Notes:



Unit 1: Introduction to NYC CERT / ICS

NYC CERT Response Protocol and Deployment Policy



If an incident or event takes place, what should you do?

Introduction to NYC CERT/ICS



Key Points

- The next pages will discuss NYC CERT response protocols and deployment policies.
- All resources allocated for an incident must be accounted for.
- NYC CERT teams must adhere to established protocols so they may be properly deployed and utilized as a resource.

Notes:



Three Types of Deployment

- **Team Deployment**
 - Can be NYCEM-initiated or CERT-initiated
 - For localized emergencies or events
 - Team chief will designate CERT lead at incident
- **All-hands Deployment**
 - NYCEM-initiated
 - For mass need and time-sensitive situations
 - CERT lead and ICS structure established by NYCEM.
- **Technical Deployment**
 - NYCEM-initiated
 - Deploys only CERT members with specific, documented skills

Introduction to NYC CERT/ICS



Key Points

- Different deployments may have your working in different scenarios – some with your team; some with CERT members from other teams.
- For a team deployment team leadership are notified by:
 - Call-down
 - Direct call and email from NYCEM staff
 - If multiple teams are needed, NYCEM will contact leadership through the Send Word Now Alert System (automated call, email and text).
- For an all-hands deployment team leadership are notified by:
 - Call-down – Send Word Now Alert System
- For a technical deployment team leadership are notified by:
 - Direct call and/or email to volunteers trained in specific skill

Notes:



Deployment Protocol

- NYCEM notifies team leadership
- NYC CERT leadership contacts NYCEM (Watch Command)
 - Emergencies
 - Planned Events

Introduction to NYC CERT/ICS



Notes:

Examples of Emergencies

- Fires
- Manhole explosions
- Power outages
- Subway derailments
- Coastal storms
- Severe weather



Introduction to NYC CERT/ICS



Key Points

- These are some of the most common emergencies that affect New York City.
- Although some incidents may be handled by one or two agencies, NYC CERT members may be called upon to assist if the emergency is large in scale, such as:
 - Fires - assisting with evacuations of surrounding buildings
 - Power outages - checking on people with disabilities, and others with access and functional needs
 - Subway derailments - providing language interpretation
 - Severe weather - staffing evacuation centers, shelters or cooling centers

Notes:



Unit 1: Introduction to NYC CERT / ICS

Examples of Planned Events

- NYCEM-initiated
 - Five Boro Bike Tour
 - Autism Speaks Walk
 - National Night Out
 - National Preparedness Month
- CERT-initiated
 - NYCHA Family Days
 - Block Parties
 - Neighborhood Fairs
 - Local parades

Introduction to NYC CERT/ICS



Key Points

Citywide events that are initiated or coordinated by NYCEM:

- Team chief, designee, or NYC CERT lead should call into Watch Command at the start and end of their group's deployment.

NYC CERT-initiated events:

- Team chief or designee should enter the event online as an opportunity for his or her team or additional teams as needed/appropriate. The team chief or designee should also email cert@oem.nyc.gov after the event has concluded and the team is standing down.

Notes:

How can you be notified?

- Phone
- E-mail
- Text
- Radio



Introduction to NYC CERT/ICS



Key Points

- All NYC CERTs must use a proven method for contacting team members for deployment.
- Using multiple methods such as email, text and phone is more effective since any one method may fail.
- Some means of communication may be more effective during different times of the day, and redundancy helps ensure that messages are received.
- Contact methods must be constantly tested and information updated.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Assembling the Team

1. Contact team members.
2. Team members report to assembly point with:
 - CERT shirt
 - Response bag
 - CERT ID card
3. Evaluate number of personnel and their skills.
4. Assign ICS roles.



Introduction to NYC CERT/ICS



Key Points

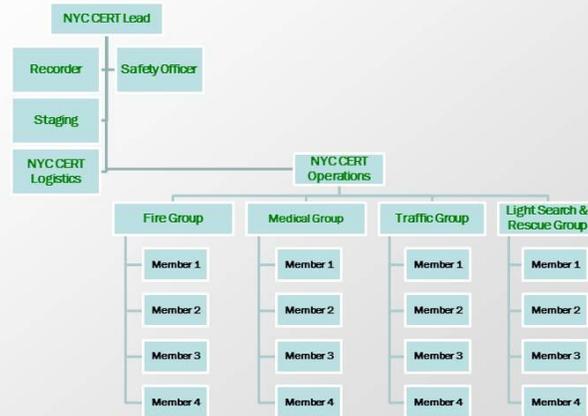
- Teams should have a prearranged assembly point.
- This location should be accessible 24 hours a day and seven days a week.
- If possible, teams should select a location that provides storage for NYC CERT supplies.
- Members reporting to the assembly point must bring their response bag, uniform, and NYC CERT ID.
- A NYC CERT lead will be selected. He/she will then organize the team based on the strengths and skills of those who are available for deployment.
- Use the NYC CERT Deployment Form.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Functional Responsibilities for Team Organization



Introduction to NYC CERT/ICS



Key Points

- These are the five basic positions that should be assigned by the NYC CERT lead during assembly.
- The NYC CERT lead fills the Command role and determines the organizational structure of the team.
- The operations lead will implement the tactical objectives of the NYC CERT lead and provide a communication link from the scene to the CERT lead.
- The logistics lead will determine the resources available and inform the NYC CERT lead.
- The recorder will operate in conjunction with the NYC CERT lead and document the incoming information. He/she must constantly update the information and support the NYC CERT lead during the transfer of command.
- The staging lead will manage the excess resources that are not required for the initial operation. He/she will stage members so that they are a reasonable distance from the scene and sheltered from the environment.

Notes:



Unit 1: Introduction to NYC CERT / ICS

- ☑ ***Notify NYCEM.***
- ☑ ***Assemble your team.***
- ☑ ***Organize your team.***

NOW YOU ARE A RESOURCE.

Introduction to NYC CERT/ICS



Key Points

- Only when a team has completed the above requirements can it be considered a resource.
- Taking the time to properly organize the team places its members in manageable groups with one leader.
- Once groups are organized they can be used for any function but should always maintain organization, proper span of control and group integrity.
- The team is now ready for an assignment!

Notes:



Unit 1: Introduction to NYC CERT / ICS

On-Scene Protocols

Introduction to NYC CERT/ICS



Key Points

- NYCEM may deploy CERT members as part of a team or as an all-hands response.
 - If it is a team deployment, the team will travel as a group to the incident.
- Members should assess what is the best type of transportation for the incident.
- Members should respond wearing full NYC CERT protective gear and their ID card visible so that they will be recognized by the City's first responders.

Notes:



Unit 1: Introduction to NYC CERT / ICS

If First Responders Are On Scene

- CERT reports to the staging area.
- CERT lead reports to:
 - NYCEM Citywide Interagency Coordinator (CIC)
OR
 - Established incident command post.
- CERT lead calls into Watch Command.
- CERT performs assigned tasks.
- CERT lead updates Watch Command as necessary.

Introduction to NYC CERT/ICS



Key Points

- If professional first responders are on the scene, team members will be directed to report to the staging area.
- The NYC CERT lead will report to NYCEM citywide incident coordinator or the established command post.
- The NYC CERT lead will report the size of his/her team and their availability for assignment.
- The NYC CERT lead will remain at the command post unless instructed otherwise.
- The NYC CERT lead must ensure that tasks assigned are within the training and capability of the team.

Notes:



Unit 1: Introduction to NYC CERT / ICS

If No First Responders On Scene

- Perform size-up:
 - Determine if the scene is safe.
 - Are we within the scope of our training?
 - Do we have adequate resources?
 - Are other hazards present?
 - Perform risk/benefit analysis.
 - Establish priorities/responsibilities.

Introduction to NYC CERT/ICS



Key Points

- If the NYC CERT members are first on the scene they must determine if the scene is safe.
- Team members should remain at a safe location while the scene is assessed by the NYC CERT lead and operations lead.
- Once it is determined that the scene is safe the NYC CERT lead must assess the situation and determine if the incident is within the training and capabilities of the team.
- If the answer to the above questions is “no,” then the NYC CERT lead should gather data to report back to NYCEM and establish perimeter control from a position of safety.

Notes:



Unit 1: Introduction to NYC CERT / ICS

If No First Responders On Scene

Upon completion of size-up:

- Establish incident command post.
- CERT lead reports back to Watch Command.
- Update 911, if necessary.
- Act per your training within CERT Standard Operating Procedures.

Always remember: SAFETY FIRST

Introduction to NYC CERT/ICS



Key Points

- Command post should be established in a clean and safe environment and be recognizable to incoming units.
- Once the CERT command post is established the NYC CERT lead will contact NYCEM Watch Command and provide an on-scene assessment of the incident and the location of the command post.
- The NYC CERT lead should remain at the command post for the duration of the incident or until relieved by another agency.
- NYC CERT members should always operate within the scope of their training.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Transfer of Command

CERT lead will transfer command to first responders upon their arrival on the scene.



THAT'S HOW YOU FIT IN.

Introduction to NYC CERT/ICS



Key Points

- The NYC CERT lead should always be prepared for the transfer of command to the next responding agency since they may arrive at any time.
- With the assistance of the recorder, he/she should maintain an up-to-date list of actions taken, including: tasks completed, number of victims, condition of victims, location of victims, street closures, etc., so the incoming units can adjust their strategy.
- If information is not forthcoming it is incumbent on the NYC CERT lead to prompt his operations section or group leaders to constantly report the progress of their tasks so the lead can adjust tactics and report accurate information to the incoming agency.
- The NYC CERT lead should have two copies of this information so one can be turned over to the incoming agency and one can be used to document the incident.

Notes:



Unit 1: Introduction to NYC CERT / ICS

Questions?

Introduction to NYC CERT/ICS



Key Points

Write down questions you may have for the instructor here:

Notes:



Unit 1: Introduction to NYC CERT / ICS

LESSONS LEARNED

- NYCEM and NYC CERT program mission
- Ready New York
- What the basic training will focus on.
- Understand ICS and the NYC CERT deployment protocol.

NYC CERT IN ACTION

To recap, below are some of the activities that CERT may engage in on a regular basis:

- Giving Ready New York presentations
- Practicing with drills and exercises
- Attending advanced training
- Deploying to incidents and planned events.

COMMUNITY AWARENESS

- What lessons were learned in this unit that you might bring to your community?
- What is a message you learned this week, that you might stress during a Ready New York presentation?

PREPARING FOR YOUR FINAL WEEK

The Incident Command System must be used to successfully address the situations you will face at the disaster simulation. Please make sure you understand the different sections and their responsibilities. If you have questions, please ask your instructors. You can also complete the FEMA online course, IS-100a, Introduction to Incident Command System, at <http://training.fema.gov/>.

UNIT RESOURCES

- NYC CERT Website: www.nyc.gov/cert
- IS-100a, Introduction to Incident Command System, at <http://training.fema.gov/>



Unit 1: Introduction to NYC CERT / ICS

Appendix: Things Your NYC CERT Team Can Do

1) Disaster Planning: Get Your Team Ready!

To get started thinking about your team's emergency plan, use this checklist as a guide. Take a few minutes to think about the various elements of the plan and throughout the next few weeks and after graduation begin to work together with your team to develop the plan.

- Practice your telephone tree or other communication system to keep in touch with your members in case of a disaster.
- Designate a pre-arranged place (staging area) to meet in the event of an emergency.
- Introduce yourself to local emergency service workers – police precincts & fire houses – and talk with them about your ability to assist in the event of a disaster (reference the identified role appendix in the NYC CERT SOPs).
- Understand your community; create a Community Disaster Network (details below) that includes addresses and contact information of local emergency, community services, or other important community contacts.

2) Engage In Ongoing Training

Emergency preparedness, response, and recovery training does not end when you have completed your primary NYC CERT training. In fact, it is just the beginning.

It is important to continue to exercise and refresh the skills you have learned during your NYC CERT training. You can do so by:

- Taking NYC CERT Advanced Training classes.
- Completing on-line emergency management training.
- Visiting emergency management websites and reading updated information.
- Using existing teams as mentors to discuss their successes and challenges.
- Developing, coordinating, and executing table top and field exercises.
- Using regular team meetings to review these lessons and refresh your NYC CERT skills.
- Working with NYCEM's team development specialists to access additional citywide training opportunities.

For your personal preparedness, you are encouraged to become certified in CPR, AED, first aid, and advanced first aid courses through the American Red Cross, American Heart Association, and other similar organizations.



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

UNIT INSTRUCTOR INFORMATION

Name	Agency	Contact Information

UNIT INTRODUCTION

The New York City landscape encompasses more high-rise buildings than any other city in the United States. You live in a vertical city both above and below street level. This presents unique challenges to residents, first responders and to NYC CERT members.

This unit will discuss potential roles for NYC CERT in high-rise fires and utility emergencies. A high-rise building is defined as more than seven stories or 75 feet. Having a clear understanding of NYC CERT roles within the New York City emergency response system is critical to the safety of everyone involved. Strict adherence to the NYC CERT response protocols is mandatory. While not all emergencies will result in a NYC CERT deployment, a trained member may be of great assistance to his or her family and/or fellow occupants and first responders.

One of the major challenges encountered during fires and emergencies in high-rise buildings is how to move people up and down safely. This includes evacuating occupants at the same time that first responders are moving into a position to fight the fire or mitigate the emergency. This unit will discuss evacuation and elevator protocols, as well as the concept of sheltering in place. Additionally, you will learn the importance of confining the fire. You will also learn how simple actions (such as closing the door) can limit the spread of fire and smoke. Far too often occupants have become victims because of the choices they make due to a lack of awareness and understanding.

This unit also identifies the most common power and utility emergencies encountered within New York City's urban environment. These include overhead and underground electrical emergencies, steam emergencies, natural gas and carbon monoxide emergencies and the hazards that are associated with each.



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

UNIT OBJECTIVES

- Discuss actions at a high-rise building fire.
- Describe the role of a NYC CERT during utility emergencies.
- Raise your own personal awareness to high-rises and utility emergencies.
- Participate in a scenario-based discussion.

UNIT REVIEW

When thinking about and discussing the knowledge applications at the end of this unit, remember the structure of ICS. When learning about fires and evacuations, think about ICS and how it relates to first responders and CERT during an emergency.

LOOKING FORWARD

Next week you will learn about the unique aspects of transportation in New York City. The subway systems, tunnels, and bridges make living in NYC an adventure and challenge. Knowing what to look for and how you can help in the event of an emergency may come in handy during an emergency.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Unit Objectives

- Discuss actions at a high-rise building fire.
- Describe the role of CERT during utility emergencies.
- Participate in a scenario-based discussion.



Urban Environment I: High-Rise and Utilities



Key Points

- By the end of this unit you should be able to:
 - Consider possible actions during a high-rise emergency.
 - Understand the role of NYC CERT during a utility emergency.
 - Be able to participate in a scenario-based discussion and make decisions based on your training.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Universal Considerations

- Ensure personal and team safety.
- Raise personal awareness of your environment.
- Reduce panic and confusion.
- Communicate with team members and first responders.



Urban Environment I: High-Rise and Utilities



Key Points

- Personal and team safety is the primary concern of all NYC CERT members.
- Raising personal awareness of their environment allows NYC CERT members to better understand their communities and specific hazards present in their areas.
- Panic and confusion are dramatically reduced by:
 - Providing an organized, uniformed presence;
 - Establishing a plan and executing it; and
 - Giving clear instructions to those impacted by the emergency.
- Always maintain good communication between NYC CERT members and responders.

Notes:

HIGH-RISE APARTMENT BUILDINGS



Urban Environment I: High-Rise and Utilities



Key Points

High-Rise Apartment Building

- Apartment buildings are compartmentalized — cut into small spaces.
 - Apartments
 - Rooms
- Compartments make these buildings relatively safe.
 - Utilize the compartments by **closing doors**.

Notes:

Fire in a Residential Building



Urban Environment I: High-Rise and Utilities



Key Points

News Report:

- The safest place for an occupant is inside of your apartment — unless your apartment is the site of the fire.
- Wind-driven fires may make stairways worse — keep all windows, apartment or stairway doors closed.
- “Attack stairs” will be contaminated by smoke and possibly have a high heat condition.
- Lessons learned:
- Due to the rapidly changing conditions involved in a fire, heat and smoke travel upward quickly, making the floors above the fire extremely dangerous.
- The safest location for any occupant during a high-rise fire is in his or her apartment unless the apartment is directly involved in a fire.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

- Self-evacuation could result in serious harm.

Fire In Your Apartment

- Call 911.
- Do not attempt to extinguish *if* other than a minor fire (i.e. trash can).
- Get out as quickly as possible.
- Close doors behind you; do not lock them!
- Go to your pre-determined meeting place at least two floors below the fire.



Urban Environment I: High-Rise and Utilities



Key Points

- Immediately call 911 to tell the FDNY the exact location of the fire.
- Fires larger than a wastebasket may exceed the capability of a fire extinguisher and the scope of NYC CERT training.
- Always operate a fire extinguisher between the fire and the primary exit.
- Close the door to limit the oxygen in the room and slow the spread of the fire.
- Remember the Ready New York video; use your pre-determined meeting place. This allows occupants to quickly determine if everyone escaped and notify incoming first responders of anyone who may be missing.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Fire NOT In Your Apartment

- Call 911.
- Remain in your apartment.
- Prevent smoke and heat from entering your apartment by sealing doors and vents.
- *Do Not Break Windows!*



Urban Environment I: High-Rise and Utilities



Key Points

- Immediately call 911 to inform the FDNY the exact location of the fire.
- Construction features of high-rise buildings will limit the spread of fire from the involved apartment.
- Common duct work for heating and ventilation may allow smoke to enter your apartment.
- Sealing ducts and doorways will limit the amount of smoke entering your apartment.
- If there is no heavy fire or smoke below your window, open it slightly to establish a positive pressure within your apartment thereby limiting the amount of smoke.
- Once a window is broken, it cannot be closed. Changing fire conditions could allow fire to extend into your apartment via the window.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

HIGH-RISE OFFICE BUILDINGS



Urban Environment I: High-Rise and Utilities



Key Points

- This section will discuss the specific characteristics of a high-rise office building.
- We will also discuss possible NYC CERT roles and individual roles during a fire in a high-rise office building.

Notes:

Fire Command Station

Located in the lobby of an office building or near the entrance and/or elevators at hotels.
Main component is a flashing FIRE signal that indicates activation of an alarm at the console.



Urban Environment I: High-Rise and Utilities



Key Points

- The fire command station will provide information about the status of the building systems including the:
 - Heating, Ventilation and Air Conditioning Equipment (HVAC)
 - Elevators
 - Smoke detectors
- The fire command station will provide two way communications with floor wardens.
- The fire safety director should be located at the fire command station.
- The fire command station is capable of making announcements via a public address system in the elevators, stairwells and on each floor.

Notes:

Fire Alarm Systems

- Systems:
 - Are equipped with public address system with speakers on each floor, elevator, and stairwell.
 - *May* be connected to a central station that notifies the FDNY.
- Manual fire alarm pull stations installed at each corridor leading to the exits.



Urban Environment I: High-Rise and Utilities



Key Points

- Activating a manual pull station will send a message to the fire command station.
- Pull stations with a diagonal white stripe indicate the alarm is connected to a central station that notifies the FDNY when the system is activated.
- Immediately after activating any pull station, a follow up call to 911 should be made to provide specific information to the responding units, including:
 - Location of the fire emergency (address, floor, wing)
 - Type of incident (fire, emergency, other)
 - Status of evacuation (stairwell used, sheltering in place)

Notes:

Floor Warden Stations

- Stations are located on each floor between stairways or exits.
- Emergency telephones connect to the Fire Command Station.



Urban Environment I: High-Rise and Utilities



Key Points

- Floor warden stations are placed between exits ensuring that evacuating occupants will pass a station while exiting the floor.
- The emergency phone provides direct contact with the fire command station.
- Floor wardens will use emergency phones to obtain evacuation instructions from the fire safety director.
- In the absence of a floor warden, the phone located at the floor warden station can be used to contact the fire command station to receive evacuation instructions.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

See or Smell Smoke

- Notify FDNY and building fire safety team by activating a manual pull station and calling 911.
- Contact the Fire Command Station using the warden phone to explain the conditions on the floor - smoke, fire, etc.



Urban Environment I: High-Rise and Utilities



Key Points

- Immediate notification via the pull station and 911 will ensure a rapid response by FDNY units.
- Unless you are located on the fire floor, await instructions from the floor warden, fire safety director, or FDNY at the fire command station. Avoid entering the stairwell as you may hamper response operations or put yourself or others in a more dangerous situation.
- The Fire Department will designate an attack stairwell used to extinguish the fire.
 - Entering this stairwell will expose you to high heat and heavy smoke.
- The Fire Department will also designate an evacuation stairwell if it is determined that an evacuation is required.

Notes:

If you hear a fire alarm

- Immediately stop what you are doing and listen for instructions over the public address system.
- If you are told to leave, proceed to the evacuation locations on your floor.



Urban Environment I: High-Rise and Utilities



Key Points

If you hear a fire alarm:

- The PA system will be a tremendous asset in the event of an evacuation.
 - Provide knowledge of proper **Evacuation Stairway**.
 - Attempting evacuation down the FD **Attack Stairwell** may result in serious injury.
- Using elevators in fires may result in serious injury.
- Many high-rise office buildings have large open areas with no doors.
- Floor wardens and fire safety directors use the public address (PA) systems to inform occupants of the status of the emergency and whether an evacuation is required.
- Specific instructions such as whether to evacuate, which stairwell will be used for evacuation, and which elevators are safe to use will be announced over the PA system.

Notes:

General Rules for Evacuation



- Close (but do not lock) the door behind you.
- Check the stairwell for smoke and heat prior to exiting.
- Do not try to escape via the roof.
- Do not break windows.

Urban Environment I: High-Rise and Utilities



Key Points

- Closing the door closest to the fire area will help to contain the fire.
- As you evacuate, close each door you pass through to limit the spread of smoke and flames.
- Always check each door prior to opening:
 - Feel above the middle of the door with the back of your hand prior to opening.
 - If you see smoke or feel heat, **immediately** close the door and check for another approved stairwell.
- **Do not evacuate to the roof.** Evacuating to the roof places you above the fire and further from incoming rescuers with limited, if any, means of escape.
- Breaking windows could fuel the fire with oxygen and enhance the rapid spread of the fire.

Notes:



General Rules for Evacuation



Do Not use elevators!

Urban Environment I: High-Rise and Utilities



Key Points

- Unless instructed to do so by the fire safety director or emergency service personnel, **never** use an elevator during a fire.
- Water, heat and smoke can cause elevators to act erratically.
- The elevator shaft acts as a chimney and may cause the car to quickly fill with smoke.
- Elevators may stop on the fire floor and open to a wall of smoke or fire.
- Elevators may be recalled to the lobby and put out of service to eliminate the possibility of an occupant entering the elevator during a fire.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

POWER & UTILITY EMERGENCIES



Urban Environment I: High-Rise and Utilities



Key Points

- This section will cover utility emergencies common to the urban environment.
- This section will also discuss NYC CERTs' role during a utility emergency.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Four Types of Utility Emergencies

- Electrical
- Steam
- Natural Gas
- Carbon Monoxide



Urban Environment I: High-Rise and Utilities



Key Points

- These are four types of utility emergencies in which a NYC CERT team may be activated.
- Each emergency is unique and NYC CERTs must recognize the hazards associated with each one.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

UNDERGROUND ELECTRICAL EMERGENCIES



Urban Environment I: High-Rise and Utilities



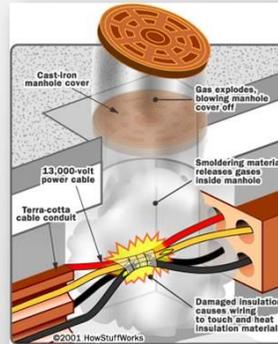
Key Points

- This section will cover the warning signs of underground electrical problems and the dangers of these types of emergencies.
- This information will act as a guide for what you can do as a NYC CERT member at an underground electrical emergency.

Notes:

Manholes / Transformers

- They are interconnected by electrical conduits.
- Covers may become airborne.
- Smoke/heat may travel to adjacent manholes, buildings, traffic boxes, lamp poles.
- Consider the presence of carbon monoxide.



Urban Environment I: High-Rise and Utilities



Key Points

- Manholes are used as access points to the underground system. Manhole covers may become pressurized causing them to blow as high as several stories.
- Smoke and carbon monoxide (CO) can travel via the manhole and conduits and can enter the building through the electrical piping.
- NYC CERT members should consider that all the surrounding manholes and buildings may be affected.
- At a CO emergency, NYC CERT members should never go below grade (i.e., basement or cellar).
- CERT members can assist by determining the number of buildings affected by:
 - Questioning tenants if they are experiencing electrical problems.
 - Inquiring if their carbon monoxide meter has been activated.

Notes:

Underground Transformer Vault



Urban Environment I: High-Rise and Utilities



Key Points

Underground Transformers

- Transformers reduce high voltage electricity to a lower voltage for domestic use.
- Are usually found below sidewalk grates that allow for ventilation.
- These grates may become electrified.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Manhole / Transformer



Urban Environment I: High-Rise and Utilities



Key Points

- Manhole/transformer covers can explode without warning sending the cover into the air.
- Toxic smoke and flames are usually associated with the explosion.
- It is not necessary for NYC CERT members to approach the manhole/transformer to establish a danger zone.
- Post caution tape or rope at waist to chest level to prevent onlookers from entering.
- Position NYC CERT members around the perimeter to act as a uniformed presence. In this capacity, NYC CERTs are restricting entry and informing the public of the dangers of the incident. As always, NYC CERT members should use the buddy system.

Notes:

Manhole Explosion



Urban Environment I: High-Rise and Utilities



Key Points

- A transformer vault explosion can deliver enough force to overturn a parked car.
- Salt used to melt ice can deteriorate the insulation of the wires.
- As the insulation fails, the wires can connect when they touch causing a fire.
- Explosions are usually caused by a large buildup of CO within the piping or manhole.
- When CO reaches 12,500 parts per million, it enters its flammable range and can explode with great force when confined within a small area such as a conduit, manhole or transformer vault.

Notes:

Overhead Electrical Emergencies



Urban Environment I: High-Rise and Utilities



Key Points

- This section will discuss the dangers of overhead electrical emergencies
- Overhead electrical power can be found throughout New York City except in Manhattan.
- This information will act as a guide for what you can do as a NYC CERT member at an overhead electrical emergency.

Notes:

Dangers of Light Poles



Urban Environment I: High-Rise and Utilities



Key Points

- Light poles receive power from the underground electrical system.
- The conduit for the electrical wires can allow smoke and CO to build up inside the light pole and traffic box.
- Sparks caused by faulty connections within the light pole can ignite the accumulated CO causing an explosion.
- The light pole should be considered part of the danger zone when cordoning off an area.
- NYC CERT members should close the sidewalk restricting pedestrian traffic in the area of the light pole.

Notes:

Overhead Power Lines

- There are overhead power lines in four of the five boroughs.
- Light poles may contain overhead transformers.
- Avoid all downed wires; some may be live.



Urban Environment I: High-Rise and Utilities



Key Points

- Power lines contain high voltage electricity.
- Electricity from power lines can jump and electrocute someone who does not come in direct contact with the wire.
- Never operate in close proximity of a downed wire.
- Overhead wires can remain live even though they are broken.
- Downed wires can energize the ground close to where they lie.
- NYC CERT members should tape or rope off the area and assess the surrounding buildings to determine the extent of the emergency.

Notes:



Overhead Power Lines

Electric Hazards
Touching Live
Wire

Hazards of Live Wires

Urban Environment I: High-Rise and Utilities

Key Points

- Electricity can travel long distances via a conductor.
- Even wood can conduct high voltage electricity.
- Chain link fencing can carry the electrical current the entire length of the fence.
- If an automobile comes in contact with a downed wire the entire vehicle becomes energized.
 - Instruct the passengers to remain in the vehicle and move towards the center of the car without touching sides or roof.
- NYC CERT members should recognize potential conduits for the electrical current and include that area in the danger zone.

Notes:

Indoor Steam Emergencies



Urban Environment I: High-Rise and Utilities



Key Points

- Steam expands to 1,600 times the volume of water.
- Its rapid expansion allows superheated gas to fill a room quickly.
- Steam can burn your skin the same way as fire would.
- The simplest steam emergency to mitigate is a leaking radiator. This can be controlled by turning off the radiator valve. Most valves are shut by turning clockwise. (*Remember: “Righty-tighty, lefty-loosey”)
- If you are unable to control the leak at the radiator, call 911.

Notes:

Indoor Steam

- Uncontrolled steam is as dangerous as a fire.
- If steam is leaking from a radiator, turn the knob to the right to shut off.



Urban Environment I: High-Rise and Utilities



Key Points

- Steam expands to 1,600 times the volume of water.
- Its rapid expansion allows superheated gas to fill a room quickly.
- Steam can burn your skin the same way as fire would.
- The simplest steam emergency to mitigate is a leaking radiator. This can be controlled by turning off the radiator valve.
- If you are unable to control the leak at the radiator, call 911.

Notes:

Indoor Steam

If you are unable to control a steam leak at the radiator:

- Notify the Fire Department (call 911).
- Shut down the boiler / furnace (red switch plate).
- Tape or rope off the area for safety.



Urban Environment I: High-Rise and Utilities



Key Points

- If you are unable to control the leak at the radiator, call 911 and control access to the danger area by taping or roping off the affected the area.
- If you have access, turn off the boiler using the remote switch located at the top of the stairs or outside the boiler room.
 - This switch usually has a red switch plate.
 - Allow the residual steam to release prior to entering the room.
- Large scale indoor steam emergencies may require the entire building to be shut down leaving occupants without heat. This may become a possible NYC CERT response to assist in the temporary relocation of residents.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Outdoor Steam Emergencies



Urban Environment I: High-Rise and Utilities



Key Points

- This section will discuss outdoor steam emergencies.
- Con Edison provides high pressure steam through below-ground piping all through Manhattan and all year long.
- As the infrastructure in New York City continues to deteriorate due to age, these emergencies are becoming more frequent.
- This information will act as a guide for what you can do as a CERT member at an outdoor steam emergency.
- Steam cones are affixed with a blue ring:
 - On top – Steam is caused by water leak onto a steam pipe
 - On bottom – Steam is caused by steam pipe leak

Notes:

Outdoor Steam Explosion NYC - July 18, 2007



Urban Environment I: High-Rise and Utilities



Key Points

Outdoor Steam Explosion – NYC 2007

- Existing underground steam pipes are usually wrapped in asbestos.
- NYC CERT members should always assume an asbestos release when underground piping is ruptured.
- Asbestos can travel great distances once it is airborne. NYC CERT members should consider the wind direction when establishing their safety zone and should always operate upwind.
- While high pressure steam can be invisible, another warning sign will be an extraordinarily loud roar, similar to a jet engine.

Notes:

Outdoor Steam Explosion NYC - July 18, 2007



Urban Environment I: High-Rise and Utilities



Key Points

Outdoor Steam Explosion – NYC 2007

- The illustrations above depict the magnitude of a high pressure steam explosion.
- Steam and debris may shoot up to 15 stories.
- The force of the explosion will undermine the street surrounding the ruptured pipe.
- Debris from the explosion can travel great distances and strike victims.
- Motorists who abandon their vehicles will cause major traffic problems which will delay first responders.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Outdoor Steam

- Notify FDNY via 911 immediately.
- Notify NYCEM Watch Command and follow response protocol.
- Possible actions:
 - Rope or tape off the area for safety.
 - Avoid breathing in the contaminated air.
 - Evacuate in the opposite direction of the incident.



Urban Environment I: High-Rise and Utilities



Key Points

- Immediate notification to 911 will provide an on-scene report to the dispatcher to inform incoming first responders.
- NYC CERT members should notify their team chief who will notify Watch Command and determine if a NYC CERT response is required.
- From a safe location (i.e., uphill, upwind, upstream) CERT members may:
 - Be tasked to assist in traffic control. NYC CERT members should remember the importance of establishing a lane for emergency vehicles.
 - Keep onlookers away from the scene to prevent exposure to the asbestos. This can best be accomplished by using caution tape or rope.
- Victims who have been exposed to airborne contaminants should remain on scene for evaluation and possible decontamination.

Notes:

Natural Gas Emergencies



Urban Environment I: High-Rise and Utilities



Key Points

- This section will discuss natural gas emergencies.
- Natural gas emergencies can occur indoors or outdoors.
- This information will act as a guide for what you can do as a NYC CERT member at a natural gas emergency.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Natural Gas Emergencies

Gas Leak
Camden NJ

Urban Environment I: High-Rise and Utilities



Key Points

- A natural gas leak can result in the accumulation of gas inside a building to the point that it may reach its explosive range.
 - The explosive range of natural gas is 5% to 15% of the total atmosphere.
- Without a combustible gas meter, it is impossible to detect the amount of gas in the atmosphere.
- A gas explosion can weaken the structural integrity of the building and may even cause a total collapse.
- No NYC CERT member should operate in a gaseous atmosphere.
- When the presence of a gas odor is detected, immediately notify 911 with the location of the leak and the type of occupancy involved.
- Commercial gas is odorless. An odorizing agent, mercaptan, is added for domestic use, giving gas its rotten egg scent.
- This odor can be scrubbed out when an underground gas leak bubbles up through the ground.

Notes:

Gas Appliance Shut Off

- Turn valve $\frac{1}{4}$ turn.
- Turn valve perpendicular to piping.
- Some valves may not have stops.



Urban Environment I: High-Rise and Utilities



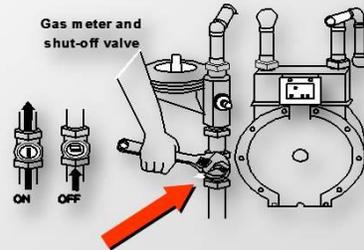
Key Points

- Gas flow may be stopped by turning the valve perpendicular to the pipe, usually a quarter turn.
- Some valves may not have stops and turning the valve beyond a quarter turn may reopen the valve.
- The valve is usually located close to the appliance it feeds.
- **Once gas has been shut down, it must be restored by the utility company.**

Notes:

Gas Meter Shut Off

- Turn valve ¼ turn.
- The meter is perpendicular to piping.
- Shut off is the last point of control.
- ***Never*** turn the gas back on yourself.
- Only a utility worker should restore gas service.



Urban Environment I: High-Rise and Utilities



Key Points

- The gas meter usually requires a quarter turn to close.
- Turn valve perpendicular to the piping.
- This is the last point of control for a gas leak within the building.
- Anytime a gas valve is shut down the utility company should be notified.
- CERTs role at a natural gas leak may be limited to taping off the area and restricting people from entering the affected building.
- **Once gas has been shut down, it must be restored by the utility company.**

Notes:

Carbon Monoxide (CO)



Urban Environment I: High-Rise and Utilities



Key Points

- This section will discuss the dangers of carbon monoxide (CO).
- This information will act as a guide for what you can do as a NYC CERT member at a CO emergency.

Notes:



Carbon Monoxide (CO)

- Colorless, odorless, tasteless, non-irritating, toxic gas
- Natural by-product of incomplete combustion
- No early warning signs - can kill before its presence is known

Urban Environment I: High-Rise and Utilities



Key Points

- CO is undetectable without meters/detectors.
- Since it is a byproduct of incomplete combustion, it can be found any place a fossil fuel (oil, gas, and diesel) is burned.
- Some sources of CO are defective stoves, defective boilers, defective chimneys, kerosene space heaters, gas generators, automobiles and transformer fires.
- During snow storms, automobile exhaust pipe may become blocked causing CO to backup into the passenger compartment.
- Since CO is undetectable by human senses its effects may be undetectable until they reach dangerous levels.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Effects of CO Exposure

PPM	Time	Symptoms
200	120 minutes	Flu Like
800	45 minutes	Flu Like
800	180 minutes	Death
1600	60 minutes	Death
3200	10 minutes	Flu Like
3200	30 minutes	Death
12,800	1-3 minutes	Death

Urban Environment I: High-Rise and Utilities



Key Points

- Effects of CO are based on exposure levels and length of exposure.
- Flu-like symptoms are an early warning sign to carbon monoxide poisoning.
- Exposure to 12,500 part per million can cause death in 1-3 minutes.
- If any NYC CERT member experiences the warning signs of carbon monoxide, he or she must immediately seek medical attention.

Notes:

CO Emergencies

- All NYC residences are required by law to have smoke and CO detectors.
- Change the batteries twice a year when we change our clocks.
- Never remove the batteries for other uses.
- Average lifespan of a CO detector is seven years.



Urban Environment I: High-Rise and Utilities



Key Points

- All residences within NYC must have a CO detector.
- Batteries for the CO detector should be changed twice a year when we adjust the clocks for daylight-saving times.
- Detectors indicate the presence of CO while digital meters detect the amount of CO in parts per million.
- NYC CERT members should be able to recognize the early warning signs of CO poisoning.
- If safe and the source (i.e., car, boiler, and stove) of the CO is obvious, shut it down.
- If victims experience symptoms, they should move themselves to a safe area and remain on scene until they receive medical attention.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Possible CERT Roles: Utility Disruption

- Assist with traffic management.
- Assist with checking on people with special needs.
- Assist with food and/or water distribution.
- Assist with local evacuations.
- Assist with community outreach and information dissemination.

Urban Environment I: High-Rise and Utilities



Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Possible CERT Roles: Water Main Break

- Assist with community outreach and information dissemination.
- Assist with sheltering and food distribution.
- Assist in perimeter and traffic and crowd management.
- Work with NYPD to assist in retrieving personal items.

Urban Environment I: High-Rise and Utilities



Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Unit Review Questions

1. Where is the safest location during a high rise residential fire?
2. What are the early warning signs of CO poisoning?
3. How do we control a gas leak on a defective stove?
4. When do we use elevators at a high rise fire?
5. What contaminant would you expect to find at an underground steam explosion?

Urban Environment I: High-Rise and Utilities



Key Points

Unit Review

- The safest location at a high-rise residential fire is inside your apartment as long as it is not the source of the fire.
- Early warning signs of CO will appear as flu-like symptoms.
- A gas leak on a defective stove should be closed as close to the leak as possible – most stoves have a shut off directly behind the stove. If you are unable to control it at the valve the meter may have to be closed.
- Unless instructed to do so by the fire safety director or the floor warden, **NEVER** use an elevator at a high-rise fire.
- The most common contaminant found at an underground steam explosion is asbestos since most underground piping is wrapped in asbestos.

Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

Questions?

Urban Environment I: High-Rise and Utilities



Notes:



Unit 2: Urban Environment I: High-rise Building and Utility Emergencies

LESSONS LEARNED

- Actions at a high-rise building fire and/or evacuation.
- Utility emergencies and awareness.
- Roles NYC CERT may play during these emergencies.

NYC CERT IN ACTION

To recap, during a utility disruption, or water main break, NYC CERT can:

- Assist with checking on people with disabilities, access and functional needs.
- Assist with food and/or water distribution and sheltering.
- Assist with local evacuations.
- Assist with community outreach and information dissemination.
- Assist in perimeter and traffic and crowd management.
- Work with NYPD to assist in retrieving personal items.

COMMUNITY AWARENESS

- What lessons were learned in this unit that you might bring to your community?
- What is a message learned in this unit that you might stress in a Ready New York presentation?

PREPARING FOR YOUR FINAL WEEK

Use the knowledge about evacuations and utility awareness to prepare for the disaster simulation. How did you create an ICS structure for the knowledge applications this week?

UNIT RESOURCES

NYCEM website: www.nyc.gov/emergencymanagement

FDNYSmart website (community link): <http://www.fdnysmart.org/>

Con Edison website: <http://www.coned.com/>

National Grid website: <http://www.nationalgridus.com/>

Carbon monoxide poisoning prevention guidelines: <http://www.cdc.gov/co/guidelines.htm>



Unit 3: Urban Environment II: Transportation

UNIT INSTRUCTOR INFORMATION

Name	Agency	Contact Information

UNIT INTRODUCTION

The New York City transit system (operated by the Metropolitan Transportation Authority, or MTA) is one of the most extensive and complex public transportation systems in the world. With 24-hour-a-day bus and subway service throughout the five boroughs, the system moves more than 6 million people a day and over 2.4 billion people a year. This is the equivalent of roughly one-third the nation's mass transit users. New York City is also home to more than 2,000 bridges and tunnels which, on a daily basis, permit hundreds of thousands of vehicles to travel in and out of the five boroughs and New Jersey. Recently, water travel has once again become a very attractive option to combat the congestion on the subways, bridges, and tunnels. At any given time, there can be more than 60,000 passengers traveling on the New York City waterways.

The complexity of the New York City transportation system reinforces the fact that NYC CERT members' urban environment is unlike any other. NYC CERT members need to be aware of the hazards associated with each manner of travel described above. A trained NYC CERT member with a basic understanding of the types of emergencies which can take place in the transit system may be able to provide leadership and assistance until first responders arrive.

This unit will discuss the various hazards and emergencies which may be encountered throughout the different transportation systems and how many of these hazards may be minimized or mitigated. Some points to be considered during all emergencies are evacuation procedures, reducing panic and confusion, and communicating with first responders. During all emergencies, it is important that NYC CERT members be aware of the limitations of their training and to understand that no NYC CERT member may act outside the scope of his or her training. The most critical point to keep in mind is that personal and team safety should always be a NYC CERT member's first priority.



Unit 3: Urban Environment II: Transportation

UNIT OBJECTIVES

- Develop an understanding of the NYC transportation system.
- Understand personal and team safety at a transportation incident.
- Develop possible actions for NYC CERT at a transportation incident.

UNIT REVIEW

ICS will continue to play a part in every unit you learn. Transportation emergencies will require a similar ICS response as high-rise building evacuations and utility emergencies. NYC CERT roles are also similar, as your heightened awareness as a resident of New York City makes you an asset to your neighbors, coworkers, and people riding the same subway car.

LOOKING FORWARD

Next week, you will learn the human services side to disaster preparedness, response, and recovery. You will learn the basics of building the relationships within your community that will help hold it together in the event of an emergency or disaster.

Notes:



Unit 3: Urban Environment II: Transportation



Transportation: Urban Environment II

Urban Environment II: Transportation



Key Points

- The intent of this unit is to familiarize participants with the various transportation systems in the New York City metropolitan area.
- Participants will also be instructed on transportation safety and possible NYC CERT roles during a transportation emergency.

Notes:



Unit 3: Urban Environment II: Transportation

Transportation Objectives

- Develop an understanding of the NYC transportation system.
- Understand personal and team safety at a transportation incident.
- Develop possible actions for CERT at a transportation incident.



Urban Environment II: Transportation



Key Points

- By the end of this unit you should be able to:
 - Consider possible actions during a transportation emergency.
 - Understand the role of a NYC CERT during a transportation emergency.
 - Be able to participate in a scenario-based discussion and make decisions based on your training.

Notes:



Unit 3: Urban Environment II: Transportation

Universal Considerations

- Personal and team safety
- Proper notifications:
 - 911
 - Team Chief -> NYCEM Watch Command
- Raise personal awareness of your environment.
- Reduce panic and confusion.
- Communicate with team members and emergency responders.



Urban Environment II: Transportation



Key Points

- Personal and team safety is the primary concern of all NYC CERT members.
- Raising personal awareness of their environment allows NYC CERT members to better understand the specific hazards within their community.
- Panic and confusion are dramatically reduced by:
 - Providing an organized uniformed presence
 - Establishing and executing a plan
 - Giving clear instructions to those impacted by the emergency
- Always maintain good communication between NYC CERT members and responders.

Notes:

Subways



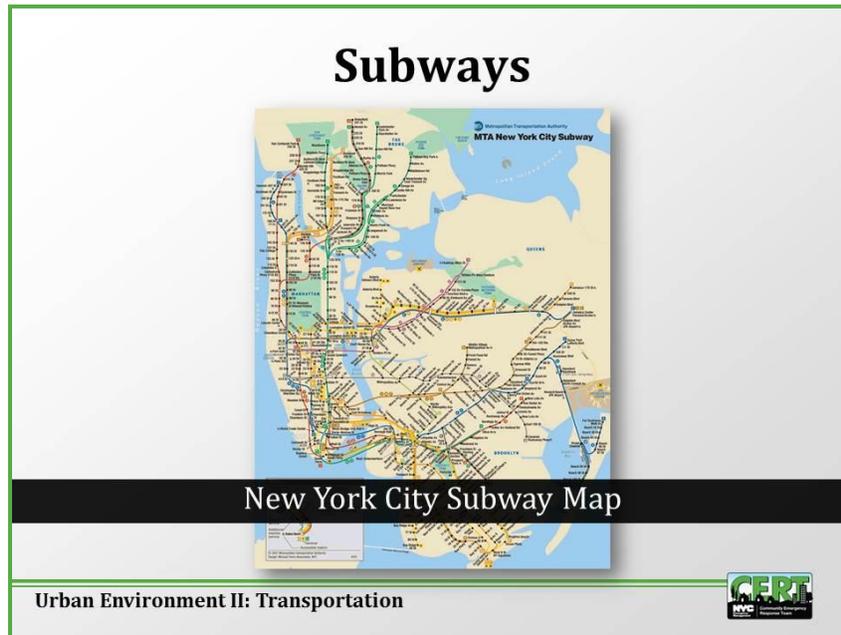
Urban Environment II: Transportation



Key Points

- This section will discuss the specific characteristics of the NYC subway system and possible non-NYC CERT actions during a subway emergency.
- This section will also discuss possible NYC CERT roles during a subway emergency.
- The information received in this unit will better prepare NYC CERT members in the event that an incident occurs while traveling on the subway.

Notes:



Key Points

- This illustration depicts the size and complexity of the NYC subway system.
- All NYC CERT members should be familiar with the characteristics of the subway in your area, including:
 - Entrances and exits
 - Token booth stations and hours of operation
 - Emergency exits
 - Train designations and the direction of travel

Notes:



Unit 3: Urban Environment II: Transportation

CERT Roles in Subway Emergencies

- Operate safely.
- Understand MTA protocols.
- Be familiar with signage.
- Understand CERT protocols.



Urban Environment II: Transportation



Key Points

- Personal and team safety is the primary concern of all NYC CERT members.
- Prior to any operation within the subway system, NYC CERT members must be familiar with:
 - All subway signage
 - MTA protocols
 - NYC CERT protocols for a subway emergency

Notes:

Subway Emergencies

- Medical
- Police
- Stalled trains
- Evacuations
- Fires



London Bombing



Lexington Ave.
Derailment

Urban Environment II: Transportation



Key Points

- Most subway emergencies are minor in nature and corrected by MTA personnel.
- At large scale subway emergencies, NYC CERT members can support responding agencies by assisting with:
 - Traffic Management
 - Triage
 - Information dissemination
 - Evacuation of passengers
- NYC CERT members should not enter the subway system or operate underground without approval from on-scene personnel.

Notes:

Subway Emergencies

- Contact 911 if possible.
- Notify a crew member immediately of the emergency.
- Move to another car via interior doors.
- Remain inside car - tracks are electrified.
- Follow instructions of emergency personnel.
- Do NOT pull the emergency cord.



Urban Environment II: Transportation



Key Points

- Notifying 911 is the first step in any emergency.
- On-scene information from a trained NYC CERT member provides incoming first responders accurate information to better prepare for the response.
- The conductor is located in the middle of the train.
- The train operator is located at the front of the train.
- If doors between cars are unlocked, instruct passengers to move to another car.
- Unless personal safety is immediately threatened, passengers should remain inside the car.
- On older model trains, pulling the emergency cord will immediately stop the train. The train can only be restarted by on-scene MTA personnel.
- On newer model trains, the emergency brake will only stop trains within the platform or upon reaching the next platform.

Notes:



Unit 3: Urban Environment II: Transportation

1 Train Derailment

- May 29, 2013 – #1 Train derailed in Manhattan on 125th St.
- CERT member on board called Watch Command and helped NYPD direct passengers from car to car.



Photo by Jodie Colon, CERT member

Urban Environment II: Transportation



Key Points

- Always be ready to serve as NYC CERT member wherever you are. Carry your CERT ID with you at all times, if possible.
- Unless activated by NYCEM you are operating as a citizen.

Notes:

Terrorism



Urban Environment II: Transportation



Key Points

- The transportation system of any major metropolitan city is a terrorist target.
- Any large scale subway emergency involving fire, explosions and/or derailments may be an indicator of a terrorist incident.
- At the Madrid bombing, as well as the bombing in London, multiple devices were used at multiple locations and at different times to cause harm to both passengers and first responders.
- NYC CERTs are **NOT** trained to operate at a terrorist incident until the scene is declared safe by on-scene personnel.

Notes:

Subway Entrances



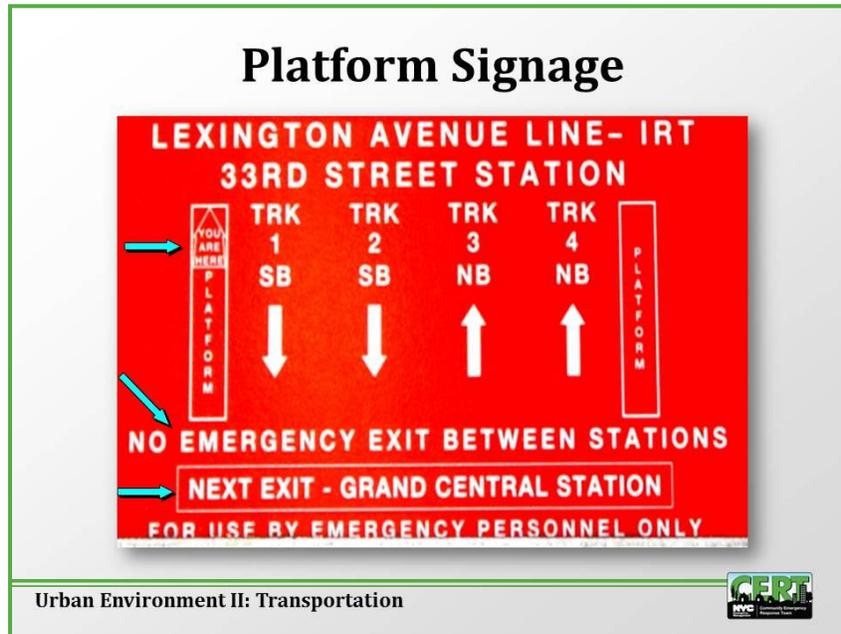
Urban Environment II: Transportation



Key Points

- Subway entrances use a split-globe lighting system.
- The bottom half of the globe provides lighting to the staircase and is generally white.
- The top half of the globe will be red or green.
- Red globes indicate that there may or may not be a token booth clerk at this location, and the stairway will be closed at some point during a 24-hour day.
- Green globes indicate that the entrance is open 24-hours a day. In areas that are not served by a token booth clerk, access will be via a high entrance/exit turnstile or gate.
- For a NYC CERT response, the first point of access should always be at the entrance with the green globe staffed with the token booth clerk.
- NYC CERT members should be familiar with the hours of operation of the subway entrances in their community.

Notes:



Key Points

- All subway platforms display a track identification sign which indicates:
 - The name of the station;
 - The track designation and location;
 - A “You Are Here” indicator;
 - The normal train movement at that location, northbound or southbound; and
 - The direction and distance to the nearest emergency exit and its identification number.
 - If there is not an emergency exit before the next station, then the identification of the next station is listed.
- NYC CERT members should be familiar with the station names and emergency exits in their community.

Notes:

Blue Light



Urban Environment II: Transportation

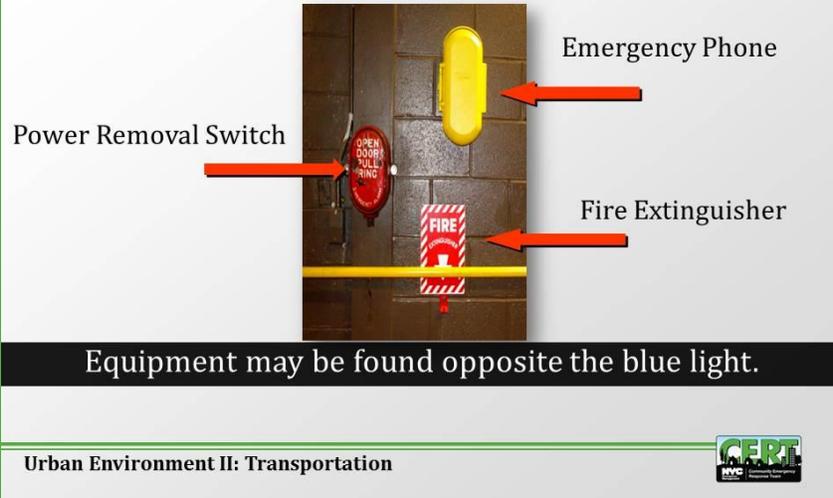


Key Points

- Blue lights are located throughout underground subway tunnels.
- Blue lights are placed approximately 600 feet apart.
- The blue light indicates the approximate location of: a power removal box, telephone and fire extinguisher.
- Power removal box may be located at the blue light or directly across the tracks.

Notes:

Equipment Located Near the Blue Light



Key Points

- This equipment may be found close to the blue light or directly opposite the blue light.
- This equipment is used by emergency personnel.
- During an emergency, this system can be used to remove power to the third rail and directly contact the MTA Rail Control Center.
- There is also a dry-chemical fire extinguisher available for use by trained personnel at this location.

Notes:

Power Removal

- Open door.
- Depress lever.
- Contact train master via blue light phone.



Must contact train master by phone when power is shut off

Urban Environment II: Transportation



Key Points

- Power can be immediately removed from the third rail by depressing the power removal switch.
- Power will be restored within 20 to 30 seconds by MTA personnel unless the power removal is followed by a call to the MTA Rail Control Center via the emergency phone.
- If contact cannot be made with the MTA Rail Control Center, assume power will be restored as per MTA protocols.
- When power removal switches are out of service, power removal must be requested via the emergency telephone.

Notes:

Blue Light Phone

- How to operate the phone:
 - Depress call button on handset.
 - Must be depressed for duration of call.
 - Releasing button disconnects the call.
 - Dial four-digit number listed on inside of case.

- Provides communication with:
 - Token booth
 - Train master
 - Outside line



Urban Environment II: Transportation

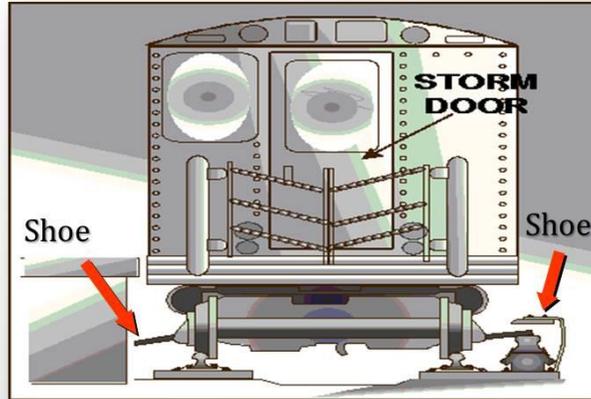


Key Points

- Phones will be located close to the power removal switch.
- Blue light phones are part of a Centrex system which requires a four digit entry found inside the phone case.
- Button on handset must remain depressed for duration of call.
- To remove power, the caller:
 - Must identify himself/herself;
 - State the reason for the power removal;
 - Remain on the phone until confirmation of power removal is received.

Notes:

Third Rail Safety



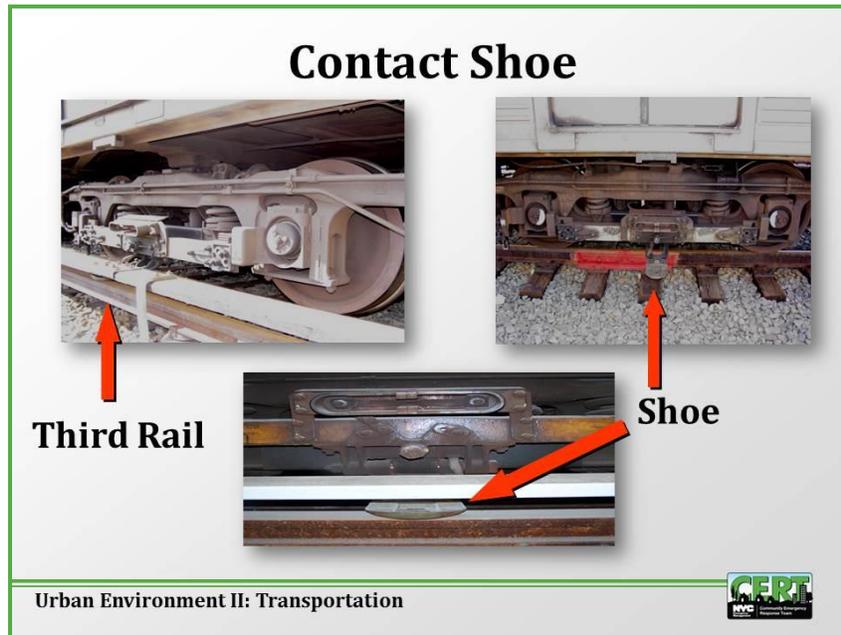
Urban Environment II: Transportation



Key Points

- The third rail is located on both sides of the track and changes positions throughout the line.
- The third rail cover is made of wood or plastic. **Never** step on this cover when crossing the third rail.
- Always operate as if power is on and avoid contact or proximity to the third rail and the third rail contact shoes.
- Even with power off, there are elements within the undercarriage electrical system that possess enough voltage to cause a shock.
- Due to the many potential dangers located throughout the system, leaving the subway car and entering the track bed should be a last resort.

Notes:



Key Points

- Metal contact shoes conduct electricity from the third rail to car motors.
- Contact shoes are located on both sides of the car, front and the rear, in the vicinity of the wheels.
- If any shoe makes contact with the third rail, all contact shoes on the car will be energized.

Notes:



Key Points

- Some bench walls provide cut outs (safety niches) which are indented spaces in the wall of the tunnel.
- The cut outs may provide room for a person to stand while a train passes by.
- The main problem with these areas of refuge is that track workers sometimes use these spaces to store tools and equipment.
- When passing cutouts on a catwalk, observe to see if it is clear. If a train is approaching unexpectedly, always return to the cutout you just passed if it is clear.

Notes:

Emergency Evacuation Device (EED)

Location of EED:

- Underground trains
 - First blue light south of southbound platform
- Elevated trains
 - Area of token booth



Urban Environment II: Transportation



Key Points

- The Emergency Evacuation Device (EED) is a yellow, 7-foot long device with steps on the front and a flat surface on the backside.
- Each unit is constructed of non-conductive fiberglass and weighs 42 pounds.
- This device can be used for removing passengers from the track bed to the platform.
- Keys to remove EEDs from their mounting brackets are available at every token booth.

Notes:

Emergency Exits



Urban Environment II: Transportation



Key Points

- Emergency exits are stairways that lead up to street level from the track area.
- A prism-shaped sign or a cluster of five white lights identifies emergency exits within the subway tunnels.
- The emergency exit door can be found on sidewalks throughout New York City and are painted yellow.
- The door is opened by pushing a panic bar, and counter balance weights will assist in the opening of the door.
- NYC CERT members should identify emergency exits in their community.
- Emergency exits may be used as possible points of egress during a subway emergency.
- NYC CERT members should consider positioning team members at emergency exits during an incident. Flashlights will assist in navigating the fleeing victims.

Notes:



Unit 3: Urban Environment II: Transportation

Evacuations in the Subway

Urban Environment II: Transportation



Key Points

- This section will cover MTA protocols for evacuations.
- This section also will discuss various types of evacuations used at different locations throughout the NYC subway system.
- At the end of this section, the NYC CERT members will have a level of awareness that will enable them to assist other passengers in an emergency evacuation.

Notes:

MTA Protocol

- Do not evacuate **unless** instructed to do so by MTA personnel or emergency responders.
- A majority of emergencies do not require evacuation of train.
- Remember to:
 - Stop
 - Look
 - Listen



Urban Environment II: Transportation



Key Points

- NYC CERT members should instruct passengers to remain within the subway car unless instructed otherwise by emergency personnel.
- Before evacuating a subway car, you must:
 - Stop and gather information;
 - Assess the type of incident; and
 - Listen for emergency instructions.

Notes:

Types of Evacuations



Urban Environment II: Transportation



Key Points

- Depending on the location of the incident, passengers may be evacuated using various methods.
- Passengers may be asked to travel from car to car until they reach a car that is in the station.
- The EED can be used to evacuate passengers from:
 - Train to train;
 - Train to track bed; and
 - Track bed to platform.
- Passengers may be instructed to exit via the bench wall to maintain distance from the third rail.

Notes:

Emergency Evacuation



Tube Bombing – London, 2006



Walking the track bed



Limited lighting and smoke in the tunnel

Urban Environment II: Transportation



Key Points

- During an emergency, passengers may begin to self-evacuate prior to power removal.
- During a derailment or explosion, the outside of the car may become energized if it comes in contact with the third rail.
- The first choice is to exit the car directly into another car at the front or the rear of the subway car.
- If you must exit the car, passengers should use the front and rear exits.
- During an emergency evacuation, there will be limited lighting and uneven terrain.
- Passengers should be instructed to exit single-file using flashlights or lights from cell phones from every fifth passengers to provide illumination. This will also help in reserving battery power on flashlights and cell phones.

Notes:

Evacuations

- Do not exit train unless directed to do so by train personnel or emergency workers.
- Follow the path to station or emergency exit as directed.



Urban Environment II: Transportation



Key Points

- Exit the train orderly upon orders of emergency personnel.
- Passengers will be instructed to exit via the emergency exit or the next station.
- Due to the limited number of emergency exits and the space between stations, passengers may be expected to walk long distances to evacuate.
- Evacuation via the track bed or bench wall should always be considered the last resort.

Notes:



BRIDGES & TUNNELS



Urban Environment II: Transportation



Key Points

- This section will discuss the specific characteristics of the bridges and tunnels.
- This section also will discuss possible NYC CERT roles during an emergency at a bridge or tunnel.

Notes:

Bridges

- Most bridges have pedestrian walkways.
- Swaying is normal.
- All bridges have emergency phones in boxes.



Urban Environment II: Transportation



Key Points

- New York City is served by 16 major bridges and more than 2,000 smaller bridges.
- Pedestrian walkways may be found in the center or sides of the bridges and may not provide access to the roadway.
- Bridges are designed to sway to allow them to sustain the stress of wind and the fluctuating weight of vehicular traffic.
- Emergency phones can be found along side roadways.
- NYC CERTs should be familiar with emergency phones as well as pedestrian access and egress points of all bridges within their community.

Notes:



Key Points

- The age of the bridges found in New York City vary greatly.
 - The oldest bridge in New York City used for vehicular traffic is the Brooklyn Bridge, which was completed in 1883.
 - The most recently built bridge in New York City is the Verrazano-Narrows Bridge, which was completed in 1964.
- Age, exposure to weather and the deterioration of the structural elements due to the corrosiveness of salt water has greatly weakened the strength of these bridges.
- As a result of the 2007 Minneapolis bridge collapse, New York City has implemented an inspection and repair schedule for all bridges.

Notes:

Missouri Bridge Collapse

- Scott City, MO – May 25, 2013 morning:
 - Two freight trains collided and derailed.
 - Train cars struck bridge support pillar, causing bridge to collapse.
 - 7 people injured



Urban Environment II: Transportation



Key Points

- The bridge fell 60 feet, about six stories, into the river.
- Security camera video showed the Interstate 35W bridge's center section collapsing into the river in less than four seconds.
- Four people were confirmed dead after the disaster.
- Officials said at least 79 people were injured

Notes:

Tunnels

- Entrances located above sea level.
- Cross-over passages found in each tube.
- Ventilation tower contains emergency stairs.
 - Expect a long, difficult climb out.



Urban Environment II: Transportation



Key Points

- Tunnel entrances are located above sea level to prevent flooding of surrounding neighborhoods in the event of a tube failure.
- Tunnel roadways travel beneath the sea bed to limit the potential for flooding.
- Emergency numbers for specific tunnels and bridges can usually be found on signs located along the structure or roadway.
- Due to the required elevation of the entrance and exit, evacuating by foot will be a long uphill climb in either direction.
- Ventilation towers may contain emergency stairwells.
- Tunnels contain mile markers which will indicate your location.

Notes:

Potential Emergencies

- Major accidents
- Fires
- Explosions



Be aware of:

- Exit locations
- Rapidly changing conditions
- Poor visibility

Urban Environment II: Transportation



Key Points

- All tunnels are staffed with emergency personnel and response vehicles.
- Larger tunnels may be staffed with personnel in station booths within the tunnels.
- Due to limited lighting and poor ventilation, passengers should be aware of rapidly changing conditions and poor visibility.
- While traveling in the New York City tunnel system, NYC CERT members should take note of the location of the emergency phones and exits.

Notes:

Personal Safety

- Stay in your vehicle.
- Pull into a safe area.
- Call 911.



If you have to get out:

- Move quickly to a safe area.
- Evacuate in the opposite direction of the incident.

Urban Environment II: Transportation



Key Points

- For most emergencies, it is safest to remain in your vehicle.
- If your vehicle is not impacted by the incident, you should position it in a way that does not impede access for emergency vehicles.
- Contact 911 and inform them:
 - Type of incident;
 - Exact location (mile marker);
 - Number of injured; and
 - Current status of the situation.
- If you must evacuate on foot, the safest direction to travel is the opposite direction of the incident. Be aware that emergency vehicles may respond opposite the normal direction of traffic to gain access to the incident.

Notes:



Assisting Others

- Ensure your own safety first.
- Position someone to direct emergency personnel.
- Do not enter or allow anyone else to enter the affected area.
- Direct people to evacuate away from the incident.



Urban Environment II: Transportation



Key Points

- All NYC CERT members are trained to ensure their personal and team safety at any incident.
- NYC CERT members can support the role of first responders by:
 - Positioning teams of two to direct emergency personnel to the incident.
 - Cordoning off the area to restrict non-emergency personnel from entering the scene.
 - Directing all ambulatory passengers to evacuate away from the incident.
 - Notify incoming responders of actions taken prior to their arrival.

Notes:

New York City Waterways



Urban Environment II: Transportation



Key Points

- This section will discuss the specific characteristics of the NYC waterways.
- This section will also discuss possible NYC CERT roles during a NYC waterway emergency.

Notes:

US Airways Flight #1549



- Landed in Hudson River January 15, 2009.
- Ferries were first to respond.
- All 115 crew and passengers survived.

Urban Environment II: Transportation



Key Points

- On January, 15, 2009, minutes after US Airway Flight #1549 take-off at 3:26 PM, it crash landed into the Hudson River after a flock of geese over LaGuardia Airport hit the engines.
- Pilot Captain Sullenberger chose to land the aircraft in the Hudson River, as the waterway gave him the only option after realizing Teterboro Airport was too far for the plane to travel.
- All 115 crew and passengers were rescued by nearby water ferries and other emergency services personnel.
- CERT teams in Queens were put on stand-by to assist at the Family Assistance Center (FAC) at a nearby hotel, in coordination with US Airways.
- As there were no fatalities, most family members were able to receive information and reunite with the survivors and the FAC was closed down before CERT was deployed.

Notes:

Potential Ferry Emergencies

- Collision
- Boiler explosion
- Loss of power
- Fire
- Weather
- Person overboard



Urban Environment II: Transportation



Key Points

- Approximately 1,000 registered commercial ships cross New York Harbor each day.
- Incidents that occur on the water can be more dangerous due to the limited means of egress and resources available for assistance.
- Passengers should always follow the instructions of the captain and crew since routine emergencies found on land are handled differently than on a traveling vessel.
- Fires can originate in trashcans, galleys, engine rooms and in vehicles that are being transported.
- If a passenger falls overboard, hypothermia is a year-round concern.

Notes:

So. Street Seaport Ferry Crash

- January 9, 2013
- 8:45 am
- 363 passengers
- 86 injured
- Injury from being thrown into air and down the stairs.



Urban Environment II: Transportation

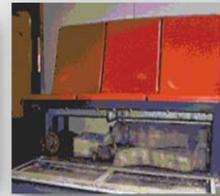


Key Points

- On October 15, 2003, at 3:21 PM, the Staten Island Ferry boat the Andrew J. Barberi crashed into a concrete pier at the St. George Ferry terminal. Eleven people were killed and 71 were injured, some of them with severed limbs. It was the worst accident in the ferry's 98-year history.

Notes:

Flotation and Evacuation Devices



Urban Environment II: Transportation

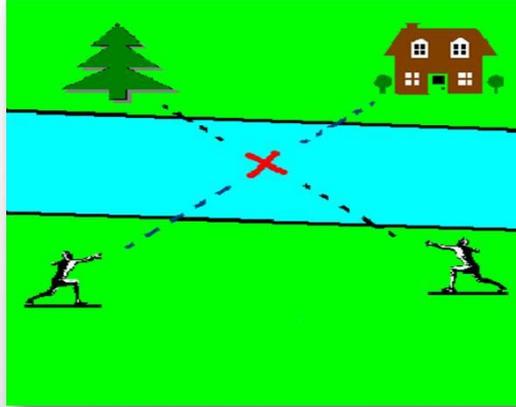


Key Points

- Various types of safety equipment, such as life preservers, fire extinguishers and emergency telephones may be found throughout the vessel.
- Life preservers can be found in storage compartments in the seats or in overhead racks.
- As a NYC CERT member, you should:
 - Know the location of safety features and equipment.
 - Always listen for directions from the crew.
 - Alert the crew immediately if you notice a dangerous situation
- When throwing a line to a victim in the water, throw it beyond and to the side of him/her.
- Prior to assisting passengers, NYC CERT members should:
 - Call 911 and ensure that the crew is notified.
 - Obtain his or her personal safety equipment.
 - Listen to and follow emergency instructions.

Notes:

Victim Locating and Spotting Landmarks



Urban Environment II: Transportation



Key Points

- Members should work in pairs when marking location of victim.
- Each member should select a fixed landmark that is in line with the victim's location.
- The intersection of these two lines will be used to determine the last known location of victim.
- Most victims are found in close proximity to their last known location, regardless of the water's current.

Notes:

Removal Priorities

- Reach
- Row
- Throw
- Go?



Urban Environment II: Transportation



Key Points

- If the water emergency occurs within reach of a NYC CERT member on land or a dock, they should consider the following rescue techniques in priority order:
 - Reach: be sure your footing is stable. Consider using a board, branch, ladder, etc., to extend your reach out to the victim.
 - Throw: throw the victim a “line” or utility rope. The line should be thrown past and to the side of the victim.
 - Row: consider using a small boat to rescue the victim.
 - Go: go is a **last resort** and should only be considered by trained water rescue experts.
- If the victim goes under prior to the rescue, mark the spot by lining it up with a landmark and having someone else follow the same procedure from a different location.

Notes:



Unit 3: Urban Environment II: Transportation

Questions?

Urban Environment II: Transportation



Notes:



Unit 3: Urban Environment II: Transportation

LESSONS LEARNED

- Understanding of the NYC transportation system.
- Understand personal and team safety at a transportation emergency.
- Know CERT roles for a transportation emergency and what actions might take place.

NYC CERT IN ACTION

- Bronx CD #8 CERT Team Chief helped FDNY and NYPD direct passengers from one train car to the next when the 1 Train derailed on May 29, 2013 coming from the Bronx to Manhattan.

COMMUNITY AWARENESS

- What lessons were learned in this unit that you might bring to your community?
- What is a message learned this week that you might you stress during a Ready New York presentation?

PREPARING FOR YOUR FINAL WEEK

Review and understand the NYC CERT Deployment Protocol and how it may relate to a transportation emergency.

UNIT RESOURCES

NYCEM website: www.nyc.gov/emergencymanagement

MTA website: www.mta.info

NYC DOT website: www.nyc.gov/dot



Unit 4: Urban Environment III: Community Disaster Network and Human Services

UNIT INSTRUCTOR INFORMATION

Name	Agency	Contact Information

UNIT INTRODUCTION

This unit will focus on the human services element in disaster response and how NYC CERT will most likely be deployed in an emergency. Many CERT deployments will also be in coordination with other human services providers, such as the American Red Cross and Salvation Army, and/or City agencies, such as the Human Resources Administration or the Department for the Aging. Raising your awareness about the physiological effects of working in a disaster and with survivors is important to your success. New York City's vulnerable population requires NYC CERT members to be aware of the differences in working with people from various cultures, some requiring access needs.

UNIT OBJECTIVES

- Understand your community's needs.
- Understand human services roles in a disaster.
- Recognize the psychological effects of a disaster.
- Learn about self-care.
- Discuss NYC CERT roles and responsibilities.

UNIT REVIEW

The last two weeks have exposed you to the risks and hazards of living and working in the urban environment. The preparedness aspect for fires, utility emergencies, and transportation emergencies are the same for natural disasters (hurricanes, coastal flooding, and tornados). New Yorkers need to make plans and put together their Go Bags and stay-at-home kits.

LOOKING FORWARD

Next week, we will start to learn the hands-on medical operations that you and your fellow team members may be deployed to use in the event of an emergency or disaster. The information you learn this week about human services; disability, access and functional needs; and the psychological effects of trauma are directly related to the care you may provide to survivors in your community.



Unit 4: Urban Environment III: Community Disaster Network and Human Services



Urban Environment III: Human Services

Human Service Roles in an Emergency

Urban Environment III: Human Services



Key Points

- There is a direct correlation between a community's preparedness and how quickly it recovers.
- As a NYC CERT member, you need to understand what resources may be brought to your community as part of a response and recovery
- Linking community groups and organizations through your NYC CERT will allow for more efficient communication in the event of an emergency or disaster.

Notes:



What is Human Services in an Emergency?

Human Services Mission:

- To address the human element in response and recovery operations

AND

- Focus on the individuals and families who are impacted by disasters

Urban Environment III: Human Services



Key Points

- Human services work to address the needs of people affected by a disaster, including immediate needs like shelter, feeding and animal care.
- It broadly includes support for individuals' loss of loved ones, crisis counseling, recovery loans, emergency feeding, disaster unemployment, legal services, and support to populations with disabilities or others with access and functional needs.

Notes:



Examples of Human Services Partners in NYC

Urban Environment III: Human Services



Key Points

- American Red Cross (www.nyredcross.org)
- New York City Human Resources Administration (www.nyc.gov/hra)
- New York City Housing Preservation and Development (www.nyc.gov/hpd)
- The Mayor's Community Affairs Unit (www.nyc.gov/cau)
- Department for the Aging (www.nyc.gov/aging)
- FEMA (www.fema.gov)
- Department of Health and Mental Hygiene's Medical Reserve Corps (www.medicalreserve.org)
- New York Cares (www.nycares.org)
- The Salvation Army (www.salvationarmy-newyork.org)
- NYC Service (www.nycservice.org)

There are many other partners, depending on the disaster.

Notes:



Types of Human Service Activations

- Service Centers
- Shelter Operations
- Mass Feeding
- Commodity Distribution
- Canvassing
- Outreach

Urban Environment III: Human Services



Key Points

- Many of the identified roles NYC CERT may play are in the field of human services.
- The Human Services Unit at NYCEM is active in preparedness, response, and recovery roles.
- These are four of the most important operations in disaster human services:
 - Assistance centers
 - Sheltering, food, and supplies distribution
 - Canvassing and outreach
 - Assisting those with disabilities, and access and functional needs

Notes:

Assistance Centers

- Cooling Centers
- Service Centers
- Family Assistance Centers (FAC)



Urban Environment III: Human Services



Key Points

- Cooling Centers:
 - Air-conditioned community centers that extend their hours during extreme heat.
- Service Centers:
 - Are opened to offer services when a building is evacuated or a vacate order is issued for a significant number of households.
 - Are temporary operations where people who have been economically impacted by a disaster may go to a centralized location and receive information and assistance from government, private, and nonprofit partners.
 - Assistance can take many forms and varies from incident to incident: some examples include legal services, child care services, cash grants, clothing vouchers, etc.
- Family Assistance Center (FAC):
 - Are opened following an incident with 10 or more fatalities. The primary objective of a FAC is to manage casualty and mortuary information, provide mental health support, and address the basic needs of victims' family and friends.

Notes:

Shelter Operations

- Reception Centers
- American Red Cross Shelters
- NYC Coastal Storm Shelter System



Urban Environment III: Human Services



Key Points

- Different types of shelters are opened for different types of emergencies.
- There are no permanent shelter locations; they are opened as needed.
- The City of New York has specific evacuation centers that are predetermined for coastal storm emergencies and can be found on NYCEM's website (www.nyc.gov/emergencymanagement) or by calling 311.
- At the time of an emergency, officials carefully decide where shelters should be opened.
- Shelters provide a safe place for individuals and families in the event of an emergency.

Notes:

Pets in Shelters

- Attachment to one's pets
- Reliance on service animals
- Shelters
 - Allows service animal to stay by owner's side.
 - Designates separate space for all pets.



Urban Environment III: Human Services



Key Points

- Pets are like family to many people. Many pet owners will remain with their pets or take their pets with them during an emergency. Be aware of this fact when helping people evacuate from a dangerous situation.
- NYC coastal storm shelters allow service animals to stay by the owners' side anywhere in a shelter.
- **Shelters also provide a designated space for all pets.**

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

Feeding and Commodity Distribution

- CERT can assist in mass feeding during disasters or emergencies.
- Three ways of providing mass feeding:
 - Mobile feeding - distribute packaged food
 - Fixed feeding on-site - requires additional training, if serving.
 - Commodity Distribution Point (CDP) - life-sustaining essentials
- Mass feeding plan accounts for individual cultural and/or religious needs.
- Points of Dispensing (PODs)



Urban Environment III: Human Services



Key Points

- Mass Feeding:
 - Small disasters: food will be provided by the American Red Cross and sourced via local restaurants.
 - Medium disasters: food will be provided by the American Red Cross and possibly the Salvation Army and sourced via local caterers and restaurants.
 - Large disasters: Food will be provided via nonprofits, the city, state, and federal government. Food distribution will be provided by mobile and fixed feeding sites.
- A Commodity Distribution Point (CDP) is a temporary site that has been established by the City to provide life-sustaining commodities to the public. NYC CERT members may be deployed to work at CDPs.
- Individual cultural and religious needs will be taken into account.
- Points of Distribution (PODs) provide critical emergency supplies, such as medicine, blankets or cleanup kits, etc. NYC CERT members are trained to conduct specific roles at these centers.

Notes:



Canvassing and Outreach

- Post Emergency Canvassing Operations (PECO)
- Missing Persons – canvassing and distribution of flyers
- DOHMH – distributing flyers for health awareness
- Amplifying community preparedness messages

Urban Environment III: Human Services



Key Points

Canvassing Operations

- Post emergency canvassing is managed by the City and its volunteer and not-for-profit partners to check on people in their homes.
- City employees would work with local volunteer groups such as CERT and Medical Reserve Corps to make sure that individuals in their homes are safe and provide services as needed.

Outreach

- NYC CERT members provide an invaluable service to their community by sharing critical information about human services operations and preparedness messaging using the networks that each team has established.

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

Human Services Deployment Roles

- Assist in shelter setup.
- Assist in client intake.
- Provide psychological first-aid.
- Assist NYPD in escort operations.
- Assist with language interpretation.
- Perform non-medical tasks.

Urban Environment III: Human Services



Key Points

- Each member should continue their education to become more involved with the human services roles that may be expected of them.
- The success of a community's recovery is often times connected with the services and important information that is brought into the community by NYC CERT members.

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

Human Services Deployment Roles

- Language interpretation
- Evacuation of residents
- Distribute water
- Perform door-to-door knocking
- Assist in checking on neighbors

Urban Environment III: Human Services



Key Points

Human Services Deployment Roles

- These are some of many of the roles that CERT members are called upon to do.

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

Psychological Effect of a Disaster

How people respond to traumatic events.

Urban Environment III: Human Services



Key Points

- Almost all people exposed to a traumatic event will show stress reactions or symptoms of stress in the immediate and/or short-term aftermath of a disaster.
- You may be affected as a member of NYC CERT as you respond to assist your neighbors and friends.
- You may be affected as a resident of the community or of New York City.

Notes:

Trauma

- A serious injury or shock to the body, as from violence or an accident, OR
- An emotional wound or shock that creates substantial, lasting damage to the psychological development of a person, OR
- An event or situation that causes great distress and disruption.



Urban Environment III: Human Services



Key Points

- What different types of loss might happen in the event of an emergency or disaster?
- How might that affect you? Your family? Your community?
- How might your sense of safety and security be threatened?
- It is important to remember that everyone responds to stress in a different way.

Notes:

Traumatic Stress

Traumatic stress may affect:

- How your mind normally processes things.
- How your body normally works.
- How you would normally respond or do things.
- How you would normally feel about things.
- How you rely on other beliefs and values to get through tough times.



Urban Environment III: Human Services



Key Points

- Stress may cause someone to change how they react to things. Stress can affect how you and your body normally functions:
 - Cognitively (how your mind thinks and processes things)
 - Physically (how your body normally works)
 - Behaviorally (how you may respond to things)
 - Emotionally (how you may feel about things)
 - Spiritually (what beliefs and values you may hold)
- When something traumatic happens, a person may react in a certain way without even knowing it.
- An emergency or disaster may trigger someone's memory of a past traumatic event, therefore compounding his or her reaction.

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

Questioning one's beliefs, loss of faith

Can't remember things, hard to concentrate

What are some common reactions to traumatic stress?

Irritable, sadness, anger

Sleeping too much or not enough, not wanting to do anything

Stomach pains, tiredness, headaches

Urban Environment III: Human Services 

Key Points

- Some individuals may have persistent stress reactions, or they may have symptoms which may worsen over time.
- Reactions will differ based on the individual's perception of the event. Someone who is living in a house destroyed by a tornado may have very different reactions or symptoms than the first responders who assist them.
- If someone continues to have strong reactions or symptoms six months or more following an event, professional mental health services may be needed.
- For mental health referrals at any time, call LIFENET (a free, confidential help line for New York City residents), 24 hours a day, seven days a week: 1-800-LIFENET (1-800-543-3638) or TTY: 212-982-5284; 1-877-AYUDESE (1-877-298-3373) in Spanish; 1-877-990-8585 in Korean and Chinese. People who speak other languages may call 311.

Notes:



Meeting Needs

What can CERT provide when you encounter someone who has been affected by a disaster?

- Listen and show empathy.
- Ask “What do you need?”
- Help those affected to connect with their natural support systems (family, friends, faith institutions).

Urban Environment III: Human Services



Key Points

- Once your team is deployed in a human services role, you will meet and help survivors directly affected by an emergency or disaster.
- Listen to their needs, offer them assistance within the scope of your training, and assist them on their way to recovery.
- Your role is to provide general, immediate, concrete, and emotional support. You do NOT provide formal mental health intervention: that will be provided by professionals.
- Non-mental health professionals may provide psychological first aid, a tool that may stabilize a survivor.
- The goal of on-scene psychological intervention on the part of NYC CERT members should be to stabilize the incident scene by stabilizing individuals.

Notes:



Disabilities, Access, and Functional Needs

- I. Americans with Disabilities Act (ADA)
- II. Disabilities, Access, and Functional Needs (DAFN)
- III. Disability Statistics

Urban Environment III: Human Services



Key Points

- Americans with Disabilities Act (ADA): protects people with disabilities from discrimination.
- Covers employment, local government, public accommodations, telecommunications and miscellaneous provisions such as anti-retaliation.
- Disability Access and Functional Needs (DAFN): those who may have additional needs before, during and after an incident in access and functional areas, including but not limited to: communication, maintaining health, independence, safety, support and self-determination, and transportation (C-MIST).
 - This includes older adults, children, people with limited English proficiency, women who are pregnant, etc.
- Disability Statistics: Nearly 1-in-5 people have a disability and others with access and functional needs represent roughly half the population. In NYC, 864,443 residents have a disability.

Notes:



Disability Access and Functional Needs

- I. Etiquette:

- II. DAFN and Emergency Management

Urban Environment III: Human Services



Key Points

- Etiquette: Practicing proper etiquette is an easy way to make people with disabilities feel welcome. Choose words that are appropriate and respectful. Use “person-first language” (see Review section)
- Don’t be afraid to ask questions if you are unsure what to do.
- Avoid outdated terms, such as handicapped, special needs, crippled, etc.
- DAFN and Emergency Management: Emergency programs, services, activities and facilities must be accessible, inclusive and integrated. Areas of emergency management often implicated are notification, transportation, sheltering and recovery.
- Effective communication and reasonable accommodations and modifications must be provided (see CERT SOPs for more guidance).

Notes:

What is Empathy?



Empathy vs. Sympathy

Urban Environment III: Human Services



Key Points

- Empathy is understanding what a person has been through and what he or she is feeling.
- Sympathy is sharing those feelings with someone.
- Not everyone has empathy or is capable of providing empathy to others.
- If you are feeling frustrated in your NYC CERT role and need to change to another role, let your supervisor and team chief know.

Notes:



What you can say...

- “Can I get you something warm/cold to eat/drink?”
- “Do you want to tell me what happened?”
- “Is there anything I can do for you or anyone I can call to help you out?”
- “I am so sorry for your loss.”

Urban Environment III: Human Services



Key Points

- By saying the right things, you can promote:
 - Safety
 - A sense of calm
 - Connectedness
 - A sense of hope
 - Self-efficacy (how someone’s beliefs about their own capabilities produce positive effects/outcomes)
- When in doubt of what to say, just ask what you can do.

Notes:

What NOT to say...

- I understand.
- Don't feel bad.
- You're strong.
- You'll get through this.
- Don't cry.
- It's God's will.
- It could be worse.
- At least you still have...



Urban Environment III: Human Services



Key Points

- Your role is to provide empathy and show understanding of the other person's feelings, not to judge.
- By being careful what you say, you can avoid making someone feel worse.

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

How will I learn how to do this?

- Education: Advanced training opportunities are offered by NYC CERT.
- Talk to other CERT members and ask questions during team meetings.
- Self-learning through books, websites, and classes.

Urban Environment III: Human Services



Key Points

- NYC CERT offers post-training to active, credentialed members throughout the year. While these courses are designed to enhance your role as a CERT member, they will also count for credits towards re-credentialing (refer to the NYC CERT SOPs).
- Always be open-minded and willing to learn new things.
- Check out resources online or in your local NYC public library.

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

Self Care

Urban Environment III: Human Services



Key Points

- Taking care of yourself will allow you to do your job in an effective and healthy way.
- As you help survivors of an emergency, do not forget to look after your own team members to make sure they don't experience burnout. This can be before, during, and after a response.

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

Why is self care important for you?

Being a CERT volunteer can be stressful,
THEREFORE

- To do the best job you can, you must monitor and care for your own physical and mental well-being.
- Team members must also look out for one another.

Urban Environment III: Human Services



Key Points

- Being a volunteer in a response and recovery role may be stressful.
- You must perform your responsibilities safely and effectively, and monitor and care for your own physical and emotional well-being.

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

What is Self Care?



Activity: Personal Hygiene vs Emotional Hygiene

(Guy Winch, Ph.D.)

Urban Environment III: Human Services



Key Points

- Emotional hygiene is practicing principles that promote emotional well-being.
- Emotional hygiene is just as important as personal hygiene, but unlike physical hygiene, we're not taught to take care of our emotional needs in the same way we take care of our physical needs.
- Paying attention to how we feel is the first step to self-care.

Notes:

Self Care Tips

Step 1: Prevention

Establish an emotional hygiene routine. The basics are:

- ✓ Get enough sleep
- ✓ Maintain a healthy diet
- ✓ Exercise
- ✓ Socialize

Step 2: Know and recognize your signs of emotional distress.

Step 3: Don't ignore them!

Step 4: Take a break or talk to someone in your social support network



Urban Environment III: Human Services



Key Points

- Having established emotional hygiene routine before a stressful event occurs will help manage your stress better during an emergency.
- During emergencies, you may be asked to work with many people who are in distress, which may fatigue you emotionally.
- It is not unusual for people to ignore their signs of emotional distress because they want to keep going. But we can't take care of others if we don't take care of ourselves.

Notes:

Self Care Tips Cont'd:

- What are the things that have helped you cope in the past?
- Remember that you're not responsible for solving all problems
- Acknowledge the things that you were able to accomplish (even the smallest ones) and accept the ones that you were not able to accomplish.



Urban Environment III: Human Services



Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

Self Care Tips Cont'd:

- Know what your tasks are and what is expected of you.
- Work with your supervisor to prioritize tasks.
- Plan for regular breaks to eat and rest.
- If you need additional breaks, let your supervisor know.
- Don't overdo it. You can't help others if you are unable to help at all.

Urban Environment III: Human Services



Notes:

Stress Busters

- Get enough sleep.
- Exercise.
- Eat a balanced diet.
- Balance work, play, and rest.
- Connect with others.
- Use spiritual resources.
- Laugh!
- Allow yourself to receive as well as give: remember that your identity is broader than that of a helper.

Breathing to Relax (4-7-8)

- Inhale for a count of four
 - Hold for a count of seven
 - Exhale for a count of eight
- (Andrew Weil, M.D.)



Urban Environment III: Human Services



Notes:



CERT Roles and Responsibilities

What Will You Do?

Urban Environment III: Human Services



Key Points

- What human services roles might NYC CERT be asked to provide in the event of an emergency or disaster?
- How can you plan for these roles with your team?
- How will your team's network assist with this?

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

CERT Role in Assistance Centers

- Assist NYCEM/FEMA in disseminating info to communities.
- Provide translation/interpretation.
- Provide hospitality support.
- Escort humanitarian teams through communities (i.e., accompany outside groups on debris clean-up, muck outs).

Urban Environment III: Human Services



Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

CERT Role as Community Liaison

- Assist in relaying information to the community.
- Assist NYPD, Mayor's Community Affairs Unit, or other City agency staff.
- Assist NYCEM in assessing community needs.
- Assist with community outreach around preparedness and readiness.

Urban Environment III: Human Services



Notes:



CERT Role in Missing Person Case

- Assist in combing area/performing outreach.
- Assist in distribution of flyers.
- Participate in NYC Silver and Amber Alerts Program for missing persons.

Urban Environment III: Human Services



Key Points

- NYC CERT members should sign up for Notify NYC and encourage your members to sign up for free, official emergency communication from the City, including Silver and AMBER Alerts.

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

Role-Play Exercises

Urban Environment III: Human Services



Key Points

Notes:



Unit 4: Urban Environment III: Community Disaster Network and Human Services

LESSONS LEARNED

- Understand the Human services role in preparedness, response, and recovery.
- Recognize and understand the needs of people with disabilities, access and functional needs.
- Recognize the psychological effects of a disaster.
- Learn about self-care.

COMMUNITY AWARENESS

- What lessons were learned in this unit that you might bring to your community?
- What is a message learned this week that you might stress during a Ready New York presentation?

PREPARING FOR YOUR FINAL WEEK

It is possible you may encounter some survivors during your disaster simulation. Think about what you may say to help someone you may be asked to help. Prepare yourself. Make a plan.

UNIT RESOURCES

Tips for Communicating with People with Disabilities:

- As a general rule, you will never offend or confuse by using **"person-first" language**. For example:
 - "A man who is blind won the lotto."
 - "Susan, who uses a wheelchair, entered the room."
 - "Mr. Smith has mental retardation and works for the hospital."
- **Do not put the person's disability before their name** (e.g., "a blind woman" rather than "a woman who is blind").
- It is better to say "people with disabilities" than "disabled people" or, worse yet, "the disabled."
- **Speak directly to the individual**, not their interpreter, spouse, assistant, etc.
- **Ask, don't assume.** Ask if you can assist, and if so, how to best assist.

The information above is from the National Organization on Disability's site, www.nod.org, in its media section. There is some good, basic information on this site as well as links to other resources. For more in-depth information on disability etiquette and to download a free copy of the brochure, you may also want to visit <http://www.unitedspinal.org/disability-etiquette/>.



Actions: General Tips for Communicating with People with Disabilities

- When introduced to a person with a disability, it is appropriate to offer to shake hands. People with limited hand use or who wear an artificial limb can usually shake hands. (Shaking hands with the left hand is an acceptable greeting.)
- If you offer assistance, wait until the offer is accepted. Then listen to or ask for instructions.
- Treat adults as adults. Address people who have disabilities by their first names only when extending the same familiarity to all others.
- Relax. Don't be embarrassed if you happen to use common expressions such as "See you later," or "Did you hear about that?" that seem to relate to a person's disability.
- Don't be afraid to ask questions when you're unsure of what to do.

Words:

Affirmative Phrases

Negative Phrases

person with an intellectual, cognitive, developmental disability

retarded; mentally defective

person who is blind, person who is visually impaired

the blind

person with a disability

the disabled; handicapped

person who is deaf

the deaf; deaf and dumb

person who is hard of hearing

suffers a hearing loss

person who has multiple sclerosis

afflicted by MS

person with cerebral palsy

CP victim

person with epilepsy, person with seizure disorder

epileptic

person who uses a wheelchair

confined or restricted to a wheelchair

person who has muscular dystrophy

stricken by MD

person with a physical disability, physically disabled

crippled; lame; deformed

unable to speak, uses synthetic speech

dumb; mute

person with psychiatric disability

crazy; nuts

person who is successful, productive

has overcome his/her disability; is courageous (when it implies the person has courage because of having a disability)

Note: the general tips and affirmative/negative phrases to the left are from the Office of Disability Employment Policy.



Unit 4: Urban Environment III: Community Disaster Network and Human Services

The U.S. Department of Labor’s Office of Disability Employment: www.dol.gov/odepThe site features a good and easy to use guide that provides information on the following specific topics:

- Tips for Communicating with Individuals Who are Blind or Visually Impaired
- Tips for Communicating with Individuals Who are Deaf or Hard of Hearing
- Tips for Communicating with Individuals with Mobility Impairments
- Tips for Communicating with Individuals with Speech Impairments
- Tips for Communicating with Individuals with Cognitive Disabilities

For more information:

Guidelines for Reporting & Writing About People with Disabilities:

www.lsi.ku.edu/lsi/internal/guidelines.html

The Life Span Institute at the University of Kansas: This guide is more comprehensive and specific, yet still very easy to use; includes an alphabetical listing of appropriate terminology



Unit 5: Disaster Medical Operations I

UNIT INSTRUCTOR INFORMATION

Name	Agency	Contact Information

UNIT INTRODUCTION

During disaster medical operations, there are a number of scenarios that your team may face. While the possibility always exists that your team may be forced to work on its own during a disaster, in the City of New York it is much more likely that your CERT will be tasked to assist FDNY EMS personnel already on the scene. In this scenario, NYC CERT members will work under the direction of an EMT, paramedic, or FDNY officers.

In the field of emergency management, the need for disaster medical operations is based on two assumptions. The first assumption is that the number of victims will exceed the local capacity for treatment and the second is that survivors will assist others. The goal, whether speaking about first responders or NYC CERT, is to do the greatest good for the greatest number of victims in the shortest amount of time. While attempting to achieve this goal, NYC CERT members should remember that safety is always the first priority.

This unit will discuss how victims die in a disaster and how trained NYC CERT members may intervene in the process and increase a victim's chance of survival. Experts agree that providing simple medical care may save more than 40 percent of disaster victims that are in the second and third phases of dying, which include death within several hours due to excessive bleeding and death in several days or weeks due to infection or multiple system failure. NYC CERT members must understand the importance of maintaining personal hygiene and rescuer safety when dealing with patients. You will learn about and practice treatment for life-threatening conditions, including airway obstruction, excessive bleeding, and shock.

When it comes to disaster medical operations, NYC CERT members must be able organize and function efficiently to save lives. The ability to quickly triage and sort patients into treatment areas will be vital during NYC CERT operations. There are several common problems in triage operations that can be avoided through careful planning and preparation. These include inadequate medical size-up, lack of a team plan or goal, indecisive leadership, too much focus on one injury, and engaging in treatment rather than triage. In this unit, you will practice patient assessment and various treatment techniques. At the end of this unit, you will have the opportunity to conduct triage under simulated disaster conditions.



Unit 5: Disaster Medical Operations I

UNIT OBJECTIVES

- Understand how NYC CERT will have the greatest impact in medical operations during an emergency or disaster.
- Know proper hygiene in a medical response.
- Understand how to organize an initial medical operation.
- Learn basic triage techniques.
- Learn how to control bleeding and care for various wounds.
- Identify and treat for shock.
- Understand NYC CERT's roles.

UNIT REVIEW

The urban environment units have prepared you for the hands-on material that begins this week. Please keep in mind all you have learned up to now: the types of emergencies that might occur in NYC, the roles CERT may be asked to play, how you can prepare your community for these emergencies, and how your knowledge can assist in working directly with the people affected by these emergencies and disasters.

LOOKING FORWARD

Next week you will learn the second part of disaster medical operations. You will build on what you learn in this unit. Hands-on experience continues with light search and rescue and fire safety in the following units.

Notes:



Unit 5: Disaster Medical Operations I



Disaster Medical Operations: Part I

Disaster Medical Operations I



Key Points

- This unit will focus on basic medical operations for NYC CERT, such as triage and first aid.
- You will also learn how to maintain proper hygiene and set-up initial medical operations in accordance with ICS protocol and procedures.

Notes:

Disaster Medical Operations

- The number of victims exceeds local capacity.
- Many survivors will assist others.



Disaster Medical Operations I



Key Points

- NYC CERT may be deployed when the total number of victims exceeds the capacity of the responding agency/agencies.
- At a large-scale incident, survivors may be tasked with assisting in treatment.
- Treatment during an incident is only one aspect of medical operations. NYC CERT teams must recognize the need to organize patients according to their injury, assess life threats, and document their actions.

Notes:



Unit 5: Disaster Medical Operations I

Objectives

- Understand how people die in disasters, and how a CERT will have the greatest impact during disaster medical operations.
- Maintain proper personal hygiene during disasters.
- Organize initial medical operations during a disaster.
- Perform triage.
- Open an airway.
- Assist with head and spinal injuries.

Disaster Medical Operations I



Key Points

- NYC CERT members must be able to recognize threats to a victim's life that must be treated before moving on to the next patient.
- Personal hygiene will limit cross contamination and reduce infection.
- Proper organization during a disaster is the first step in providing assistance.
- Triage will allow the team to assess the victims quickly.
- Performing first aid and treating shock will minimize the risk of further harm.
- Opening the airway must be done when a patient is found not breathing during triage.
- Spinal immobilization should be done by a trained medical professional and can be supported by a NYC CERT member.

Notes:



Unit 5: Disaster Medical Operations I

How do people die during a disaster?

Disaster Medical Operations I



Key Points

- Discuss how to recognize the early phases of death.
- Review the limitations of NYC CERT training and the need to do the greatest good for the largest number of people.

Notes:



Disaster Medical Operations

Understanding How People Die

- **Phase 1: Death within minutes**
 - Overwhelming vital organ damage
- **Phase 2: Death within hours**
 - Excessive bleeding
- **Phase 3: Death in days to weeks**
 - Infection
 - Multi-system failure

Disaster Medical Operations I



Key Points

- The three phases of death illustrate how people die during and after a disaster.
- Phase one usually occurs prior to the arrival of emergency personnel and would require advanced medical treatment to alter the outcome.
- Phase two will be encountered by emergency personnel and can be mitigated at the scene using proper bandaging techniques.
 - Failure to address excessive bleeding in a timely fashion can result in serious harm or death.
- Phase three can be the result of cross contamination or poor hygiene.
 - Washing hands frequently or changing gloves after each patient will limit infection.

Notes:

Hygiene

- Wash hands frequently using soap and water.
- Wear latex gloves; change after each patient.
- Wear a mask and goggles.
- Keep bandages/dressings sterile.
- Avoid contact with bodily fluids.



Disaster Medical Operations I



Key Points

- Personal hygiene is vital during disaster medical operations.
- Proper personal protection will safeguard the NYC CERT member and the patient.
- **Frequent hand washing is one of the easiest ways to limit the spread of infection.**
- Changing latex gloves with each patient limits cross contamination even if hand washing facilities are not available.
- N-95 respirators will protect the NYC CERT member from airborne particles and diseases such as tuberculosis.
- Goggles protect the eye area from contagious fluids.
- Use new bandages for each patient.
- Even when protected with proper equipment avoid contact with bodily fluids in case one of the protection systems fails.

Notes:



Organizing Initial Medical Operations at a Disaster

FDNY/EMS coordinates pre-hospital medical care at:

- Fires
- Crimes in progress
- Public health emergencies
- Public safety emergencies



Disaster Medical Operations I



Key Points

- Organizing the structure used at a medical operation will create an efficient area for managing patients.
- Regardless of which agency initiates patient care, FDNY EMS is responsible for coordinating pre-hospital medical care as specifically stated in the City of New York's Citywide Incident Management System (CIMS) document.

Notes:



Unit 5: Disaster Medical Operations I

Triage

A process for sorting injured people into groups based on their need for medical treatment.

Simple Triage And Rapid Treatment

Based on three criteria:

- Ventilation – Breathing rate
- Perfusion - Pulse
- Mental Status – Answering simple questions

Disaster Medical Operations I



Key Points

- The three criteria stated above allow a NYC CERT member to quickly assess the status of a patient and issue the appropriate tag.
- Ventilations can be assessed visually with little or no patient contact.
- An individual's pulse can be checked via the carotid artery found in the neck or the radial pulse found in the wrist.
- Simple questions such as a person's name, where they are, and if they know what happened will enable the NYC CERT member to determine patients' mental status quickly.

Notes:

METTAG Triage Tag

Use START to categorize patients:

- **BLACK** – Deceased
- **RED** – Immediate transport
- **ORANGE** – (Not for CERT use)
- **YELLOW** – Delayed transport
- **GREEN** – Walking wounded



The METTAG Triage Tag form includes the following sections:

- Visit Signs:** Time, Patient, EP, PBI.
- Burns - "Rule of Nines":** Estimation of the amount of skin surface involved in percentage of body.
- Degree and Area:** Includes checkboxes for 1st, 2nd, and 3rd degree burns, and checkboxes for head, neck, face, chest, back, arm, and leg.
- Other section on figure to indicate burn area.**
- Patient Information:** Name, DOB, and other details.
- Color-coded transport categories:**
 - 0: NO TRANSPORT (Black)
 - 1: IMMEDIATE TRANSPORT (Red)
 - 2: LIFE THREATENING CONDITION (Orange)
 - 3: NON-AMBULATORY (Yellow)
 - 4: WALKING WOUNDED (Green)

Disaster Medical Operations I



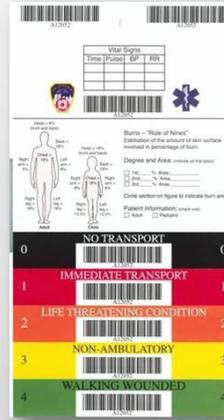
Key Points

- METTAG triage is a standard used by emergency responders.
- Color coding patients based on injury assessment allows emergency medical personnel to prioritize treatment and transportation.
- NYC CERT members should maintain a list of the total number of tags issued broken down by color.
- If a NYC CERT member is uncertain of which category the patient falls into, he should upgrade the patient to the next color tag. (e.g., green to yellow; yellow to red; or red to black).

Notes:

START Procedure

- Direct all ambulatory patients (walking wounded) to a safe area.
- Stay alert to signs of deteriorating medical condition
- These are **GREEN** patients who will be assessed at a later time.



Disaster Medical Operations I



Key Points

- NYC CERT members should use a loud voice and say: “IF YOU CAN HEAR MY VOICE, WALK TOWARDS ME”
- People who are able to follow these commands are green tags based on their ambulatory status.
- By moving them to one location, you have established your green tag treatment area.
- This initial action will reduce the total number of victims that need to be treated.
- A minimum of two NYC CERT members should be assigned to the green tag group to assess the victims and gather information about the incident.

Notes:

Assess Respirations

- If not breathing, attempt to reposition the airway twice
 - If still not breathing, **BLACK TAG**.
 - If respirations are present after repositioning the airway, **RED TAG**.
- If respiratory rate is >30 (one breath every two seconds), **RED TAG**.
- If respiratory rate is <30, assess circulation.



Disaster Medical Operations I



Key Points

- In an effort to do the greatest good for the largest number of people, NYC CERT cannot dedicate all resources to one patient.
- If a patient does not begin breathing after repositioning the head twice, we must black tag the patient and move on.
- If the patient has a difficult time maintaining his airway in an open position, consider using a family member or a green tag victim to maintain this position.
- Respirations can be assessed counting the rise and fall of the chest for a period of thirty seconds and multiplying by two.

Notes:

Assess Mental Status

- Patients who are unconscious or unable to follow simple commands, **RED TAG**.
- Normal responses, **YELLOW TAG**.



Disaster Medical Operations I



Key Points

- A patient without a visible injury who did not move to the green tag area should be evaluated for an altered mental status.
- Patients should be asked three simple questions:
 1. Can you squeeze my hand?
 2. Do you know where you are?
 3. Do you know what happened?

Notes:



Unit 5: Disaster Medical Operations I

Rapid Treatment During START

- Only immediate life threats should be corrected prior to moving on to the next patient, including:
 - Airway obstructed by the tongue,
 - Severe bleeding, and
 - Shock.
- Use the walking wounded to assist with treatment for themselves or others.

Disaster Medical Operations I



Key Points

- NYC CERT members must recognize the three life-threatening injuries that require further treatment during triage:
 - Airway obstruction
 - Severe bleeding
 - Shock
- Failure to treat immediate life threatening injuries during triage may result in severe injury or death.
- NYC CERT members should be reminded that any treatment beyond life-threatening injuries will limit the total number of people who may be triaged.

Notes:

Triage Pitfalls

- Inadequate medical size-up
- No team plan, organization, or goal
- Indecisive leadership
- Too much focus on one injury
- Treatment, rather than triage, performed



Disaster Medical Operations I



Key Points

- NYC CERT incident commanders should size-up all scenes prior to the deployment of personnel.
- Strategies should be developed based on the following criteria:
 - Type of incident
 - The number of patients
 - The extent of injuries
 - The number of team members available
- The scene should be divided geographically to manage a larger number of patients.
- Groups should be assigned within the boundaries of the sectors to limit duplication of resources and maintain span of control.

Notes:



Unit 5: Disaster Medical Operations I

START Quiz

*All walking wounded **GREEN** patients have been removed to a safe area.*

- Breathing: 24/min
- Radial pulse: Present
- Mental Status: Unconscious

RED TAG

Disaster Medical Operations I



Key Points

- Red Tag
 - Less than 30 respirations per minute;
 - Radial pulse present; and
 - **Unable to follow simple commands (answer three questions).**
- This patient is a red tag because she is unconscious.

Notes:



Unit 5: Disaster Medical Operations I

START Quiz

*All walking wounded **GREEN** patients have been removed to a safe area.*

- Breathing: < 30/min
- Radial pulse: Absent

RED TAG

Disaster Medical Operations I



Key Points

- Red Tag
 - Less than 30 respirations per minute;
 - **Radial pulse absent**; and
 - Able to follow simple commands (answer three questions).
- This patient is a red tag because the radial pulse is absent.

Notes:



Unit 5: Disaster Medical Operations I

START Quiz

*All walking wounded **GREEN** patients have been removed to a safe area.*

- Breathing: 38/min

RED TAG

Disaster Medical Operations I



Key Points

- Red Tag
 - **Greater than 30 respirations per minute;**
 - Radial pulse present; and
 - Able to follow simple commands (answer three questions).
- This patient is a red tag because breathing is greater than 30 respirations per minute.

Notes:



Unit 5: Disaster Medical Operations I

START Quiz

*All walking wounded **GREEN** patients have been removed to a safe area.*

- Breathing: No
- Airway Repositioned: Twice

BLACK TAG

Disaster Medical Operations I



Key Points

- Black Tag
 - No respirations.
 - Attempted to reposition airway twice and victim was unable to maintain an open airway.
- This patient is a black tag because he/she is not breathing after repositioning the head two times.

Notes:



START Quiz

*All walking wounded **GREEN** patients have been removed to a safe area.*

- Breathing: < 30/min
- Radial Pulse: Present
- Mental Status: Follows Commands
- Broken Leg

YELLOW TAG

Disaster Medical Operations I



Key Points

- Yellow Tag
 - Less than 30 respirations per minute;
 - Radial pulse present;
 - Able to follow simple commands (answer three questions);
 - **Immobilized due to injury.**
- This patient is a yellow tag due to the broken leg.

Notes:



START Quiz

*All walking wounded **GREEN** patients have been removed to a safe area.*

- Breathing: 26/min
- Radial Pulse: Present
- Mental Status: Follows Commands
- Assisting Red Tag Patient

Yellow TAG

Disaster Medical Operations I



Key Points

- Yellow Tag
 - Less than 30 respirations per minute;
 - Radial pulse present;
 - Able to follow simple commands (answer three questions); and
 - **Remained in disaster scene to help a family member.**
- This patient is a yellow tag because she remained within the incident after being instructed to leave the scene.

Notes:



Unit 5: Disaster Medical Operations I

Establishing Treatment Areas

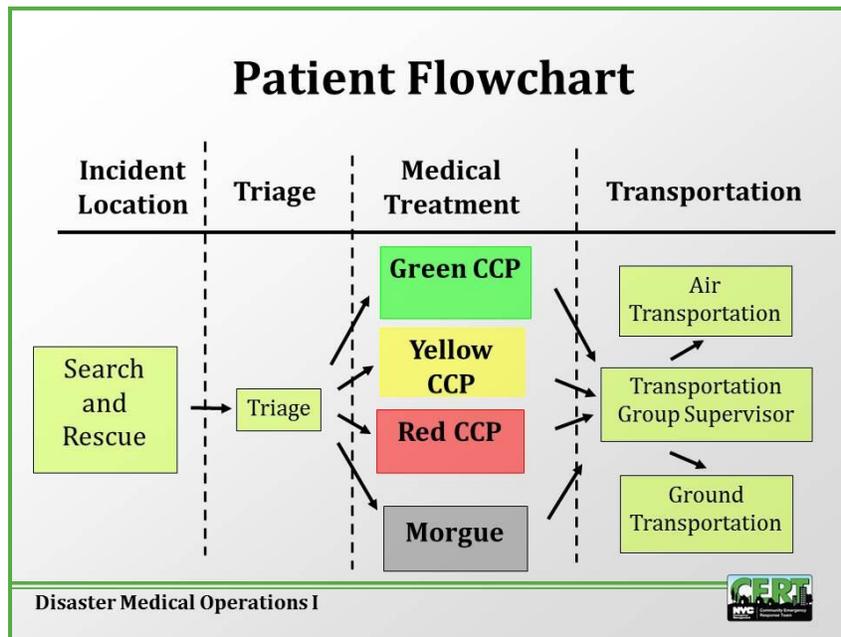
Disaster Medical Operations I



Key Points

- Establishing a treatment area is an immediate need when performing disaster medical operations.
- Discuss NYC CERT roles in establishing a treatment area.

Notes:



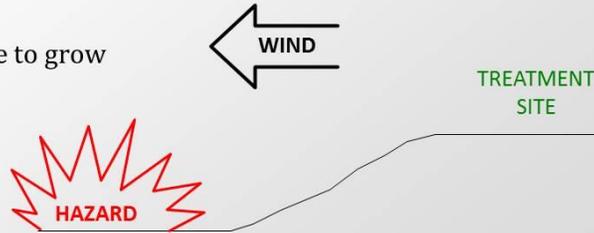
Key Points

- This flowchart is a visual representation of “START”.
- Rescue the victim, triage, and transport in priority order.
- The system is designed to transport the most seriously injured patients (red tags) first, followed by those less seriously injured.

Notes:

Treatment Areas

- Safe area
- Close to (but upwind and uphill from) the hazard
- Accessible by transportation vehicles
- Able to grow



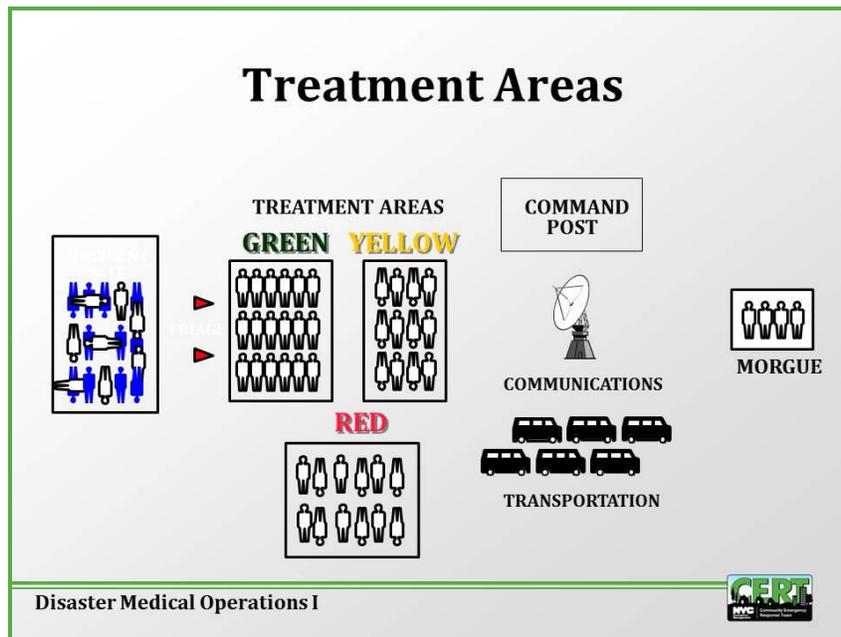
Disaster Medical Operations I



Key Points

- The treatment area must provide a sense of safety to the patients. They have already been traumatized and need to feel their situation is improving.
- The location selected as a treatment area must be free of the contaminants associated with the incident (smoke, chemicals, fire, etc.).
- It should be an area where numerous ambulances would have easy access and egress points to facilitate patient transport.
- If possible, select an area that will allow for expansion of the patient care area.

Notes:



Key Points

- Always attempt to set up the treatment areas so ambulances can easily access and transport red tag patients as they need to get to the hospital as soon as possible.
- The treatment area should be set up where red tag patients would be closest to the ambulance transport area and the yellow tag patients and green tag patients would be behind them.
- Black tag patients should be documented but not moved. There are other victims that need assistance at this time. Black tag patients will be taken care of at the appropriate time.

Notes:



Unit 5: Disaster Medical Operations I

Triage and Documentation

Disaster Medical Operations I



Key Points

- Practicing the lessons learned in this unit for triaging and documentation is a must for all team members during this course and following graduation. Triage techniques and other disaster medical operations must be reviewed often, so when a team is deployed its members are trained in the task.

Notes:



Unit 5: Disaster Medical Operations I

Patient Assessment

Disaster Medical Operations I



Key Points

- Patient assessment and the signs to look for when determining a patient's injuries are important parts to the overall disaster medical operations.
- After initial triage and setting up the treatment areas, patient assessment is used to discover the extent of injuries and to monitor a patient's status.
- Speak to the patients and listen to what they are telling you.
- You may discover that a patient's triage status has changed and he or she needs to be changed to yellow tag or red tag.

Notes:

Indicators of Injury

- How were they injured?
- Signs of shock
- Airway obstructions
- Labored or shallow breathing
- Excessive bleeding
- Cuts and/or bruising
- Swelling
- Severe pain
- Disfigurement



Provide **IMMEDIATE** treatment for life-threatening injuries!

Disaster Medical Operations I



Key Points

- The mechanism of injury (e.g. what caused a patient's injuries) is vital in how you treat the patient.
- Not all injuries will be obvious and knowing what caused the injuries will allow you to treat the patient.
- If you assume an injury is present but hidden and you treat the patient for that injury, you have done no harm and have potentially minimized the patient's suffering.

Notes:



Unit 5: Disaster Medical Operations I

Airway

Disaster Medical Operations I

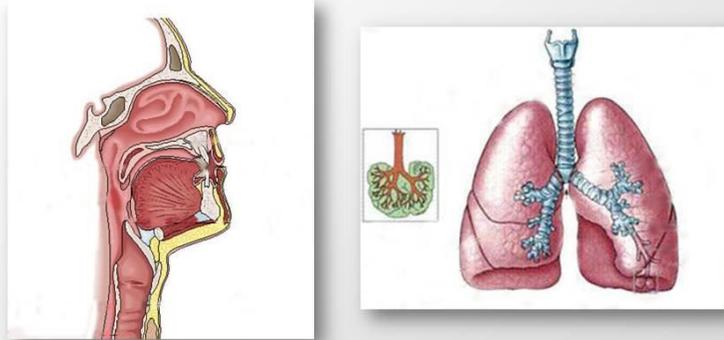


Key Points

- The patient's airway is a primary assessment for treatment.
- Discuss NYC CERT's roles in establishing and maintaining the patient's airway.

Notes:

Airway Obstructed by the Tongue



Disaster Medical Operations I

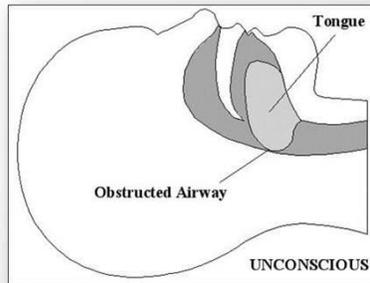


Key Points

- The tongue has a tendency to block patients' airways when they are unconscious and lying on their back (supine).
- The tongue is a large muscle that can block the oral and nasal airway from allowing oxygen to enter the lungs.
- When a patient loses consciousness, the muscles in the body relax. The tongue will relax and fall to the back of the throat, blocking the airway.

Notes:

Head Tilt/Chin Lift Technique



Disaster Medical Operations I



Key Points

- A technique to help clear the airway is the head tilt/chin lift which should be used on patients where there is no indication of a spinal injury.
- This technique will lift the tongue away from the back of the airway and allow oxygen to flow to the lungs.

Notes:

Head Tilt/Chin Lift Video



Disaster Medical Operations I



Key Points

- This video will demonstrate the head tilt/chin lift technique.
- Lay patients on their back, place a hand on their forehead and lift up from the point of their chin.

Notes:



Unit 5: Disaster Medical Operations I

Managing Head and Spinal Injuries

Disaster Medical Operations I



Key Points

- Closed head and spinal injuries require advanced knowledge of how to manage and treatment is not a CERT role.
- Discuss NYC CERT roles in managing closed head and spinal injuries.

Notes:

Closed Head & Spinal Injuries

- Life-threatening
 - Untreatable in field during disaster
- Minimize movement
- Airway
 - Vomiting



Disaster Medical Operations I



Key Points

- If you suspect a closed head injury, you must assume the mechanism of injury was substantial enough to possibly cause a spinal injury.
- A NYC CERT member would triage the patient as a red tag and maintain spinal immobilization and minimize movement until medical attention arrives.
- These types of injuries cannot be resolved on scene but they can be minimized by taking the proper steps to avoid further injury.

Notes:



Head/Spinal Injury Signs & Symptoms

- Change in level of consciousness
- Severe pain/ pressure
- Inability to move
- Difficulty breathing
- Visual deficits
- Tingling in extremities
- Blood/fluid in ears/nose
- Bruising behind ears/around eyes
- Obvious trauma
- Seizures
- Nausea/vomiting
- Mechanism of injury

Disaster Medical Operations I



Key Points

- Mechanism of injury is a key element in determining the extent of a patient's injuries.
- When the mechanism of injury is determined, the patient can be treated based on the signs and symptoms of injury and potential unseen injuries.
- Use your learned knowledge of the signs and symptoms of closed head and spinal injuries to assess patients who may need to be triaged.

Notes:

Knowledge Application

- Demonstration:
Spinal Immobilization
- Practice:
Patient Assessment
- Practice:
Head-Tilt/Chin-Lift



Disaster Medical Operations I



Key Points

- The purpose of the spinal immobilization demonstration is two-fold.
 - NYC CERT members must know how to maintain cervical spine stabilization as patients are moved.
 - They should be able to assist professional rescuers in placing patients on a long board during emergencies when needed.

Notes:



Unit 5: Disaster Medical Operations I

Questions?

Disaster Medical Operations I



Notes:



Unit 5: Disaster Medical Operations I

Possible CERT Roles in a Medical Event

- Assist in distributing medication through Points of Dispensing (PODs).
- Work as a liaison between local hospital and community.
- Assist in locating triage sites.
- Triage as needed.
- Provide basic first aid in accordance with CERT protocols.

Disaster Medical Operations I



Key Points

- Safety is your first priority.
- Respect others.
- Follow all NYC CERT Standard Operating Procedures rules and regulations.
- Accommodate community members with special needs.
- Inform New York City Emergency Management of all attempted NYC CERT response activities.
- Relinquish control of the disaster/emergency site once first responders arrive on the scene.
- Communicate actions and information taken during emergencies to local emergency responders once they arrive on the scene.
- Follow directions of first responders (FDNY, NYPD, NYCEM) once on scene.
- Obey all city, state, and federal laws and regulations.

Notes:



Unit 5: Disaster Medical Operations I

LESSONS LEARNED

- Understanding of how NYC CERT will have the greatest impact in medical operations during an emergency or disaster.
- Knowledge of proper hygiene in a medical response.
- How to organize an initial medical operation.
- Basic triage techniques.

NYC CERT IN ACTION

Teams have provided triage and basic first aid at local bike rides through the city and at the Department of Transportation's Summer Streets Weekends.

COMMUNITY AWARENESS

- What lessons were learned in this unit that you might bring to your community?
- What is a message you might stress that during a Ready New York presentation from this week's lesson?

PREPARING FOR YOUR FINAL WEEK

Practice and know how to triage. Use the examples from this unit and ones from next week. Also take into consideration triaging people from different cultures and how you may need to raise your awareness while working with them. Take turns with members from your class in playing victim and triaging.

UNIT RESOURCES

American Red Cross in Greater New York

<http://www.nyredcross.org>

American Heart Association

www.americanheart.org



Unit 6: Disaster Medical Operations II

UNIT INSTRUCTOR INFORMATION

Name	Agency	Contact Information

UNIT INTRODUCTION

Disaster Medical Operations II will continue with the techniques and procedures in providing care for the greatest number of people in the event of a large scale emergency or disaster. Basic first aid will be reviewed and practiced as it relates to bleeding, fractures, sprains, and strains, and the treatment for shock.

UNIT OBJECTIVES

- Learn how to control bleeding and care for various types of wounds.
- Understand how to provide initial care for fractures, sprains, and strains.
- Identify and treat for shock.
- Understand a NYC CERT's role and how a team works during an incident.

UNIT REVIEW

Review the rules for triaging regularly. Once you complete your triage, you may be asked to perform some of the techniques you learned tonight.

LOOKING FORWARD

Next week, you will learn the basics of fire safety and the next week, light search and rescue. A large fire may need triage of survivors and to have a resident assistance center set up. A terrorist attack may cause a site to need light search and rescue, and there may be fires within and nearby the site. All the different units in this course each fit into one another to form an overall approach to prepare, respond, and recover from emergencies and disasters in your community.



Unit 6: Disaster Medical Operations II



Disaster Medical Operations: Part II

Disaster Medical Operations II



Key Points

- This unit will discuss how NYC CERT members can provide basic first aid during a response.
- This unit will also discuss how NYC CERT members can assist emergency medical personnel during an emergency.

Notes:

Part I Review

- Proper personal hygiene
- Organization of Disaster Medical Operations
- Patient assessment



Disaster Medical Operations II



Key Points

- The most important method of proper personal hygiene is washing hands frequently.
- Use gloves, masks, goggles and avoid contact with bodily fluid.
- Change gloves between patients.
- During assembly, one member should be placed in charge of the triage group.
- The triage group supervisor should not engage in tactical operations but rather he or she should supervise the members of the group and relay information to the operations section or NYC CERT lead.
- Determining the cause of injury can assist in determining the location and extent of the injury.

Notes:

Part I Review

- Head-tilt/chin-lift
- Head and spinal injuries
- START



Disaster Medical Operations II



Key Points

- The head tilt/chin lift is performed to remove the tongue from the back of the throat when a victim is unconscious.
- Head tilt/chin lift should be performed twice – if the victim does not respond, he or she should be black tagged.
- Head and spinal injuries require immediate medical attention and advanced medical care.
- Maintain spinal stabilization in patients with suspected head and/or spinal injuries.
- **START** is the acronym for simple triage and rapid transportation and is recognized nationally by emergency medical personnel.
- The fastest way to reduce the total number of patients who require triage is to have one member make an announcement requesting that anyone that can hear your voice move to a specified location. This will remove all of the green tagged individuals.

Notes:

Objectives

- Control bleeding and care for various wounds.
- Provide initial care for fractures, sprains, and strains.
- Identify and treat for shock.



Disaster Medical Operations II



Key Points

The objectives of this unit are:

- To learn effective methods for controlling bleeding and wound care.
- To learn how to assist an emergency medical professional to immobilize an injury.
- To identify the indicators of shock and the methods for treating shock.

Notes:

Objectives

- Treat burns
- Treat environmental emergencies:
 - Hypothermia and frostbite
 - Heat exhaustion and heat stroke



Disaster Medical Operations II



Key Points

- Also discuss the proper treatment of burn injuries.
- NYC CERT members will learn how to treat injuries caused by the environment.

Notes:



Unit 6: Disaster Medical Operations II

Bleeding and Wounds

Disaster Medical Operations II



Key Points

- This section will discuss methods for controlling bleeding and wound care.
- The objective for first aid treatment for wounds is to control bleeding and prevent secondary infections.

Notes:

Wound Care

- Control bleeding.
- Prevent secondary infection.
- Clean wound:
 - Don't scrub
 - Irrigate
- Apply dressing and bandage.
 - Check for circulation and neurological function.



Disaster Medical Operations II



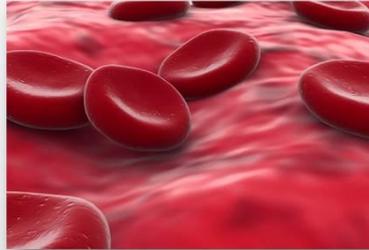
Key Points

- Wound care is usually performed after the completion of triage.
- Proper pre-hospital care will have a dramatic impact on the extent of the injury.
- Clean the wound by irrigating with water, flushing with a mild concentration of soap and water, and then irrigating with water again.
- Check circulation for color, warmth and sensation before and after applying a dressing to ensure bandaging does not interfere with circulation or neurological function. If capillary refill is slow, loosen dressing.
- Constricting circulation in one region can cause toxins to build up in that area causing multisystem failure.

Notes:

Types of Bleeding

- Arterial
- Venous
- Capillary



Disaster Medical Operations II



Key Points

- Arterial bleeds are under high pressure resulting in bright red blood which spurts as the heart pumps and can be difficult to control.
- Venous bleeds are under low pressure with dark red blood. Large veins can be difficult to control.
- Capillary bleeds are under very low pressure oozing dark blood and frequently stop bleeding on their own.

Notes:

Controlling Bleeding

- Direct pressure
- Pressure bandage
- Tourniquet



Disaster Medical Operations II



Key Points

- Direct pressure should be applied over a sterile dressing. If bleeding soaks through the dressing, add more without removing the previous dressings.
- Pressure bandages can be applied using rolled gauze wrapped around the wound area.
- Tourniquets are considered a last resort to save a life when all other bleeding control has not worked and professional medical care is seriously delayed. Once applied they should not be released.
- A tourniquet should be wide and placed as close to the injury site as possible, preferably below the joint. Record the time of application on the victim's forehead.

Notes:

Rules for Checking Dressings

- No active bleeding:
 - No further action required
- Active bleeding:
 - Redress over existing dressing.
 - Maintain pressure and elevation.



Disaster Medical Operations II



Key Points

- In the absence of active bleeding, dressings must be removed and the wound flushed and checked for signs of infection at least every four to six hours. Signs of possible infection include:
 - Swelling around the wound site;
 - Discoloration;
 - Discharge (pus) from the wound; and
 - Red striations from the wound site.
- If bleeding continues to saturate the dressing, apply an additional dressing on to the original dressing and maintain pressure and elevation.

Notes:



Various Injury Types and Treatments

Disaster Medical Operations II



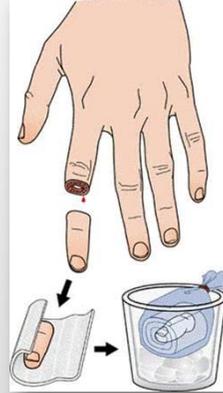
Key Points

- This section will discuss the injuries that may be encountered by NYC CERT members during deployment.
- This section will also discuss possible treatments a NYC CERT member may perform during deployment.

Notes:

Amputations

- Control bleeding.
- Treat for shock.
- Save tissue parts:
 - Keep parts cool.
 - Keep with victim.



Disaster Medical Operations II



Key Points

- The first step in medical treatment for an amputation is to control the bleeding.
- The volume of blood loss associated with an amputation will vary depending on the location of the injury and the manner in which the loss occurred.
- NYC CERT members should watch for signs of shock and treat as necessary.
- NYC CERT members should keep the extremity cold but not frozen.
- Place the extremity in a clean container with a lid and keep it with the victim so medical staff can attempt to reattach it in the hospital.

Notes:

Impaled Objects

- Stabilize:
 - DO NOT remove.
- Control bleeding.
- Clean and dress wound.



Disaster Medical Operations II



Key Points

- Immobilize the affected body part.
- Do not remove the impaled object unless it is interfering with the airway or if it is interfering with CPR.
- Control bleeding in the area surrounding the impalement without placing undue pressure on the foreign object.
- Clean and dress the wound.
- Wrap a bulky dressing around the object to keep it from moving.

Notes:

Nasal Bleeding

- Not usually life-threatening, except:
 - Airway concerns.
 - Severe bleeding can lead to shock.
- Lean forward.
- Pinch nostrils.
- Apply pressure to the point under lip.
- Keep quiet and calm.
- Apply ice, if available.



Disaster Medical Operations II



Key Points

- Severe nasal bleeding can lead to shock.
- The actual blood loss may not be evident because some blood goes down the throat and is swallowed.
- The head should be leaned forward to prevent blood from entering the throat.
- Blood entering the stomach can cause nausea, potentially leading to vomiting.
- Direct pressure can be applied by pinching the nostrils.
- If bleeding persists pressure can be applied to the pressure point located under the gums of the upper lip.
- Keep the victim quiet as anxiety will increase blood flow.

Notes:

Bleeding From The Ears

- Cover lightly.
- Stopping bleeding worsens injuries.



Disaster Medical Operations II



Key Points

- NYC CERT members should assess where the bleeding originated.
- Superficial bleeding from the ear is usually not life threatening.
- Bleeding from inside the ears can indicate an open head injury.
- NYC CERT members should not attempt to stop bleeding from inside the ear.
- Since the wound is a route for infection it should be covered lightly.

Notes:

Eye Injuries

- Cover eye
 - Disposable cup
 - Bandage both eyes
 - Sympathetic movement



Disaster Medical Operations II



Key Points

- If transport is going to be delayed, lightly bandage the eye with a moist, sterile dressing.
- To protect the injured eye, cover it with a disposable cup or similar object.
- Bandage both eyes to prevent further damage caused by sympathetic movement.
- It is important that once a victim's vision is obstructed, a NYC CERT member or green tag victim should be assigned to assist this victim.

Notes:

Practice Bleeding Control



Disaster Medical Operations II



Key Points

- Team will break up into groups of partners to practice bleeding control.
- Equipment will be:
 - 1 - Roll of gauze
 - 2 - 4x4 bandages
 - 2 – Pairs of rubber gloves

Notes:



Unit 6: Disaster Medical Operations II

Fractures, Sprains, and Strains

Disaster Medical Operations II



Key Points

- This section will discuss NYC CERT's roles in treating fractures, sprains and strains.

Notes:

Fractures, Sprains & Strains

- Symptoms
 - Pain/tenderness
 - Swelling
 - Deformity



Disaster Medical Operations II



Key Points

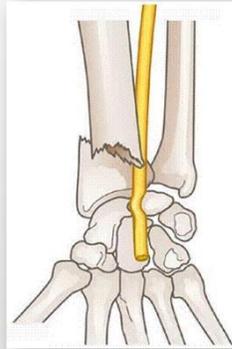
- A sprain is stretching or tearing of ligaments.
- A sprain is considered a partial dislocation. However, the bone either remains in place or snaps back into place on its own after the injury. A NYC CERT member should not treat the injury other than by immobilization and elevation.
- The most common signs of a *sprain* are:
 - Tenderness at the site of the injury;
 - Swelling and bruising; and
 - Restricted use or loss of use.
- A strain is a muscle injury resulting from overstretching or overexertion of a muscle.
- Strains are difficult to distinguish from sprains and fractures without x-rays, therefore all of these injuries need to be treated by immobilization.

Notes:

Fractures, Sprains & Strains

Can be difficult to immobilize properly.

- Immobilize:
 - Injured area
 - Adjacent joints



Disaster Medical Operations II



Key Points

- A fracture is a complete break, a chip or a crack in a bone.
 - A closed fracture is a broken bone with no associated wound. First aid treatment may require only splinting.
 - An open fracture is a broken bone with some kind of wound that allows contaminants to enter into or around the fracture site. This type of injury is a high priority for treatment due to the risk of severe bleeding and infection.
- When treating an open fracture do not draw the exposed bone ends back into the tissue.
- Do not irrigate the wound. Cover the wound with a sterile dressing and splint the fracture without disturbing the wound.
- A dislocation is a separation of a joint.
- A dislocation will show signs similar to that of a fracture and should be treated as such.
- A NYC CERT member should never try to relocate a suspected dislocation.

Notes:

Types of Splints

- Soft materials
- Rigid materials
- Anatomical



Disaster Medical Operations II



Key Points

- Splinting is the most common procedure for immobilizing an injury.
- NYC CERT members may have to be creative in their use of improvised materials for splinting.
- An anatomical splint may be created by securing a fractured bone to a non-injured bone.
- Cardboard is a commonly used material. Others may include:
 - Soft materials: towels, blankets or pillows, tied with bandaging materials or soft clothes. Soft material may be used to fill the gap between the splinting material and the body part.
 - Rigid materials: metal, wood, folded magazines or newspapers and other rigid items.

Notes:



Unit 6: Disaster Medical Operations II

Splinting Demonstration

Disaster Medical Operations II



Key Points

- Support the injured area above and below the site of the injury.
- If possible, splint the injury in the position that you found it.
- A NYC CERT member should not try to realign the bones or joints.
- After splinting check for proper circulation (warmth, feeling, and color).

Notes:



Unit 6: Disaster Medical Operations II

Shock

- Shock is caused by ineffective circulation of blood.
- In trauma, shock usually occurs from blood loss.

Disaster Medical Operations II



Key Points

- This section will discuss the indicators of shock and possible treatment by NYC CERT members.
- Shock is a disorder resulting from an ineffective circulation of blood. Remaining in shock will lead to the death of cells, tissues, and entire organs.
- The body will initially compensate for blood loss and mask the symptoms of shock.
- NYC CERT members should continually monitor and evaluate patients for signs of shock.

Notes:

Signs and Symptoms of Shock

- Rapid, shallow breathing
- Cool, pale, moist skin
- Altered level of consciousness
- Rapid heart rate



Disaster Medical Operations II



Key Points

- NYC CERT members should look for the following signs of shock:
 - Rapid and shallow breathing
 - Cool, pale, moist skin
 - An altered level of consciousness (patient may be unable to follow simple commands)
 - A rapid heart rate

Notes:

Treatment of Shock

- Lay the patient down.
- Raise legs six to ten inches.
- Maintain airway.
- Control bleeding.
- Maintain body temperature.
- Avoid rough handling.



Disaster Medical Operations II



Key Points

- To treat for shock, a NYC CERT member should:
 - Lay the patient on his or her back.
 - Elevate the legs.
 - Maintain the patient's airway.
 - Control any obvious bleeding.
 - Maintain the patient's body temperature.
 - A NYC CERT member should place a blanket over the patient and possibly under the patient as well to protect the patient from extreme ground temperatures.
 - Avoid rough or excessive handling of the patient.

Notes:



Unit 6: Disaster Medical Operations II

Treating Burn Injuries

Disaster Medical Operations II



Key Points

- This section will discuss classification of burn injuries and associated treatment for each classification.
- Skin has three layers and depending on the severity, burns may affect all three layers.
 - a. The *epidermis* is the thin outermost layer of the skin containing nerve endings and is penetrated by hairs.
 - b. The *dermis* is the thick second or middle layer of the skin, which contains blood vessels, oil glands, hair follicles and sweat glands.
- The *subcutaneous layer* is the third or innermost layer of the skin, which is primarily fat and blood vessels

Notes:

Classifications of Burns

- First degree:
 - Epidermis
 - Reddened skin

- Second degree:
 - Epidermis and dermis
 - White or red skin
 - Blisters



Disaster Medical Operations II



Key Points

- First degree:
 - Similar to sunburn
 - Skin function is not compromised
 - Not very dangerous, although it can be very painful
- Second degree:
 - Part of the dermis has been burned.
 - Hot water scalds are a common form of second degree burn.
 - Sunburn can be bad enough to result in a second degree burn.
 - The burn will generally heal on its own. However, the skin will not function correctly until it is healed. The surrounding area is usually a first-degree burn.

Notes:

Classifications of Burns

- Third degree:
 - Extends into all layers
 - Skin dry and leathery
 - Little or no pain



Disaster Medical Operations II



Key Points

- Third degree:
 - These burns involve the entire dermis and may extend into the subcutaneous tissue, or even deeper, involving muscle or bone.
 - Since the nerve endings are burned the patient may not experience any pain. However, the surrounding areas of first and second degree burns will feel pain.
 - Patient is at an extremely high risk for infection.
 - Third-degree burns will not heal automatically and will require immediate medical treatment.

Notes:



Unit 6: Disaster Medical Operations II

Treatment

- Stop the burning process.
- Apply dry, sterile dressings.
- Elevate.
- Treat for shock.
 - DO NOT use ice.
 - DO NOT apply ointments.
 - DO NOT remove tissue or break blisters.

Disaster Medical Operations II



Key Points

- A NYC CERT member should:
 - Remove the patient from the source of the burn.
 - Stop the burning process.
 - Cover loosely with a dry sterile dressing to keep out air, reduce pain and prevent infection.
 - Treat all victims of third degree burns for shock.
- A NYC CERT member should **never** apply ice, antiseptics, ointments or any other “home” remedies.
- A NYC CERT member should **never** remove shreds of tissue, break blisters, or adhered particles of clothing.
- Heat, chemicals, electrical current, and radiation may cause burns. The severity of the burn will depend on the:
 - Temperature of the burning agent;
 - Period of time that the patient is exposed;
 - Area of the body that is affected; and
 - Size and depth of the burn area.
- The objective of first aid treatment for all burns is to cool the burned area and cover the area to reduce pain and the risk of infection.

Notes:



Unit 6: Disaster Medical Operations II

Environmental Emergencies

Disaster Medical Operations II



Key Points

- This section will cover a variety of environmental emergencies that may be encountered not only in a disaster but also in everyday life.
- This section also will discuss NYC CERT's roles in diagnosing environmental emergencies and what can be done to minimize the impact of each emergency.

Notes:

Hypothermia

- Very low body temperature
- Decreased level of consciousness
- Shivering:
 - Stops in late stages - very bad sign
- Muscle rigidity/clumsiness
- Numbness



Disaster Medical Operations II



Key Points

- Hypothermia is a core body temperature of 95°F or less. Body temperature below 95°F will produce visible shivering and an increase in heart and breathing rate and blood pressure.
- As the body temperature continues to drop, the pulse will slow and breathing rate and blood pressure will also decrease. You may notice clumsiness, slurred speech, and confusion.
- In a cold, dry environment, hypothermia can take place over a period of hours. In cold water, it can take place in minutes.
- The homeless, persons with alcohol or drug dependencies, and mentally ill individuals are prone to hypothermia because they may be unable to find adequate shelter or may be unable to recognize when it is time to come in from the cold.
- Seniors, because of their impaired ability to produce and retain heat, may become hypothermic over a period of days while living in normal conditions that other people would find comfortable. Check on family members and neighbors.

Notes:

Treatment

- Remove wet clothing.
- Protect from cold.
- They should not ingest anything.
- Note recovery position.
- If conscious, apply heat packs in groin and/or armpits.
- Be careful not to cause burns.



Disaster Medical Operations II



Key Points

- Remove wet clothing and move the person indoors or to a warmer environment.
- Wrap the patient in blankets to warm them and place them in the recovery position — on their side with their knees drawn up towards their chest.
- Heat packs in the groin and/or armpits can help warm the blood.

Notes:

Frostbite

- Freezing of affected area
- Frostnip
- Coldness
- Stiffness
- Pins and needles → no sensation



Disaster Medical Operations II



Key Points

- Note that many people with frostbite may be experiencing hypothermia. Saving their lives is more important than preserving a finger or foot.
- Frostbite affects the extremities because blood flow to the extremities is reduced so the body can preserve the function of vital organs.

Notes:



Unit 6: Disaster Medical Operations II

Treatment

- Remove all clothing and jewelry from the affected area.
- Protect from cold.
- Warm up using skin-to-skin or mouth.
- DO NOT massage.
- USE CAUTION when placing in front of heat source.
- DO NOT break blisters.

Disaster Medical Operations II



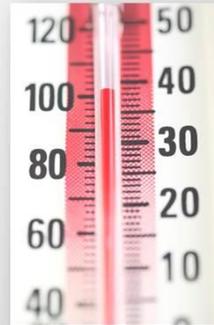
Key Points

- Remove all constrictive jewelry and clothes because they may further block blood flow.
- Move to a warm area to prevent further heat loss.
- Keep the affected area elevated to reduce swelling.
- Apply a dry, sterile bandage:
 - Place cotton between any involved fingers or toes (to prevent rubbing).
 - Take the person to a medical facility as soon as possible.

Notes:

Heat Exhaustion/Heat Stroke

- Temperature too high
- Heat exhaustion → still compensating
- Heat stroke → cannot compensate



Disaster Medical Operations II



Key Points

- Heat exhaustion occurs when people exercise, work or play in a hot, humid place and body fluids are lost through sweating, causing the body to overheat.
- Heat stroke is life-threatening. The person's cooling system, which is controlled by the brain, stops working and the internal body temperature rises to the point where brain damage or damage to other internal organs may result (temperature may reach 105°F or more).
- Infants and the seniors are more likely to have this problem, as are those who are taking antihistamines and certain types of medication for high blood pressure and depression.

Notes:

Heat Exhaustion: Signs and Symptoms

- Dizziness and/or weakness
- Profuse sweating
- Warm, pink skin → cool, pale skin
- Headache
- Nausea



Disaster Medical Operations II



Key Points

- Heat exhaustion symptoms consist of paleness with cool, moist skin, sweating profusely, muscle cramps or pain, feeling faint or dizzy. Victims may complain of headache, weakness, thirst, and nausea.
- In cases of heat exhaustion, core temperature is elevated usually more than 100°F and the pulse rate is increased.
- Heat exhaustion can affect both victims and responders. Like with first responders, NYC CERT members should be rotated to minimize the effects of the heat on them.

Notes:

Treatment

- Remove from hot environment.
- Drink fluids:
 - Water
 - Gatorade®
- Treat for shock as necessary.



Disaster Medical Operations II



Key Points

- Treatment for heat exhaustion:
 - Rest in a cool, shaded area.
 - Provide cool fluids such as water or sports drink, which will replace the salt that has been lost.
 - Loosen or remove clothing.
 - Apply cool water to skin.
 - Treat for shock as necessary.
 - **Do not** use an alcohol rub.

Notes:

Heat Stroke: Signs and Symptoms

- Unconscious
- Hot, dry skin
 - May still be wet at first
- Headache
- Nausea



Disaster Medical Operations II



Key Points

- Heat stroke symptoms may include:
 - Loss of consciousness or a markedly abnormal mental status including dizziness, confusion, hallucinations, or coma;
 - Flushed, hot, and dry skin although it may be moist initially from previous sweating or from attempts to cool the person with water;
 - Initially, slightly elevated blood pressure that falls later;
 - Hyperventilating; and
 - A body temperature of 105°F or more.

Notes:

Treatment

- Gradually cool patient to prevent shivering.
 - Do not place in ice water.
- Monitor airway/respiratory status.



Disaster Medical Operations II



Key Points

- Treatment for heat stroke:
 - **Call 911 immediately.**
 - Move the person to a cooler environment, or place him or her in a cool water bath (as long as he or she is conscious and can be attended to continuously).
 - Alternatively, moisten the skin with lukewarm water and use a fan to blow cool air across the skin.
 - Give cool beverages by mouth only if the person has a normal mental state and can tolerate them.

Notes:



Unit 6: Disaster Medical Operations II

Disaster Medical Operations Review

- First, do no harm.
- Do the greatest good for the greatest number.
- Responder, protect thyself!
- Organization of operations.
- Triage.
- Perform patient assessment.

Disaster Medical Operations II



Key Points

- Safety is your first priority.
- Respect others.
- Accommodate community members with special needs.
- Inform New York City Emergency Management of all attempted CERT response activities.
- Relinquish control of the disaster/emergency site once first responders arrive on the scene.
- Communicate actions and information taken during emergencies to local emergency responders once they arrive on the scene.
- Follow directions of first responders (FDNY, NYPD, NYCEM) once on scene.

Notes:



Unit 6: Disaster Medical Operations II

LESSONS LEARNED

- Learn how to control bleeding and care for various wounds.
- Understand how to provide initial care for fractures, sprains, and strains.
- Identify and treat for shock.
- Understand NYC CERT's role and how the teams work during an incident.

COMMUNITY AWARENESS

- What lessons were learned in this unit that you might bring to your community?
- What is a message you might stress, learned this week, during a Ready New York presentation?

PREPARING FOR YOUR FINAL WEEK

The disaster simulation will have multiple parts for which you and your classmates will need to respond. Providing disaster medical operations will most likely be a big part of the disaster simulation, so it is important to understand the concepts and techniques. It is also important for you to understand how disaster medical operations fit into the Incident Command System structure. Practice, practice, practice.

UNIT RESOURCES

NYCEM Website: www.nyc.gov/emergencymanagement



Unit 7: Fire Safety

UNIT INSTRUCTOR INFORMATION

Name	Agency	Contact Information

UNIT INTRODUCTION

This module will focus on basic fire knowledge and safety, including the three ingredients needed to start a fire and then how to properly extinguish a fire. Participants will also practice the proper technique of using a fire extinguisher.

This unit will discuss fire safety for you and your household. You will also learn about NYC CERT roles during a fire-based deployment. During and immediately following a severe emergency, the major priorities of the FDNY are life safety and extinguishing major fires. In a major disaster, first responders may be overwhelmed by the number of incidents or hampered by impassable roads, inadequate water supply or weather conditions. CERT may be asked to support the FDNY.

NYC CERTs may be tasked to play a very important role in fire safety by:

- Extinguishing small fires before they become major fires. This unit will provide training on how to use an extinguisher to put out small fires — and how to recognize when a fire is too big for NYC CERT members to handle.
- Preventing additional fires by removing fuel sources. This unit will also describe how to ensure that a fire, once extinguished, is completely extinguished.
- Shutting off utilities, when necessary and safe to do so, based on your NYC CERT training.
- Assisting with evacuations where necessary. When a fire is beyond the ability of NYC CERT members to extinguish, CERT members need to protect life safety by evacuating the area, when necessary, and establishing a perimeter.

When deployed, NYC CERT members should remember the following:

- NYC CERT member safety is always the number one priority.
- NYC CERT members should always work within the buddy system.
- Each member must wear safety equipment, including gloves and goggles.
- Each member must operate within the scope of his or her NYC CERT fire safety training.
- When operating a fire extinguisher, always operate with a backup safety team and ensure a safe means of egress.



Unit 7: Fire Safety

UNIT OBJECTIVES

- Learn the chemistry of fire.
- Know how NYC CERTs can aid in fire prevention in their community.
- Understand CERT's role in fire suppression.
- Learn and practice safe fire extinguishing techniques.

UNIT REVIEW

Fires can happen anywhere, and at this point, you know some of the context of where they can start and spread, how to reach help and ways they can start (utilities). Keep in mind that you can prepare in your own home for fires by practicing evacuation routes, having a meeting place, and having your Go Bag ready!

LOOKING FORWARD

Building collapses can occur following fires, earthquakes, utility explosions, or even because the subway is rumbling beneath an unstable building. Next week, you will learn basic light search and rescue techniques. While this is not training that will allow you to ever enter an unstable building or into an active disaster site, learning and knowing these skills may someday save your life.

Notes:



Unit 7: Fire Safety



Fire Safety



Fire Safety



Key Points

- The intent of this unit is to familiarize you with the importance of fire safety and their personal ability to limit the spread of fire.
- You will be instructed on the proper use of a portable fire extinguisher on a small fire.
- Discuss possible NYC CERT roles during a fire.

Notes:

Unit Objectives

- Understanding the chemistry of fire
- CERT role in fire prevention
- CERT role in fire suppression:
 - Basic SIZE UP for a fire emergency
 - Extinguish small fires using a fire extinguisher.



Fire Safety



Key Points

- By the end of this unit you should be able to:
 - Understand the chemistry of fire and its impact on sustaining combustion.
 - Understand NYC CERTs' roles in preventing fires in their communities.
 - Understand the role of a NYC CERT during a fire.
 - Extinguish a minor fire using a portable dry chemical extinguisher.

Notes:



Unit 7: Fire Safety

What is Fire?

- Fire – a rapid oxidation process that creates light, heat, smoke, and releases energy in varying intensities.
- Components of Fire –
 - Heat
 - Oxygen
 - Fuel
 - Unconstrained Chain Reaction

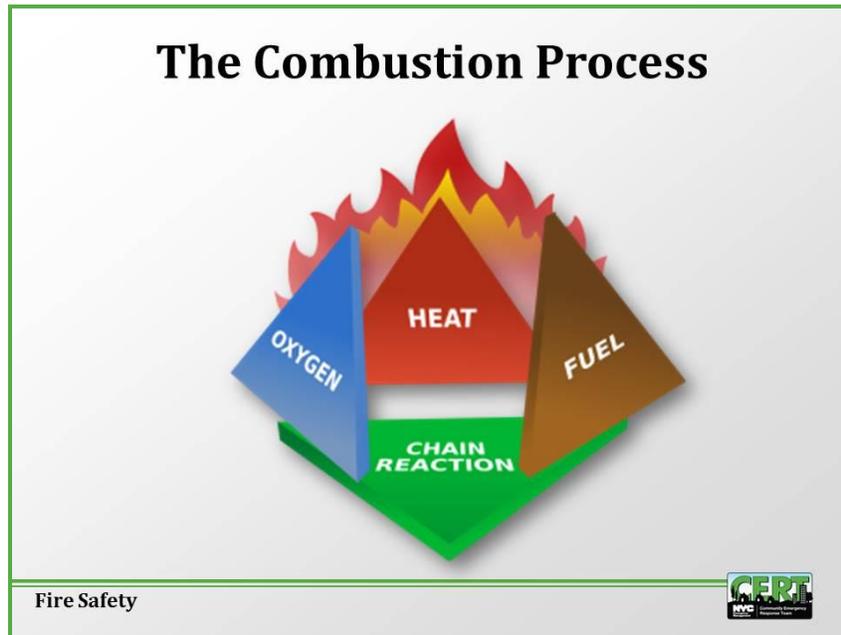
Fire Safety



Key Points

- Fire is a chemical reaction that requires three components to sustain combustion:
 1. Fuel (solid, liquid, or gas)
 2. Heat (required to elevate the temperature of the material to its ignition point)
 3. Oxygen (fire burns vigorously in any atmosphere of at least 20% oxygen)
- The removal of any one of these components will extinguish the fire.

Notes:



Key Points

- The fire tetrahedron diagram illustrates the chemical reaction required to initiate and sustain combustion.
- The simplest example of this reaction would be a match and striker:
 - The match stick acts as the fuel.
 - The match dragging along the striker creates the heat.
 - The oxygen exists in the air at a level of approximately 20%.
 - The chemical reaction is the interaction of these three components working simultaneously to ignite and sustain combustion.

Notes:

Fire Demonstration



Fire Safety



Key Points

- Eliminating one portion of the fire triangle will extinguish the fire:
 - Closing a door to the room that is engulfed in fire begins to eliminate the oxygen within the room.
 - Placing water on the fire will cool the heat component and will extinguish the fire.
 - Removing the fuel source will extinguish the fire.

Notes:

Growth of Fire



Fire Safety



Key Points

- A fire doubles in size every 30 seconds.
- Smoke detectors within the apartment may not activate until the fire is burning for several minutes.
- Once a fire is detected, you should immediately close the door to the fire area to limit its spread.
- If the fire is any bigger than a waste paper basket or beyond the capability of a fire extinguisher, the occupants should immediately leave, closing the door behind them to limit the spread of the fire.
- The occupants should **call 911** and attempt to meet first responders in a safe place as they arrive to relay important information about the fire or the occupancy of the building.

Notes:



Unit 7: Fire Safety

CERT Roles

- Extinguish *small* fires.
- Prevent the spread of fires.
- Prevent additional fires.
- Assist with evacuations where necessary and possible.
- During the winter, clear snow from fire hydrants.



Fire Safety



Key Points

- NYC CERT members should examine each emergency and determine which tasks are within the scope of their training and safety and will have the greatest impact on the largest number of people.
- Extinguish small fires prior to their exponential growth.
- Attempt to limit the spread of fires that cannot be extinguished by a portable extinguisher.
- Prevent evacuees from blocking exits and stairwells once they have reached a safe area.

Notes:



Potential Fire Hazards and How to Control Them

Fire Safety



Key Points

- Knowing potential fire hazards and the ways to control them increases your personal awareness of fire safety.
- Discuss NYC CERT roles in limiting potential fire hazards within their community by educating others on the risks.

Notes:

- Electrical hazards
- Natural gas hazards
- Flammable liquids
- Human factor



Fire Safety



Key Points

- These are four types of hazards that contribute to accidental fires.
- These resources are a part of everyday life, but when they are used improperly or overloaded beyond their limits they can initiate or expand an existing fire.
- Recognizing the dangers of these four hazards will help in limiting their potential danger.

Notes:

Electrical Hazard Control

- Avoid running extension cords under carpets.
- Use licensed electricians.
- Label fuses or circuit breakers.
- Avoid overloading circuits.



Fire Safety



Key Points

- The items above are common hazards found in many homes.
- Running electrical cords beneath a carpet causes the insulation to break down over time, eventually causing it to ignite more easily.
- Not following NYC code requirements can lead to many potential hazards such as:
 - Overloaded circuits
 - Improper circuit breaker size
 - Improper connections
 - Overheated wiring
- Labeling circuit breakers will enable you to isolate the problem quickly.
- Do not enter a flooded basement to shut off the electrical supply as water may conduct electricity.

Notes:

Electrical Hazard Control



Overloaded Circuits

Fire Safety



Key Points

You can spot many electrical problems before they cause a fire or shock. Be alert to the following danger signs:

- Recurring problems with blowing fuses or tripping circuit breakers.
- Feeling a tingle when you touch an electrical seasonal light.
- Discoloration of wall outlets.
- A burning smell or unusual odor coming from an appliance or wiring.
- Sizzling sound at wall switches or outlets.
- Flickering lights. If you cannot locate a problem inside your home, call your power company or an electrician immediately to inspect the electrical connection to your home at your electric meter. (Outdoor meters are extremely vulnerable to weather damage.)

Notes:

Natural Gas Hazard Control

- Install a natural gas detector.
- Locate and label gas shut-off valve.



Closed
Valve



Fire Safety



Key Points

- There are several types of gas valves used, but the most common is the ¼ turn valve.
- Gas valves can be found in many locations:
 - Behind an appliance
 - In the ceiling
 - At the meter
 - Where the gas enters the building
- When the valve is in line with the pipe, it is open.
- When the valve is perpendicular to the pipe, it is closed.
- Many valve stops are broken so do not turn beyond the ¼ turn or you may reopen the valve.
- Always attempt to shut off the gas as close to the leak as possible.

Notes:

Flammable Liquid Hazards

- Read labels.
- Use L.I.E.S. storage procedures:
 - L**imit
 - I**solate
 - E**liminate
 - S**eparate

- Dispose of expired or empty cans properly.



Fire Safety



Key Points

- CERT members should be aware of labels that identify flammable products.
- Liquids should be stored in the proper container. Some liquids may have a reaction to a container if stored in something other than what they are meant to be stored in.
- Dispose of flammable liquids that may be expired. Contact 311 for instructions on how to dispose of these items safely.
- A trained NYC CERT member should use the LIES acronym when it comes to storing flammable liquids:
 - **L** Limit
 - **I** Isolate
 - **E** Eliminate
 - **S** Separate

Notes:

Flammable Liquid Hazards



Fire Safety



Key Points

- This video will demonstrate how dangerous a flammable liquid fire can become and how quickly conditions can change.
- A flammable liquid fire should be extinguished by using a portable fire extinguisher that is rated for flammable liquid fires. (Fire extinguisher safety and ratings will be addressed later in this unit).
- A flammable liquid fire in a cooking pan may be extinguished by placing the lid over the pan if possible.

Notes:



Unit 7: Fire Safety

The Human Factor

Fire Safety



Key Points

- You can play a part in fire safety.
- NYC CERT members should work to educate their communities about fire safety.

Notes:

- Cooking
- Careless Smoking
- Candles
- Arson



Fire Safety



Key Points

- **Cooking** is the leading cause of home fires and injuries in the United States. Cooking fires often result from human error, rather than mechanical failure of stoves or ovens.
- **Careless smoking** is the leading cause of fire deaths. Smoke alarms, smolder-resistant bedding and upholstered furniture are significant fire deterrents.
- **Heating** is the second-leading cause of residential fires and ties with arson as the second leading cause of fire deaths. Unlike apartments, the heating systems in single family homes are often not professionally maintained.
- **Candles** must be used with tremendous care. They should be kept on a stable base, away from other flammables.
- **Arson** is the third-leading cause of residential fires and the second leading cause of residential fire deaths. In commercial properties, arson is the major cause of deaths, injuries, and dollar loss.

Notes:

Fire Safety Size-Up



Fire Safety



Key Points

- Every NYC CERT operation begins with a competent size up.
- When it comes to sizing up a fire, a good rule of thumb for NYC CERT members is if the fire is bigger than a waste paper basket, it is too big for NYC CERT members to attempt to extinguish.

Notes:

Size-Up

- Has 911 been contacted?
- Can the fire be extinguished safely?
- Do we have the right equipment?
- Are there other hazards?
- Is the building structurally damaged?
- Can we escape safely?



Fire Safety



Key Points

- Orange light above street lamp indicates a call box is located on one of the four corners of the intersection.
- Before NYC CERT members attempt to use a fire extinguisher, they should consider the following:
 - Has 911 been contacted?
 - Can this be done safely?
 - Do we have the proper extinguisher and equipment?
 - Are there other hazards that we should be aware of?
 - Is the building structurally safe and sound?
 - Do we have an escape route planned?

Notes:

Identifying Hazardous Materials



Fire Safety



Key Points

- Scene safety is important in any emergency situation, but especially so in HAZMAT (hazardous materials) incidents.
- NYC CERT members should be aware of the warning signs that may indicate hazardous materials.
- HAZMAT warning placards should serve as a **stop sign** for NYC CERT members.
- NYC CERT members should attempt to collect as much information as possible for first responders including placard numbers, shapes and colors.
- NYC CERT members should be reminded that they should be positioned at a safe distance which is uphill, upwind, and upstream during any type of HAZMAT incident.

Notes:

CERT Firefighting Resources

- Portable fire extinguishers
- Creative resources:
 - Blankets – wet or dry
 - Baking soda
 - Sand
 - Water buckets
- Confinement



Fire Safety



Key Points

- The most likely firefighting resource for NYC CERT members is a fire extinguisher.
- Pots or buckets of water may also be used.
- Another action that NYC CERT members may consider is to confine the fire and restrict the threat of smoke and heat by closing doors.
- NYC CERT members are not trained to operate standpipe hand lines and using them should **never** be considered by NYC CERT members and teams.

Notes:

Selecting Appropriate Extinguisher



Fire Safety



Key Points

- A NYC CERT member must have received training in the operation of a fire extinguisher and be properly equipped with personal protective equipment before considering the use of a fire extinguisher.
- NYC CERT members should operate using the buddy system as well as a back-up team when placing fire extinguishers into operation.
- To “overhaul” means to examine thoroughly or to haul or turn over the material which was on fire.
- Remember to overhaul to ensure that the fire has truly been extinguished.

Notes:

Types of Fire Extinguishers

- Water
- Dry chemical
- Carbon dioxide
- Specialized fire extinguisher



Fire Safety



Key Points

- The two most common types of extinguishers are water and dry chemical.
- For the average homeowner, the dry chemical extinguisher will be most versatile.
- A multipurpose dry chemical extinguisher will have a mono-ammonium phosphate base and is effective on Class A, B, and C fires.
- Common characteristics of a dry chemical extinguisher include:
 - Capacity (approximately 10-20 seconds discharge time depending on the weight of the extinguisher)
 - Range (8 – 10 feet)
 - Pressure (standard pressure is 175-250 psi)

Notes:

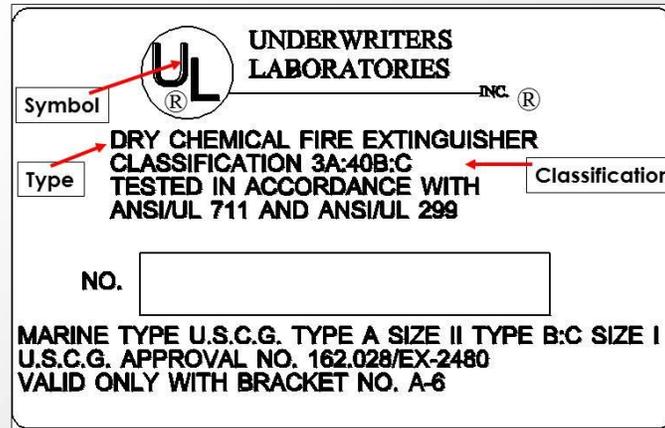
Type of Fire	Extinguishing	
	Agent	Effect
Class A: Ordinary Solid Materials  	Water	Removes heat
	Foam	Removes air (O ₂) and heat
	Dry chemical	Breaks chain reaction
Class B: Flammable Liquids  	Foam / CO ₂	Removes air (Oxygen)
	Dry chemical	Breaks chain reaction
Class C: Electrical Equipment  	CO ₂	Removes air (Oxygen)
	Dry chemical	Breaks chain reaction
Class D: Combustible Metals  	Special agents	Usually remove air
Fire Safety		

Key Points

- To aid in choosing the correct extinguisher, fires are categorized into classes based on the type of fuel that is burning:
 - Class A – ordinary combustibles such as paper, cloth, wood, or rubber.
 - Class B – flammable liquids such as oils, gasoline, or kerosene.
 - Class C – energized electrical equipment such as wiring or motors.
 - Class D – combustible metals such as aluminum or magnesium.

Notes:

Certification Labels



Fire Safety



Key Points

- The UL on the label indicates Underwriters Laboratories. UL is a privately-owned and operated product safety testing and certification organization that develops standards and test procedures for products, materials, components, assemblies, tools and equipment, chiefly dealing with product safety. UL is one of several companies approved for such testing by the Occupational Safety and Health Administration (also known as OSHA – the main federal agency charged with the enforcement of safety and health legislation).
- Fire extinguishers are rated based on their effectiveness on different classes of fires. Every household extinguisher will be labeled A, B, or C which tells you which types of fires the extinguisher is effective against.
- In the fine print on the label, the letters are preceded by numbers. In the example in the slide the numbers are 3A:40B:C, which are the extinguisher's classification rating. These numbers are assigned by UL. The higher the number the greater the effectiveness.
- The numbers on the label represent the area the extinguisher will cover. Class A is measured in cubic feet (1A equals 8 cubic feet.) Class B fires are measured in square feet (10B equals 10 square feet – 1B can extinguish 1 sq. ft. of flammable liquid). There is no area measurement for Class C. It means that the extinguisher's chemicals will not conduct electricity.

Notes:

Anatomy of an Extinguisher



Fire Safety

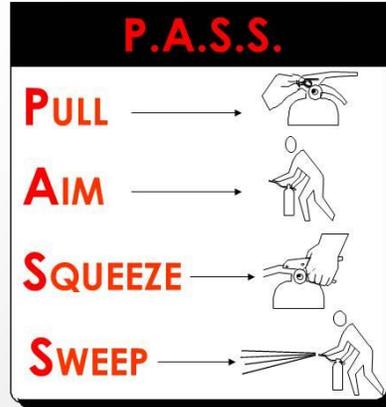


Key Points

- The cylinder holds the extinguishing agent and needs to be pressure-tested every five years.
- The pressure gauge indicates whether the extinguisher is charged. The gauge is color coded and green means go.
- The label will tell you what type of extinguisher it is and if it is UL rated.
- The pin needs to be pulled to allow the trigger to be operated.
- The hose should be aimed at the base of the fire.
- The trigger needs to be squeezed.
- The hose needs to be swept across the base of the fire.

Notes:

Extinguisher Operation



Always test the extinguisher before approaching any fire!

Fire Safety



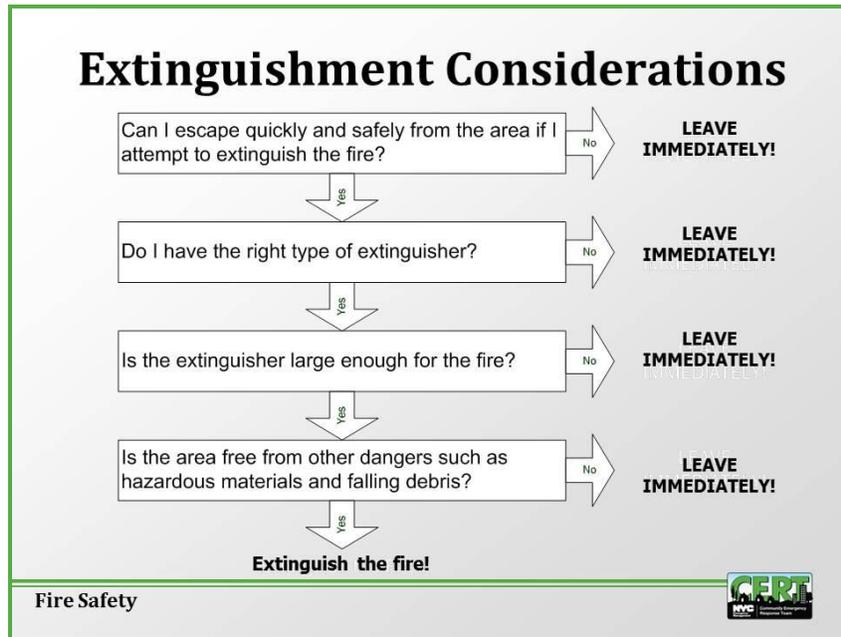
Key Points

- Before attempting to extinguish a fire, check the pressure gauge to be sure the extinguisher is charged and squeeze the trigger to quickly test it.
- Make sure you are between the fire and your primary means of egress.
- Always operate a fire extinguisher in the upright position.

Notes:



Unit 7: Fire Safety



Key Points

- You must answer “yes” to all the above questions before you attempt to extinguish a small fire.
- Even if you answered “yes” to all the above questions but you feel overwhelmed by the fire, close the door to the fire area and get out immediately.

Notes:

Close the Door But Do Not Lock



Fire Safety



Key Points

- By closing the door to the fire area, you are minimizing the spread of the fire and possibly saving lives.
- By minimizing the fire area, you are making extinguishing the fire easier for FDNY.

Notes:



Unit 7: Fire Safety



Safety Rules

Fire Safety



Key Points

- Don't forget the NYC CERT number-one priority: SAFETY, SAFETY, and SAFETY — both your personal safety and the overall team safety.
- We must operate as safely as possible because if one of our team members gets injured, we have now become part of the problem.
- We only attempt to extinguish small fires (smaller than a waste basket).
- When extinguishing a fire, place yourself between the fire and your exit.

Notes:

Fire Suppression Safety

DO:

- Use safety equipment.
- Work in a buddy system.
- Have a backup team.
- Have two ways to exit.
- Use reach of extinguisher.
- *Overhaul* the fire.



Fire Safety



Key Points

- **Wear all your personal protective equipment (gloves and goggles).** If you cannot adequately protect yourself, close the door to the fire area and get out immediately.
- We always look out for one another using the buddy system. Use both sets of eyes to look for danger and protect one another.
- Don't get too close to the fire. Use the reach of the extinguisher to maintain a safe distance.
- When the fire appears to be extinguished, stir up the ashes to ensure there are no smoldering embers (i.e., overhaul the fire).

Notes:

Fire Suppression Safety

DO NOT:

- Get too close
- Fight it alone
- Enter smoke-filled areas
- Try to suppress large fires



Fire Safety



Key Points

- If you can feel the heat of the fire, you are too close. Use the reach of the extinguisher to protect yourself by maintaining a safe distance.
- Do not enter a smoke-filled area. NYC CERT members are not equipped with masks to protect them from carbon monoxide (CO) and other toxins found in smoke.
- NYC CERT members are trained to extinguish small fires no bigger than a wastepaper basket.
- Never fight a fire alone. Fighting fires is dangerous and should be undertaken only when using the buddy system.

Notes:



Universal Considerations

- Be aware of personal *and* team safety.
- Call 911 and relay:
 - Location (address, apt. #, floor, etc.).
 - Victims (if known).
 - Size of fire.
- Follow CERT protocols.
- Reduce panic *and* confusion.
- Be aware of equipment availability.



Fire Safety



Key Points

- Size up the hazards of the incident and gather information as safely as possible.
- Call 911 and provide emergency responders with as much information as you can gather.
- Do not act beyond your NYC CERT level of training.
- Be prepared to provide emergency responders with information when they arrive on scene.
- Providing other civilians with information on what to do will ease panic and may protect them from injury.

Notes:

Fire Safety Tips



Fire Safety



Key Points

- Install and maintain smoke detectors in your home.
- Install and maintain CO detectors in your home.
- Create and practice a family fire escape plan.
- Test your smoke and CO detectors every six months (such as daylight-saving times).

Notes:

Smoke Detector Safety Tips

Install and maintain smoke/carbon monoxide (CO) detectors:

- On each level of your home.
- Outside each sleeping area.

Test once a week.

Replace batteries twice a year.



Never take the battery out for other uses!

Fire Safety



Key Points

- Smoke and CO detectors should be installed on each level of your home.
- These detectors should be installed in the vicinity of all sleeping areas.
- Test weekly.
- Ensure that batteries are replaced twice a year. A good time to do this is when we adjust our clocks for daylight-saving time in the spring and in the fall (“spring forward, fall back”).

Notes:



Unit 7: Fire Safety

Fire Safety Tips

- Maintain access to exits.
- Use electricity safely.
- Install a natural gas detector.
- Practice candle safety.
- Store flammables properly.
- Plan and practice escape route(s).

Fire Safety

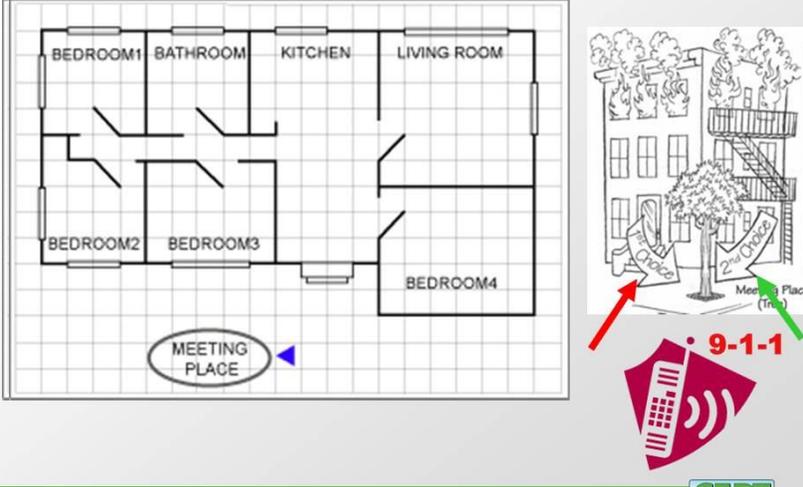


Key Points

- Be sure your exits are not cluttered or blocked by furniture, bicycles, or locked gates that require a key to open. If you must have gates on your fire escape window, be sure the lock can be opened **without** the use of a key.
- Do not overload electrical circuits. Power strips are not necessarily your friend. They encourage people to plug too many appliances into one receptacle. This is a very serious fire hazard.
- Do not store flammables anywhere they may come in contact with a source of ignition.

Notes:

Plan and Practice your Escape



Fire Safety



Key Points

- Create a fire escape plan and practice it with your family at least twice a year. This can be done when you change the batteries in your smoke and CO detectors.
- Make sure everyone in your family knows two ways to get out of your home.
- Pick a meeting place outside your home. Once you get out, do not go back in.
- If you encounter smoke, use your secondary exit. If both exits have smoke, stay low and crawl below it. The cleanest air will be closest to the floor.

Notes:

Fire Safety Exercise

- Organize into groups of five with one lead.
- Always operate with a back up person.
- Always use full safety equipment.
- Approach from up wind using a rapid side to side motion – PASS.



Fire Safety



Key Points

- This exercise will provide the participants with experience in two key areas of fire suppression:
- Using a portable fire extinguisher to suppress a small fire.
- Applying teamwork to fire suppression.
- Use ICS to organize your team (span of control).

Notes:

Fire Extinguisher Demo



Fire Safety



Key Points

- Always operate with a backup person.
- Always use full safety equipment.
- Approach from up wind using a rapid side-to-side motion.
- Fire is not completely extinguished until it is overhauled.

Notes:



Unit 7: Fire Safety

LESSONS LEARNED

- Learn the chemistry of fire.
- Know how NYC CERT teams can aid in fire prevention in their community.
- Understand NYC CERT's role in fire suppression.
- Learn and practice safe fire extinguishing techniques.

COMMUNITY AWARENESS

- What lessons were learned in this unit that you might bring to your community?
- What is a message you might stress, learned this week, during a Ready New York presentation?

PREPARING FOR YOUR FINAL WEEK

Fire safety will be one of the first things you will need to prioritize during the disaster simulation. Remember the safety protocols and how to extinguish using proper techniques.

UNIT RESOURCES

NYC FDNY website: www.nyc.gov/fdny

NYCEM Website: www.nyc.gov/emergencymanagement

National Fire Protection Administration: www.nfpa.org



Unit 8: Light Search & Rescue

UNIT INSTRUCTOR INFORMATION

Name	Agency	Contact Information

UNIT INTRODUCTION

This module will focus on how NYC CERT teams might approach a disaster scene and safely respond. Initial damage assessment and preparing your team to deploy is vital to everyone's safety. Knowing how to complete a size-up is the next step, followed by a plan of action. Members will learn basic search and rescue techniques and what items will be helpful in rescuing and assisting survivors.

UNIT OBJECTIVES

- Understand the role of NYC CERTs in a search and rescue emergency.
- Know how to complete a damage assessment and set up your team in ICS to deploy and be a resource.
- Know how to properly complete a size-up before acting on a plan.
- Learn and practice basic search and rescue techniques with proper materials.

UNIT REVIEW

The techniques you learned in disaster medical operations may be used following the techniques you learn tonight. Also remember your ICS structure and how it relates to the information in this unit.

LOOKING FORWARD

Next week you will learn how to direct traffic and raise your awareness of terrorism. A terrorist attack may be an explosion with an improvised explosive device (IED) or involve chemicals. Your knowledge of light search and rescue, triage, and the transportation systems in NYC will prepare you for emergencies and disasters that may occur.



Unit 8: Light Search & Rescue



Light Search & Rescue Operations



Light Search and Rescue



Key Points

- The intent of this unit is to familiarize NYC CERT members with the various types of collapses and the indicators of each type.
- Discuss possible NYC CERT roles during a collapse.
- You will participate in a hands-on exercise which will include removing trapped victims and learning the proper carrying methods for removing the victims from a danger area.

Notes:

Unit Objectives

Understand:

- Damage assessment
- Team preparation
- Safety and size-up
- Plan development
- Search techniques
- Rescue and removal



**Henry Hudson
Wall Collapse**

Light Search and Rescue



Key Points

- By the end of this unit you should be able to:
 - Assess the damage of a structure based on the characteristics of the exterior of the building.
 - Understand the importance of team preparation and safety.
 - Develop a plan based on the size up of the situation.
 - Use search techniques to maximize efficiency and limit time within the structure.
 - Practice hands-on rescue and removal techniques.

Notes:



Unit 8: Light Search & Rescue

Role of CERT

- In the absence of first responders, rescue the greatest number of people in the shortest amount of time.
- Confine *interior* efforts to *light* search and rescue only.



Light Search and Rescue



Key Points

- The primary role of NYC CERTs at a collapse incident should be to remove able bodied victims from the collapse zone. This should be done without entering the danger zone.
- Interviewing occupants can assist in determining the number of victims within the structure as well as their location prior to collapse.
- NYC CERT members may only enter a structure if the damage caused by the collapse is considered light.
- If the damage is other than light, NYC CERT members should only operate outside the collapse zone.

Notes:

Team Preparation

- **Pre-incident activities**

- **Planning:**

- Assess probable needs, risks, and resources before a disaster strikes.
 - Develop an action plan that takes these factors into account.

- **Training and Drilling:**

- Classroom training
 - Hands-on training
 - Table top exercises



Light Search and Rescue



Key Points

- One of the most important aspects of any emergency is proper planning.
- Anticipating needs prior to the disaster allows the team to develop strategies to address the most common tasks associated with a collapse.
- Once NYC CERT members understand the technical knowledge associated with collapse assessment and rescue they must participate in hands-on exercises so they can test the practical application of their training.

Notes:



Unit 8: Light Search & Rescue

Safety

Light Search and Rescue



Key Points

- The safety of the team and individual NYC CERT members is your number one priority.
- No NYC CERT member should operate in an unsafe environment.
- All team members should constantly assess the safety of the situation due to rapidly changing conditions and relay this information to the NYC CERT lead.
- Safety is the responsibility of every member of the team. If an unsafe act is observed, it should be stopped immediately.

Notes:



Safety Considerations

- Risk vs Reward
 - Your safety is #1 concern.
 - CERT risk level should not exceed training and resources.
 - Don't allow potential reward to cloud risk assessment.



Light Search and Rescue



Key Points

- NYC CERT safety is *always* your primary consideration at any emergency.

Notes:

Frequent Causes of Rescuer Death

- Frequent causes of rescuer death:
 - *Disorientation*
 - *Secondary collapse*



Light Search and Rescue



Key Points

- Responders and others on the scene may become disoriented during a collapse because the normal layout of the area is dramatically disrupted.
- Secondary collapse can occur any time after the initial collapse and may occur without warning.
- Once a building experiences a collapse resulting in moderate or heavy damage, the structure is considered compromised and NYC CERT members shall not enter the building or the collapse zone.

Notes:

Safety Considerations

Maintain site safety:

- Stop all traffic in immediate area.
 - This helps minimize vibrations which may cause a secondary collapse.
- Keep onlookers at a safe distance.
- Do not enter a danger zone. Only trained personnel are allowed there.



Light Search and Rescue



Key Points

- Vibrations caused by vehicle or train traffic near the collapse area may cause a secondary collapse.
- NYC CERT members should consider:
 - Notifying the proper authorities, including 911 and NYC Emergency Management Watch Command.
 - Redirecting all traffic near the collapse area while maintaining access for incoming emergency vehicles.
 - Closing the entire block to vehicular and pedestrian traffic.

Notes:

Safety Considerations

- Use the Buddy System
- Always work in pairs!



Light Search and Rescue



Key Points

- NYC CERT members should always work using the buddy system.
- All first responders are required to operate using a two in and two out response that requires the following:
 - When entering a dangerous area you must work in close proximity to another member.
 - If one member must leave the area then both members must leave together.
 - Safety team members must be available outside the danger area in case members require assistance.
- NYC CERT members should consider using pairs of runners to deliver critical information back to the CERT operations section or the CERT lead.

Notes:

Safety Considerations

- **Hazards:**
 - Sharp objects
 - Dust
 - Hazardous materials
 - Power lines
 - Leaking natural gas
 - High water
 - Fire hazards
 - Unstable structures
 - Collapse zone



Light Search and Rescue



Key Points

- There are numerous hazards associated with any collapse.
- It is impossible to list all of the hazards; the list above includes those that are most commonly found.
- Proper size-up and protective equipment can limit the potential dangers of the hazards.
- Unless we can identify all the hazards associated with the collapse, it is impossible to determine if it is safe to operate so we must perform a thorough size-up before determining our course of action.

Notes:

The “Collapse Zone”



Light Search and Rescue



Key Points

- The collapse zone is considered the distance equal to the total height of the structure.
- Debris from the collapse can bounce much further than that distance.
- Some collapse manuals have listed the collapse zone as one and a half times the total height of the structure to allow for bouncing debris.
- When making decisions about your safety, NYC CERT members should use the zone of one and a half times the height of the structure.

Notes:

Safety Considerations

- **Rotate Teams:**
 - Have back-up teams available.
 - Monitor the length of exposure of working teams.
 - Establish regular search and rescue shifts or rotate personnel as needed.



Light Search and Rescue



Key Points

- Due to the strenuous tasks associated with operating at a collapse, NYC CERT members may become fatigued quickly.
- As individuals become tired, they will be more inclined to bypass safety measures and make unsafe decisions contrary to their training.
- Since fatigue is one of the most common and dangerous hazards at any emergency, the NYC CERT lead should rotate personnel prior to members becoming fatigued.
- Recorders should assist in documenting the work times of team members and notify the NYC CERT lead of these times at regularly.

Notes:

Required Safety Equipment

- Helmet and vest
- Goggles and dust mask
- Whistle
- Leather work gloves
- Flashlight
- Spray paint
- Appropriate clothing
- Official NYCEM CERT ID



Light Search and Rescue



Key Points

- The above list contains the minimal amount of safety equipment required by any NYC CERT member that is deployed.
- No member will be allowed to leave the assembly area without proper protective equipment and official NYC CERT ID.
- The NYC CERT lead is responsible to ensure that each member meets the above requirements. This may be delegated to group leaders.

Notes:

Size-Up



Light Search and Rescue



Key Points

- Size-up involves assessing the situation and determining a safe plan of action.
- Size-up starts at the beginning of any operation and will be on-going for the duration of the operation. It is the part of the process and not a single event.
- Size-up should be done by all NYC CERT members and is not solely the responsibility of any one member.

Notes:

Step 1: Gather Facts

- Time of day?
- Day of the week?
- Weather?
- Where are people?
Sleeping? At work?



Light Search and Rescue



Key Points

- Size-up begins by gathering the facts, as this will guide search and rescue efforts.
 - What happened or is happening?
- The time of the event and the day of the week are very important in the assessment:
 - Where are victims likely to be (during different times of the day)?
 - In the evenings, the greatest need for search and rescue will be in residential buildings. During daytime a priority may be searching commercial office space.
- What will affect the assessment or size-up and therefore rescue efforts?
 - Wind
 - Rain
 - Temperature
 - Rising waters

Notes:

Step 1: Gather Facts

Occupancy Type:



Commercial



Parking Garage



Single Family
Home

Light Search and Rescue



Key Points

- The purpose for which the occupancy was designed may indicate the likely number of victims and their location (e.g., single family home vs. multi-family dwelling).
- The age of the structure should be a consideration in assessment.
- An important part of size-up is the risk of secondary collapse. While assessing any structure for damage, the safest approach is from the flanks (corners of the building) so that you are not walking directly in front of the walls, which would be considered the collapse zone.
- Some causes of secondary collapse include:
 - Weather – wind, rain, or snow
 - Fire – can compromise structural integrity
 - Increased floor load within the building
 - Vibrations – anything from an earthquake to the subway, trucks, or buses passing

Notes:

Step 1: Gather Facts

Other Hazards:



The fire appeared to have started in a car outside the hospital, with the flames jumping to a gas leak on the side of the street.

Light Search and Rescue



Key Points

- Knowledge of other potential hazards in the general and immediate areas is important in size-up and will most definitely affect search and rescue efforts.
- NYC CERT members should consider the following before initiating any search and rescue actions:
 - What and where are the general hazards in the area?
 - Utilities such as gas and electric
 - Natural hazards
 - Hazardous materials
- During the NYC CERT size-up of any search and rescue effort, it must be emphasized that the acceptable level of risk analysis on the part of any CERT member is “zero” or none.
- NYC CERT members should focus on those activities which may aid victims and first responders while not endangering them or any other member of the team.

Notes:

Step 2: Assess Damage to the Building

Light damage:

- Superficial or cosmetic damage
- Broken windows
- Fallen plaster
- Primary damage to contents of structure



Light Search and Rescue



Key Points

- A lightly damaged building will have superficial or cosmetic damage only.
- Damage may include broken windows or falling plaster.
- Debris may include dropped ceilings, plaster, or wood.
- Contents may include shelving, bookcases, and fallen stock.
- NYC CERT members may be asked to operate in a lightly damaged building to perform search and rescue.
- The objective of the NYC CERT will be to locate, triage, and prioritize removal of victims to designated treatment areas by the medical operation teams..

Notes:

Step 2: Assess Damage to the Building

Moderate damage:

- Questionable structural stability, fractures, tilting, foundation movement or displacement

- **Avoid collapse zone.**
- **No interior operations**



Light Search and Rescue



Key Points

- **NYC CERT members shall not conduct any operations inside of a moderately damaged building.**
- A moderately damaged building is one of questionable stability. Features may include fractures or cracks in the exterior walls, tilting or leaning, as well as possible foundation movement or displacement.
- NYC CERT members should be aware and avoid the collapse zone around the building. All NYC CERT operations should be conducted from a safe area outside of the collapse zone.
- NYC CERT members should consider the following actions:
 - Tape off the collapse zone and warn others of the danger.
 - Conduct a perimeter survey for victims.
 - Interview bystanders.
 - Call out to possible victims inside of the structure.
 - Relay this information to first responders.

Notes:

Step 2: Assess Damage to the Building

Heavy damage:

- Obvious structural instability; partial or total wall collapse; ceiling failures
- **Avoid collapse zone**
- **No interior operations**



Light Search and Rescue



Key Points

- **NYC CERT members shall not conduct any operations inside of a heavily damaged building.**
- A heavily damaged building will have obvious structural instability. There may be a total collapse of the structure or a partial collapse of walls, ceilings, or floors. The building may be filled with fire, smoke, or hazardous materials inside.
- NYC CERT members should secure the building perimeter as mentioned earlier and warn others of the danger that exists.

Notes:



Key Points

- The size-up of any search and rescue operation for a NYC CERT member should include an identification and evaluation of available resources.
- NYC CERT resources include people, tools, and time:
 - People can serve as both trained rescuers and support personnel.
 - Tools will depend on availability and the needs of the situation.
 - Time may be limited for some victims.
- The first 24 hours after a disaster has been referred to as the “Golden Day” or the period during which injured or trapped victims have an 80 percent chance of survival.

Notes:



Unit 8: Light Search & Rescue

Summary

If structural damage is...	Then the CERT role is...
Light:	To locate, triage, and prioritize removal of victims to designated treatment areas by the medical operation teams.
Moderate:	To locate, stabilize, and immediately evacuate victims to a safe area while staying out of structure and collapse zone.
Heavy:	To secure the building perimeter and warn others about the danger of entering the building.

Light Search and Rescue



- The safety of the team and individual NYC CERT members is your number one priority.
- Size up the damage – What factors will affect the assessment and therefore rescue efforts?
 1. Step 1 – Gather facts
 2. Step 2 – Assess damage to the building
 3. Step 3 – Identify your resources

Notes:



Unit 8: Light Search & Rescue

Developing An On-Site Search and Rescue Plan

Light Search and Rescue



Key Points

- The development of an on-site search and rescue plan is a prerequisite to any light search and rescue response.
- Safety of yourself and your team members remains your number one priority.

Notes:

On-Site Rescue Plan

- Plan your light search and rescue operations in advance.
- CERT's role mainly on perimeter
 - Size-up
 - Light S&R on perimeter
 - Traffic and crowd control
 - Transfer of command.
- Plan may have to be altered at any time due to extra or insufficient resources or personnel.



Light Search and Rescue



Key Points

- NYC CERT members should prepare their team for operations relating to light search and rescue.
- These activities may include:
 - Designating possible light search and rescue group leaders.
 - Gathering tools or equipment.
 - Developing possible methods of transporting equipment to the scene.
 - Practicing cribbing and lifting methods within the scope of NYC CERT training.
- Any plan should be flexible to meet the needs of a changing situation.

Notes:



Unit 8: Light Search & Rescue

Search Techniques

Light Search and Rescue



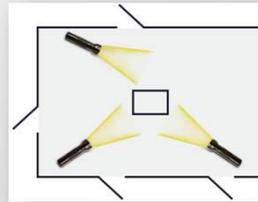
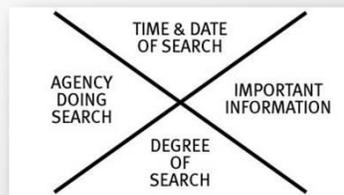
Key Points

- NYC CERT members can employ search techniques to assist victims that may be trapped under light debris or unable to extricate themselves due to injury.
- Keep in mind that all NYC CERT members must maintain situational awareness at these incidents due to dynamic and quickly changing conditions.

Notes:

Search Methodology

- An effective search methodology:
 - Is systematic and thorough.
 - Avoids unnecessary duplication of effort.
 - Provides for documentation of search results.



Light Search and Rescue



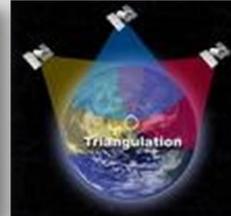
Key Points

- NYC CERT must establish a plan before entering a location to search for victims.
- Members do not want to duplicate the efforts of others; this is inefficient and exposes searchers to unnecessary danger.
- Make sure the search team records the results of its searches in all areas. This information will be provided to emergency responders during the transfer of command.

Notes:

Locating Potential Victims

- Call out.
- Be systematic:
 - Bottom-up or top-down
 - Right wall or left wall
 - Around the clock
- Listen carefully.
- Triangulate.
- Interview witnesses.



Light Search and Rescue



Key Points

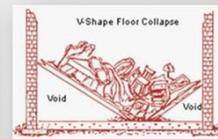
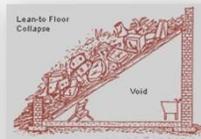
- Call out to victims as they could be concealed by debris but may be able to respond to your call.
- Decide on what search pattern to use as a team and record the results of the search effort.
- Be sure to position members at different locations throughout the search area and listen carefully for responses or tapping sounds.
- Talk to surviving occupants to see if they can provide information on the last known location of possible victims.

Notes:

Areas of Entrapment

Another term for areas of entrapment are:

- *Voids:*
 - Pancake collapse
 - Lean-to collapse
 - V-Shaped collapse



CERTs should **NOT** enter voids!

Light Search and Rescue



Key Points

- Voids are areas that have not been filled in or crushed by the falling debris. They are an area of refuge for an individual who has survived the initial collapse.
- There are a number of different types of voids. They all have one thing in common; they are very dangerous and unstable.
- NYC CERT members should not enter voids because they are considered a life-threatening environment. If you hear someone responding from a void, record the location and get as much information from the victim as possible and give this information to the emergency responders.

Notes:



Unit 8: Light Search & Rescue

Rescue and Removal

Light Search and Rescue



Key Points

- NYC CERT members can practice how to safely remove a victim after finding them during the search phase.
- Proper technique will keep you safe and keep you from injuring yourself while helping others.

Notes:



Unit 8: Light Search & Rescue

Rescue and Removal

Primary Functions:

- Create a safe rescue environment.
- Remove victims.
- Triage or stabilize victims.



Light Search and Rescue



Key Points

- A NYC CERT member must perform an incident safety size-up to determine if it is safe for CERT to operate.
- If the scene is determined to be safe for a NYC CERT, the team must operate in a safe manner. Treating and removing the victim can cause more harm to NYC CERT members and those you are helping if not done properly.

Notes:

Rescue and Removal

Depends on:

- General stability of immediate environment
- Condition of victim
- Strength and ability of rescuers
- Number of rescuers available



Light Search and Rescue



Key Points

- The actual rescue and removal of a viable victim is dependent on many factors that must be evaluated at the scene of the incident.
- The difficulty of the rescue and removal must also be considered. If the rescuers do not have the proper tools to safely rescue the victim, they are now operating in a manner that is putting the victim and the rescuers in danger. This would be a time to stabilize the victim and alert emergency responders to the situation as soon as they arrive.
- Keep in mind that removing a victim that is unable to walk or climb requires large amounts of manpower. Carrying a victim over unstable terrain is an exhausting operation that may require relief before they are removed to a safe environment.

Notes:

Establish Rescue Priorities

Removal priorities:

- Surface victims
- Victims slightly entangled near the surface



Consider other factors:

- Rising water
- Fire



Light Search and Rescue



Key Points

- Surface victims that are uninjured will self-evacuate. Those on the surface that have injuries may need assistance to get to safety. Remove these victims first.
- If there are large numbers of surface victims with injuries, additional NYC CERT members can transport them to the casualty collection point (CCP), while members of the search group continue to remove the additional victims from danger.
- People that are partially entangled will require more time to remove from danger. NYC CERT members should attempt to do the greatest good for the largest number of people by accomplishing the easier rescues first before taking on the more time-consuming operations.
- NYC CERT members must maintain situational awareness to recognize other hazards in addition to the original incident. SEE THE BIG PICTURE.

Notes:

Conduct the Rescue



Once the plan has been developed, the rescue team puts it into action and begins the rescue.

Light Search and Rescue



Key Points

- Everything leading up to this point was preparing for the rescue and removal of the victim.
- Once the plan is in place it needs to be implemented.
- Each step of the way must be evaluated for personal and team safety. If one method is unsafe, reevaluate and attempt another method.

Notes:

Rescue and Removal

Types of victim removal include:

- Self-removal or assist,
- Lifts and drags, and
- Assist victims to extricate themselves when possible.



Light Search and Rescue



Key Points

- There are a wide variety of rescue and removal methods that can be employed. It is most important to use the method that will ensure the most effective and safe operation for the victim and the rescuers.
- Different methods of removal require varying amounts of manpower. Be sure the manpower is available for the method of removal selected and the members have the strength and ability to perform the removal.
- At the scene of a disaster, everyday items (doors, blankets, chairs, etc.) may be used to assist in the removal of victims. Improvise and use your imagination to solve problems.

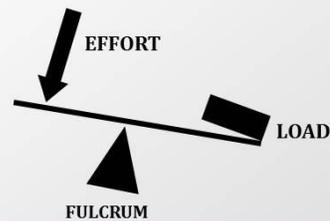
Notes:

Removal Techniques

Lifting methods for lightly trapped victims:

- Leveraging
- Cribbing

FIRST CLASS LEVER



Light Search and Rescue



Key Points

- Use leverage when attempting to lift a heavy object. This will make your task much easier. A long lever and fulcrum (the pivot on which a lever moves) will ease the operation.
- Looking at the above illustration, the fulcrum should be closer to the object you are attempting to lift. The longer the effort side of the lever is, the easier it will be to raise the output side.
- When performing a lifting operation, the entire load must be watched so it does not shift out of balance. Cribbing is another method NYC CERT members can use to ensure a safe operation for rescuers and the victim.
- Cribbing is using smaller pieces of wood to stabilize a load that is being lifted or that could possibly shift while rescuers are operating nearby.
- Avoid placing hands under unsupported debris pile.
 - Use tool to place cribbing under load.

Notes:

Removal Tools



Backboard w/ 3 straps



4x4 cribbing



2x4 cribbing



Cribbing wedges



Pry bar

Light Search and Rescue



Notes:



Unit 8: Light Search & Rescue

Evaluate Your Progress

- Continually monitor the situation to prevent any harm to the rescuers and/or patients.
- Determine if the plan is working.
- If not, how can it be changed to make it work?

Light Search and Rescue



Key Points

- NYC CERT members must evaluate the effectiveness of their operation and adjust their approach if necessary. It is easy to get tunnel vision when involved in an operation and the light search and rescue group leader must evaluate whether the team is working safely and effectively.
- The light search and rescue group leader should not be involved in hands-on activities but must step back, evaluate the group and maintain a supervisory role over team members.
- Supervision, training, and discipline are the keys to safely accomplishing your goals.

Notes:

Transfer of Command



Light Search and Rescue



Key Points

- The NYC CERT lead will brief the first arriving emergency responders.
- The NYC CERT lead will inform the emergency responders about:
 - What the team found when it arrived.
 - What actions the team has taken prior to the arrival of emergency responders.
 - Where team members are currently operating.
- The documentation of team operations and victim tracking by the team recorder will be the framework for the transfer of command.
- The NYC CERT lead should ask if there is anything further the NYC CERT team can do to assist first responders.
- The NYC CERT lead will inform the team of new assignments or tell the members to withdraw to a designated area.

Notes:

EXERCISE: Light Search and Rescue

- Extricate the victims using the provided materials.
- Pay attention to victim position and comfort—don't re-crush the victims!



Light Search and Rescue



Key Points

- NYC CERT Response Protocols
- ICS Organization
- Possible CERT Roles
- NYC CERT Safety

Notes:



Unit 8: Light Search & Rescue

Possible CERT Roles Building Collapse

- Assist with community outreach and information dissemination.
- Assist with locating nearest shelter.
- Assist with sheltering and food distribution.
- Work with NYPD to retrieve residents' items.
- Work as a liaison between the community and responding agencies.
- Assist with perimeter/traffic management.

Light Search and Rescue



Key Points

- NYC CERTs may work with various City agencies and organizations to distribute food/water to individuals affected by a building collapse. As any incident scene may be a highly stressful environment, remember to be respectful toward others.
- Follow directions of first responders (FDNY, NYPD, NYCEM) to manage the perimeter and traffic once on scene.
- After a building collapse, city agencies may place vacate orders on nearby structures to assess their stability. This means that residents of those buildings may not be able to access their homes for a few hours or possibly even a few days.
- When authorized officials deem a building is safe to enter, the NYPD may request NYC CERT volunteers to accompany affected residents to their homes so they can collect a few of their belongings.
- NYC CERT members often speak many of the languages used in the local community, which can be a great asset for affected individuals with limited English proficiency.

Notes:



Unit 8: Light Search & Rescue

LESSONS LEARNED

- Understand the role of NYC CERT teams in a search and rescue incident.
- Know how to complete a damage assessment and set up your team in ICS to deploy and be a resource.
- Know how to properly complete a size-up before acting on a plan.
- Learn and practice basic search and rescue techniques with proper materials.

COMMUNITY AWARENESS

- What lessons were learned in this unit that you might bring to your community?
- What is a message you might stress, learned this week, during a Ready New York presentation?

PREPARING FOR YOUR FINAL WEEK

The safety considerations you must prepare for during a light search and rescue incident are extremely important. During your disaster simulation, you will also have other types of response you will need to coordinate. Make sure you know the proper and safe light search and rescue techniques and practice them with your fellow classmates.

UNIT RESOURCES

Step 1: Gather Facts

<i>Time</i>	Yes	No
<ul style="list-style-type: none"> ▪ Does the time of day or week affect search and rescue efforts? <p>How?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Type Of Construction</i>		
<ul style="list-style-type: none"> ▪ What type(s) of structure(s) is(are) involved? ▪ What type(s) of construction is (are) involved? 		
<i>Occupancy</i>	Yes	No
<ul style="list-style-type: none"> ▪ Are the structures occupied? <p>If yes, how many people are likely to be affected?</p>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> ▪ Are there special considerations (e.g. children, elderly)? <p>If yes, what are the special considerations?</p>	<input type="checkbox"/>	<input type="checkbox"/>



Unit 8: Light Search & Rescue

<i>Weather</i>	Yes	No
<ul style="list-style-type: none"> Will weather conditions affect your safety? If yes, how will your safety be affected? 	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Will weather conditions affect the search and rescue situation? If yes, how will the search and rescue situation be affected? 	<input type="checkbox"/>	<input type="checkbox"/>
<i>Hazards</i>	Yes	No
<ul style="list-style-type: none"> Are hazardous materials involved? If yes, what hazardous materials? 	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Are any other types of hazards likely to be involved? If yes, what other hazards? 	<input type="checkbox"/>	<input type="checkbox"/>
Step 2: Assess and Communicate the Damage	Yes	No
<ul style="list-style-type: none"> Take a lap around the building. Is the damage beyond the NYC CERT team's capability? If yes, what special requirements or qualifications are required? 	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Are normal communication channels functioning? 	<input type="checkbox"/>	<input type="checkbox"/>



Unit 8: Light Search & Rescue

Step 3: Consider Probabilities		
<i>Life-Threatening Hazards</i>	Yes	No
<ul style="list-style-type: none"> Are there potentially life-threatening hazards? If yes, what are the hazards? 	<input type="checkbox"/>	<input type="checkbox"/>
<i>Additional Damage</i>	Yes	No
<ul style="list-style-type: none"> Is there great risk or potential for more disaster activity that will impact personal safety? If yes, what are the known risks? 	<input type="checkbox"/>	<input type="checkbox"/>
Step 4: Assess Your Own Situation		
<ul style="list-style-type: none"> What resources are available with which you can attempt the search and rescue? 		
<ul style="list-style-type: none"> What equipment is available? 		
Step 5: Establish Priorities	Yes	No
<ul style="list-style-type: none"> Can a search and rescue be <i>safely</i> attempted by NYC CERT members? If no, do <i>not</i> attempt a search and rescue. 	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Are there other, more pressing needs at the moment? If yes, list. 	<input type="checkbox"/>	<input type="checkbox"/>



Unit 8: Light Search & Rescue

Step 6: Make Decisions	Yes	No
<ul style="list-style-type: none"> ▪ Where will deployment of available resources do the most good while maintaining an adequate margin of safety? 		
Step 7: Develop Plan of Action	Yes	No
<ul style="list-style-type: none"> ▪ Determine how personnel and other resources should be deployed. 		
Step 8: Take Action		
<ul style="list-style-type: none"> ▪ Put the plans into effect. 		
Step 9: Evaluate Progress		
<ul style="list-style-type: none"> ▪ <u>Continually</u> size up the situation to identify changes in the: <ul style="list-style-type: none"> • Scope of the problem. • Safety risks. • Resource availability. 		
<ul style="list-style-type: none"> ▪ Adjust strategies as required. 		



Unit 8: Light Search & Rescue

Search and Rescue Size Up

Step 1: Gather Facts

The facts of the situation must guide your search and rescue efforts.

When gathering facts, you need to consider:

- The time of the event and day of the week. At night, more people will be in their homes, so the greatest need for search and rescue will be in residential settings. Conversely, during the day, people will be at work, so the greater need will be in commercial buildings.

Some emergency services resources are not available—or not available in the same numbers—during the evenings or on weekends. Search and rescue operations may also be affected by where people are located in their homes and the amount of daylight available.

- The type of structure. The purpose for which the structure was designed may indicate the likely number of victims and their location.
- Construction type. Some types of construction are more susceptible to damage than others.
- Weather. Severe weather will have an effect on victims and rescuers alike and will certainly hamper rescue efforts. Forecasts of severe weather should be considered as a limiting factor on the time period during which search and rescue efforts can occur.
- Hazards. Knowledge of other potential hazards in the general and immediate areas is important to search and rescue efforts. Time lost trying to locate and shut off utilities, for example, can have a big impact in terms of loss of life.

Step 2: Assess and Communicate Damage

There are general guidelines for assessing damage. When in doubt about the condition of a building, always use the more restrictive assessment. For example, if you are unsure about whether a building is moderately or heavily damaged, assume heavy damage. The NYC CERT mission changes depending on the amount of structural damage.

CERT Mission by Structural Damage Category

If Structural Damage Is . . .	Then The CERT Mission Is . . .
Light:	To locate, triage, and prioritize removal of victims to designated treatment areas by the medical operation teams.
Moderate:	Tape off the collapse zone and warn others of the danger. Conduct a perimeter survey for victims; interview bystanders; and call out to possible victims inside of the structure. Ensure no NYC CERT member operates inside damaged building or its collapse zone.
Heavy:	To secure the building perimeter and warn others about the danger of entering the building.



Unit 8: Light Search & Rescue

Light damage includes:

- Superficial damage.
- Broken windows.
- Fallen or cracked plaster.
- Minor damage to the interior contents.

Moderate damage includes:

- Visible signs of damage.
- Decorative work damaged or fallen.
- Many visible cracks in plaster.
- Major damage to interior content.

(Note that a moderately damaged building is still attached to the foundation.)

Do not enter a building with moderate damage.

Heavy damage includes:

- Partial or total collapse.
- Tilting.
- Obvious structural instability.
- Heavy smoke or fire.
- Hazardous materials inside.
- Gas leaks.
- Rising or moving water.

(Note that a heavily damaged building is not attached to the foundation.)

Do not enter a building with heavy damage under any circumstances.

Look at a building from all sides by doing a lap around it.

Communicate your findings to the NYC CERT command post or responding agencies.

After, or in conjunction with, the damage assessment, NYC CERT personnel must consider probable amounts of damage based on the type and age of construction. Experienced search and rescue personnel can determine probable damage to a structure based on the event and the types of structures involved.



Unit 8: Light Search & Rescue

Step 3: Consider Probabilities

Because the NYC CERT members will be working in such close proximity to the dangerous situation, considering what will probably happen and what could happen are of critical importance. Identify potentially life-threatening hazards with an eye toward:

- How stable the situation really is. Even within a structure that appears from the outside to have only minimal or moderate damage, nonstructural damage or instability inside the structure can pose real danger to the rescue team. NYC CERT members should think about what they already know about the structure that's been damaged. Are lawn chemicals, paints, or other potentially hazardous materials stored within the structure? How are they stored? Where are they? It won't take NYC CERT members much time to answer these types of questions, but the answers could make a huge difference in how they approach the search.
- What else could go wrong? Based on the information gathered during steps one and two of the size-up, NYC CERT members should take a few moments to play "What if?" to try to identify additional risks that they may face. What if the electricity fails during the search? What if a wall that appears stable shifts and collapses? Applying Murphy's Law (what can go wrong will) to the situation could save NYC CERT members' lives.
- What it all means for the search and rescue. Based on the probabilities, NYC CERT members should think about what they can do to reduce the risks associated with the probabilities they have identified. Is a spotter necessary to look for movement that could indicate a possible collapse and warn the rescue team? Is some remedial action required to stabilize nonstructural hazards before beginning the search? NYC CERT search and rescue teams must remember that their own safety is the first priority.

Step 4: Assess Your Situation

Size-up is a building process, with each step building upon the previous steps until the decision is made to begin the search and rescue operation (or that the situation is unsafe). Draw on everything you've learned from steps one through three to assess the situation to determine:

- Whether the situation is safe enough to continue.
- The risks that rescuers will face if they continue.
- What resources will be needed to conduct the operation safely (and what resources are available).

Assessing resources is extremely important to search and rescue operations.



Unit 8: Light Search & Rescue

Search and Rescue Resource Planning Questions

Resource	Planning Questions
Personnel	<ul style="list-style-type: none"> ▪ Who lives and/or works in the area? ▪ During which hours are these people most likely to be available? ▪ What skills or hobbies do they have that might be useful in search and rescue operations? ▪ What might be the most effective means of mobilizing their efforts?
Equipment	<ul style="list-style-type: none"> ▪ What equipment is available locally that might be useful for search and rescue? ▪ Where is it located? ▪ How can it be accessed? ▪ On which structures (or types of structures) might it be most effective?
Tools	<ul style="list-style-type: none"> ▪ What tools are available that might be useful for lifting, moving, or cutting disaster debris?

Step 5: Establish Priorities

After evaluating the situation, the next step is to determine:

- What should be done?
- In what order?

The safety of NYC CERT members is always the first priority and will dictate some of your other priorities. For example, removing or mitigating known hazards must be completed before teams begin to search. Think through the situation logically to determine how you should approach the operation.

Step 6: Make Decisions

You are at the point in the size-up where you will make decisions about where to deploy your resources to do the most good, while maintaining an adequate margin of safety. Many of your decisions will be based on the priorities established during step five. Those priorities are based on (in order):

1. The safety of NYC CERT members
2. Life safety for victims and others
3. Protection of the environment
4. Protection of property



Unit 8: Light Search & Rescue

Step 7: Develop Plan of Action

Step seven is where all of the information you have about the situation comes together. During this step, the team leader will decide specifically how the team will conduct its operation, considering the highest priority tasks first.

Action plans do not need to be written, but, when search and rescue operations are required, the situation is probably complex enough that a written plan of some type should be developed. Even a simple written plan will:

- Help focus the operation on established priorities and decisions.
- Provide documentation to be given to responding agencies when they arrive.
- Provide documentation that can be used, if necessary, after the incident.

Keep a notebook for jotting notes when developing an action plan. These notes should include changes to the plan that are made based on new information that comes in.

Step 8: Take Action and Step 9: Evaluate Progress

The plan developed during step seven is put into action during step eight. Step nine, Evaluate Progress, is the most critical, not only in terms of evaluating whether the plan works, but also from a safety standpoint.

Size-up is ongoing. Information gained during step nine needs to be fed back into the decision-making process for possible revision of priorities and updated action planning.

Safety Considerations

Regardless of the severity of structural damage, rescuer safety must be the primary concern.

The two most frequent causes of rescuer deaths are:

- Disorientation.
- Secondary collapse.

Follow these guidelines during all search and rescue operations:

- Use a buddy system. Always work in pairs, with a third person acting as a runner.
- Be alert for hazards (e.g., power lines, natural gas leaks, hazardous materials, sharp objects, etc.).
- You should never attempt to search an area where water is present.
- Use safety equipment. Wearing gloves and a helmet will protect a rescuer's hands and head. Also, the primary cause of rescuer problems after working in a structural collapse is breathing dust, so a dust mask is essential. (However, a dust mask will not filter out harmful materials.)
- Have backup teams available to allow rotating of teams, prevent fatigue, and ensure help if a team gets into trouble. Have teams drink fluids and eat to keep themselves fresh.



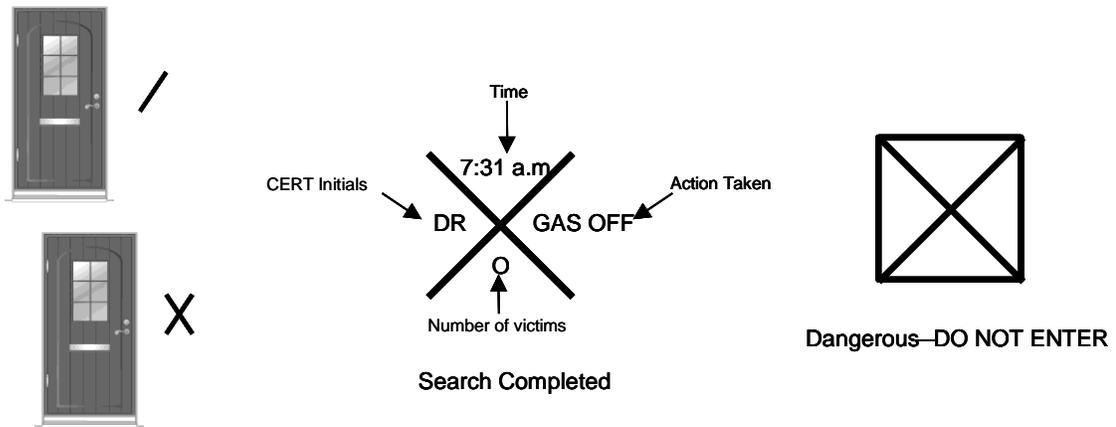
Unit 8: Light Search & Rescue

Successful search and rescue depends on teamwork.

Conducting Search Operations

An effective search system:

- Indicates rescuer location.
- Prevents duplication of effort.



Marking Searched Areas

When the decision is made to initiate search operations, NYC CERT members must inspect the area assigned by the CERT area team leader.

The search operation involves two processes:

1. Employing search techniques based on the size-up.
2. Locating potential victims.

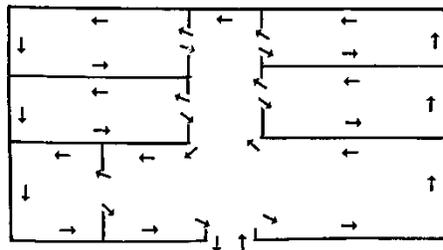
By using these processes, search operations will be more efficient, thorough, and safe. They will also facilitate later rescue operations.



Unit 8: Light Search & Rescue

Experienced search and rescue personnel have found these search methods to be effective:

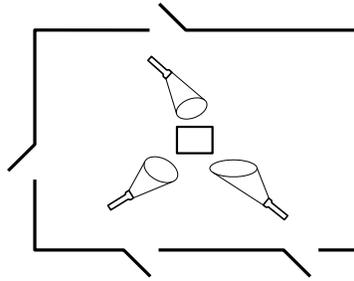
1. Begin the search by calling out to victims. Shout something like, "If anyone can hear my voice, come here." If any victims respond, give them further directions such as "Stay here." or "Wait outside." Ask victims who respond for any information that they may have about the building or others who may be trapped.
2. Use a systematic search pattern. Ensure that all areas of the building are covered. Examples of systematic search patterns to use include:
 - Bottom-up/top-down.
 - Right wall/left wall.



Sample Systematic Room Search

Systematic Room-Search Pattern: bottom-up/top-down or right wall/left wall to ensure that the entire building is searched.

3. Stop frequently to listen. Listen for tapping, movement, or voices.
4. Triangulate. Triangulation enables rescuers to view a single location from several perspectives. Three rescuers, guided by victim sounds, form a triangle around the area and direct flashlights into the area. The light shining from different directions will eliminate shadows that could otherwise hide victims.



Triangulation

Triangulation: Three rescuers guided by victim sounds form a triangle around the area and direct flashlights into the areas. The light will help eliminate shadows.

Tip: It is important to move in a circle around the area while directing your flashlights so that there is less of a shadow that the object or area casts.

5. Mark searched areas to document results. Make a single diagonal slash next to the door just before entering a structure. Make an opposite slash (creating an "X") when all occupants have been removed and search and rescue efforts have been completed. The "X" signals to other potential searchers that the area has already been searched. This method:
 - Indicates rescuer location.
 - Prevents duplication of effort.
6. Report results. Keep complete records both of removed victims and of victims who remain trapped or are dead. Report this information to emergency services personnel when they reach the scene.

The decision to attempt a rescue should be based on two factors:

- The risks involved to the rescuer
- The overall goal of doing the greatest good for the greatest number of people

Rescues involve three primary functions:

- Creating a safe rescue environment by lifting objects out of the way, using tools to move objects, and removing debris.
- Triaging or stabilizing victims.
- Removing victims in a moderately damaged building. Call in the medical team in a lightly damaged building.



Unit 8: Light Search & Rescue

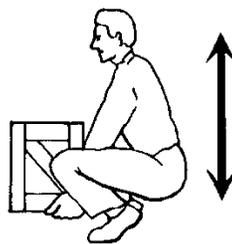
Creating a Safe Environment

There are three goals for all rescue operations:

- To maintain rescuer safety.
- To triage in lightly and moderately damaged buildings.
- To evacuate victims as quickly as possible from moderately damaged buildings while minimizing additional injury.

None of these goals can be achieved without creating as safe an environment as possible before attempting rescue. There are, therefore, certain precautions that rescuers must take to minimize risk.

- Know your limitations. Many volunteers have been injured or killed during rescue operations because they did not pay attention to their own physical and mental limitations. NYC CERT rescuers should take the time to eat, drink fluids, rest, and relax so that they can return with a clear mind and improved energy.
- Follow safety procedures. NYC CERT members should always use the proper safety equipment required for the situation and follow established procedures, including:
 - Working in pairs.
 - Never entering an unstable structure.
 - Lifting by bending the knees, keeping the back straight, and pushing up with the legs.
 - Carrying the load close to the body.
 - Lifting and carrying no more than is reasonable.



Proper Body Position for Lifting

Proper Body Position for Lifting showing the back straight and lifting with the knees.

You may encounter situations in which debris needs to be moved to free victims. In these situations, NYC CERT rescuers should consider leveraging and cribbing to move and stabilize the debris until the rescue is complete.



Unit 8: Light Search & Rescue

- Leveraging is accomplished by wedging a lever under the object that needs to be moved, with a stationary object underneath it to act as a fulcrum. When the lever is forced down over the fulcrum, the far end of the lever will lift the object.
- A crib is a wooden framework used for support or strengthening. Box cribbing means arranging pairs of wood pieces alternately to form a stable rectangle.

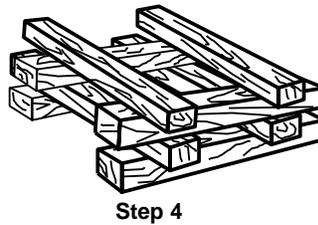
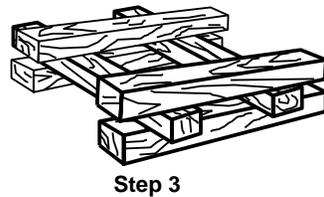
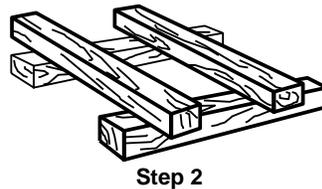
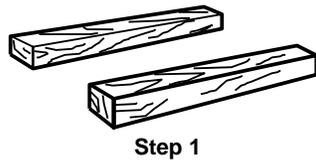
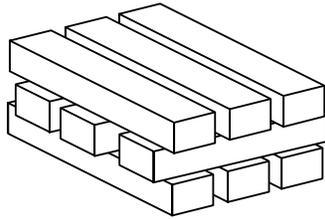
Leveraging and cribbing are used together by alternately lifting the object and placing cribbing materials underneath the lifted edge to stabilize it. Safety is number one: "Lift an inch; crib an inch."

Leveraging and cribbing should be gradual—both for stability and to make the job easier. It may also be necessary to use leveraging and cribbing at more than one location (e.g., front and back) to ensure stability.

When you are able to achieve sufficient lift, remove the victim and reverse the leveraging and cribbing procedure to lower the object.

When you must remove debris to locate victims, you should set up a human chain and pass the debris from one person to the next. Set up the chain in a position that will not interfere with rescue operations. Wear leather gloves to protect your hands.

Box Cribbing



Four steps for building box cribbing: Step 1: Position two pieces of wood parallel to each other on either side of the collapse. Step 2: Place two pieces of wood perpendicularly across the base pieces. Steps 3 and 4: Add additional layers of wood, with each perpendicular to the previous level.

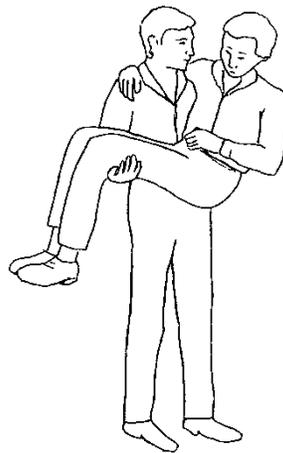
The type of extrication method selected should depend on the:

- General stability of the immediate environment.
- Number of rescuers available.
- Strength and ability of the rescuers.
- Condition of the victim.

If safety and time permit, you should not use lifts and drags to remove victims when a closed-head or spinal injury is suspected. In such cases, the spine must be stabilized using a backboard. Doors, tables, and similar materials can be used as improvised backboards. The backboard must be able to carry the person, and proper lifting techniques must be used. When moving victims, rescuers must use teamwork and communication, and keep the victim's spine in a straight line. Remember, rescuer safety and the condition of the building will dictate the approach.

There are several types of lifts and carries. For example, if the rescuer is physically able and the victim is small, he or she may use the one-person arm carry to lift and carry the victim by:

- Reaching around the victim's back and under the knees.
- Lifting the victim while keeping your back straight and lifting with the legs.



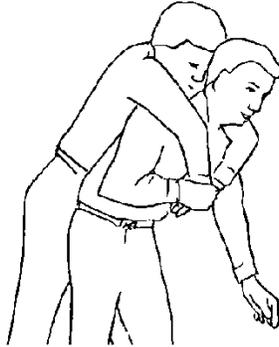
One-Person Arm Carry

One-Person Arm Carry, which shows the rescuer holding the victim around the victim's back and under the knees.

Note: Consider the size of the victim and the distance he or she needs to be carried before using this carry.

Another way for a single rescuer to lift a victim safely is by using the one-person pack-strap carry. Using this method, the rescuer should follow the steps outlined below:

- Step 1: Stand with his or her back to the victim.
- Step 2: Place the victim's arms over the rescuer's shoulders and grab the hands in front of the rescuer's chest.
- Step 3: Hoist the victim by bending forward slightly, until his or her feet just clear the floor.

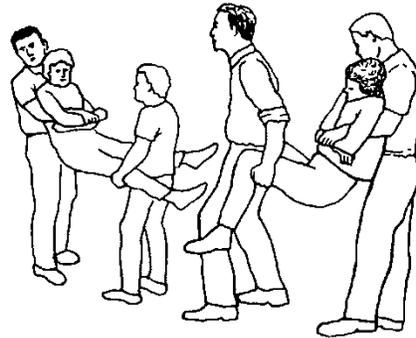


One-Person Pack-Strap Carry

One-Person Pack-Strap Carry in which the rescuer places the victim's arms over his or her shoulder and grabs the victim's hands over his or her chest, then hoists the victim by bending over slightly.

Victim removal is easier when multiple rescuers are available. With two rescuers, a victim may be removed using a two-person lift.

- **Rescuer 1:** Squat at the victim's head and grasp the victim from behind around the midsection. Reach under the arms and grasp the victim's forearms.
- **Rescuer 2:** Squat between the victim's knees, facing either toward or away from the victim. Grasp the outside of the victim's legs at the knees.
- **Both rescuers:** Rise to a standing position, keeping backs straight and lifting with the legs. Walk the victim to safety.

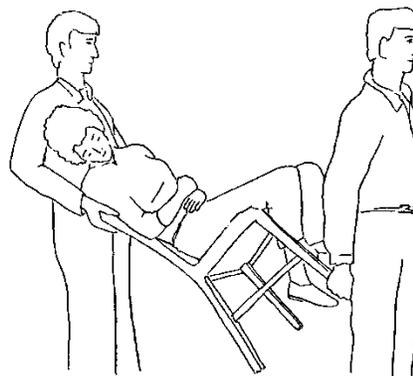


Two-Person Carry

Two-Person Carry in which rescuer 1 squats at the victim's head and grasps the victim from behind at the midsection. Rescuer 2 squats between the victim's knees, grasping the outside of the knees. Both rescuers rise to a standing position.

Two rescuers can also remove a victim by seating him or her on a chair:

- Rescuer 1: Facing the back of the chair, grasp the back uprights.
- Rescuer 2: Facing away from the victim, reach back and grasp the two front legs of the chair.
- Both rescuers: Tilt the chair back, lift, and walk out.



Chair Carry

Chair Carry in which the victim is placed in a chair and tilted backward as rescuers lift the victim. This carry requires two rescuers.

You can use the blanket carry for victims who cannot be removed by other means. The blanket carry requires at least six rescuers to ensure stability for the victim, and one rescuer must be designated the lead person:

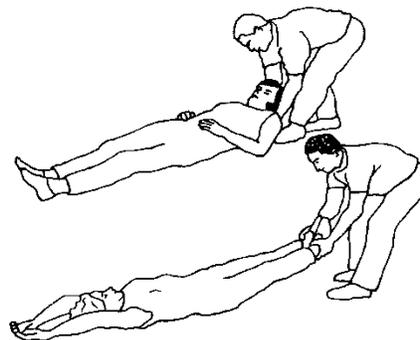
- **Step 1:** Lay a blanket next to the victim.
- **Step 2:** Tuck the blanket under the victim, and roll the victim into the center of the blanket.
- **Step 3:** With three rescuers squatting on each side and grasping a “handle,” the lead person checks the team for even weight distribution and correct lifting position. *Make sure to lift the victim head first to avoid injury to the head.
- **Step 4:** The lead person calls out, “Ready to lift on the count of three: One, two, three, *lift.*”
- **Step 5:** The team lifts and stands in unison— keeping the victim level—and carries the victim feet first.

The team must also lower the victim together, using the following steps:

- **Step 1:** The lead person calls out, “Ready to lower on the count of three: One, two, three, *lower.*”
- **Step 2:** The team lowers the victim in unison, exercising caution to keep the victim level.

A variety of materials—such as blankets—can be used as improvised stretchers.

Rescuers can also drag a victim out of a confined area by grasping either under the arms or by the feet and pulling across the floor. However, unless there is no other way to remove the victim and the victim’s removal is time critical, you should not use this drag when debris may cause additional injury.

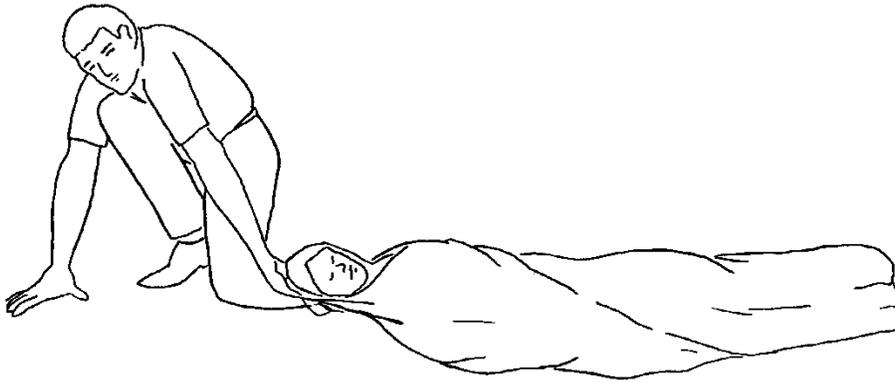


Correct Drag Techniques

Correct Drag Technique, showing the rescuer grasping the victim by either the feet or shoulders and dragging him or her clear of the hazard.

When necessary, one rescuer can use the blanket drag by following these steps:

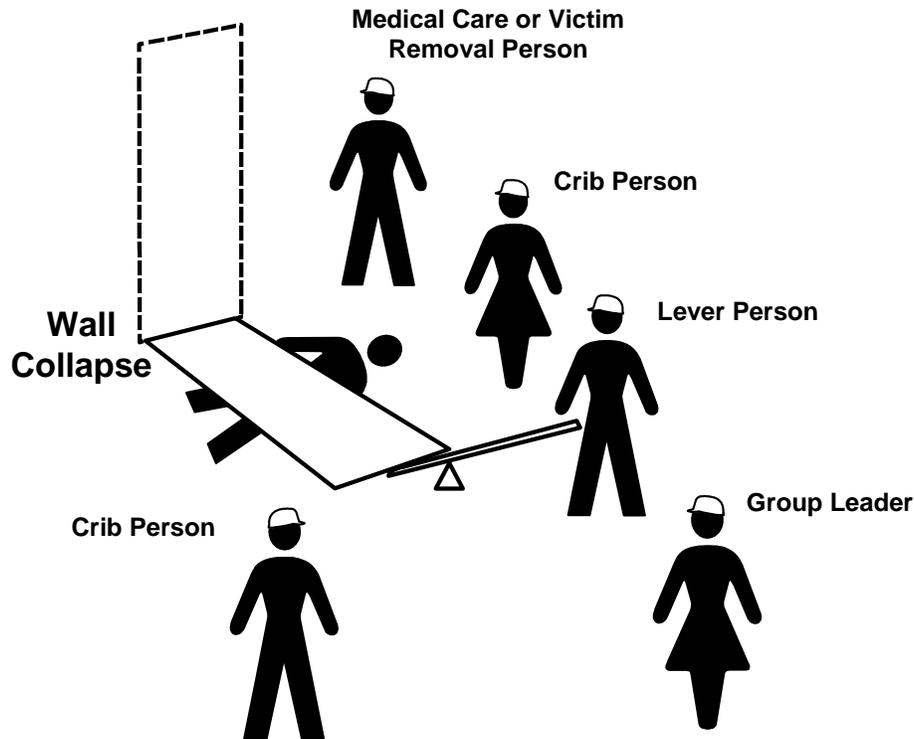
- Step 1: Wrap the victim in a blanket.
- Step 2: Squat down and grasp an edge of the blanket.
- Step 3: Drag the victim across the floor.



Blanket Drag

Blanket Drag, showing the victim wrapped in a blanket with the rescuer squatting at the victim's head. The rescuer grasps the blanket behind the victim's head and drags him or her clear of the hazard.

Arrangement for Leveraging/Cribbing Operation



Team Organization for Leveraging/Cribbing Operation, showing the victim underneath a collapsed wall and the NYC CERT members at the following locations:

- **Group Leader:** In front of collapse, positioned so that he or she can view the entire operation while remaining out of the rescuers' way.
- **Lever Person:** At the front edge of the collapsed wall and positioned so that he or she can position a fulcrum and lever under the wall.
- **Crib Persons:** On either side of the collapsed wall and positioned to enable the placement of cribbing as the wall is raised with the lever.
- **Medical Care/Victim Removal Person:** Next to the Crib Person who is closest to the victim's head.



Unit 8: Light Search & Rescue

Leveraging/Cribbing Operation

1. Conduct a size-up of the scene: Gather facts, identify hazards, and establish priorities.
2. Have one person in charge and formulate a plan of action based upon the information you have received. Identify how and where to lift and crib.
3. Gather necessary materials for lifting/cribbing operations:
 - Lever
 - Fulcrum
 - Cribbing blocks
 - Spacers/wedges
4. Use cribbing materials to stabilize the object prior to lifting. (Set the foundation of the box crib.)
5. Distribute crib materials as necessary to be readily accessible during the lifting operation.
6. Prepare to lift the object: Assemble the lever and fulcrum at the previously identified location.
7. Have someone available to handle the victim.
8. Initiate the lift, using the lever and fulcrum for mechanical advantage.
9. As the object is lifted, add cribbing as needed; build on the foundation of the box crib.
10. When the object is adequately supported, remove the lever and fulcrum. The victim may then be removed.
11. Reinitiate the lift and begin removing cribbing materials, reversing the process by which the crib was built.
12. Progressively lower the object to the ground.
13. Reassemble the lifting/cribbing supplies to be available for additional operations.



Unit 9: Police Science and Terrorism

UNIT INSTRUCTOR INFORMATION

Name	Agency	Contact Information

UNIT INTRODUCTION

This module will focus on basic police science skills for NYC CERT deployments. Traffic management will be an important role NYC CERT members will play. It can also be the most dangerous. You will learn proper traffic management techniques to keep you, your team members, and pedestrians safe. Terrorism is a man-made disaster that New Yorkers know all too well. Your level of awareness to terrorist targets and plans will make you notice things a little more closely on a daily basis.

UNIT OBJECTIVES

- Understand the role of NYC CERT in traffic management situations and keeping a safe perimeter.
- Practice safe traffic management techniques with a partner.
- Raise awareness to terrorist thinking and how you can be more cognizant of what is going on around you and what you can do when something just doesn't seem right, including active shooter incidents.
- Understand a NYC CERT team's role and CERT in action.

UNIT REVIEW

Everything you have learned so far may be affected by a terrorist attack. Use this knowledge and your strength of being a New Yorker to be aware and keep yourself and city safe.

LOOKING FORWARD

Fasten your seatbelts! Next week everything you have learned in the last nine weeks comes together for your disaster simulation. You and your fellow team members will need to review ICS and all the different units to make your experience as successful as possible.



Unit 9: Police Science and Terrorism



Police Science: Traffic Management



Police Science: Traffic Management



Key Points

- Traffic management is an approved role for NYC CERT.
- By providing traffic management NYC CERT supports the NYPD and NYPD Auxiliary units.
- Traffic management is one of the most dangerous NYC CERT roles, so learning proper techniques and practicing is vital.

Notes:



Unit 9: Police Science and Terrorism

Introduction

This lesson has been created to teach CERT members how to direct and manage traffic effectively during an emergency.

Your primary goal is personal and team safety!



Police Science: Traffic Management



Key Points

- **Safety is your number one priority!**
- Being alert at all times and paying attention will keep you and your teammates safe from harm.
- Practice, practice, practice. You can practice as a team both indoors and out!

Notes:



Traffic Management

More police officers are injured in traffic-related accidents than any other work category.

Traffic-related incidents were the leading cause of officer deaths in 2015, killing 52. National Law Enforcement Officers Memorial Fund, 2015.

Traffic Management is serious business and at times has proven to be deadly.

Police Science: Traffic Management



Key Points

- Traffic-related incidents (automobile, motorcycle crashes, and instances in which officers are struck while outside their police vehicles) remain the leading cause of death among law enforcement officers in the United States, a trend that began in 1998.

Notes:



Unit 9: Police Science and Terrorism

Objectives

- Identify traffic intersection and construction hazards on your post.
- Understand basic principles of how to safely control an intersection.
- Understand how to properly address inquiries from the public.
- Understand how to handle emergency vehicles approaching your intersection.

Police Science: Traffic Management



Key Points

- The objectives for this unit teach you the basics of traffic management and what basic equipment you will need.
- You will also learn how to handle specific scenarios involving motorist and pedestrian inquiries and how to expedite emergency vehicle traffic safely.

Notes:

Traffic Hazards

- Open or raised manhole covers
- Steel construction plates
- Oil or antifreeze on pavement
- Construction debris
- Potholes
- Pedestrians (tourists)
- Electrified manhole covers
- Construction sites (look up!)
- Motorists



Police Science: Traffic Management



Key Points

- You must be aware of everything around you prior to starting to direct traffic.
- Use your senses — look and listen to see if there are things that may affect your response.
- Take note of potential hazards, notice traffic patterns, etc.

Notes:

Familiarize yourself with the intersection.

- Study the signal sequence.
- Study the traffic characteristics from the side of the intersection.
- Use any available resources.
 - Are traffic cones available?
 - Is there any caution tape available?



Police Science: Traffic Management



Key Points

- Check to see if the traffic lights at the intersections are working.
- Notice the amount of time it takes for the light to change.
- Use the lights to your advantage while directing traffic.
- Before you begin, check to see if there is anything in the area or team resources that might assist you (traffic cones, etc.).

Notes:

Strategies

- Work in teams of two.
- Be visible in your intersection.
- Make sure motorists and pedestrians know that you are there.
- Ensure eye contact with motorists.



NEVER STEP BACKWARDS WITHOUT LOOKING

Police Science: Traffic Management



Key Points

- **Always work in pairs. Always have a partner. Never Manage Traffic Alone.**
- Wear your NYC CERT reflective vest and other mandatory uniform.
- Always look at the drivers and pedestrians in the eye while you are directing them. Looking away is dangerous for you and others in traffic.
- NEVER step backwards while directing traffic. Your partner should also be keeping an eye out for you.

Notes:

Equipment

Proper Equipment:

- CERT traffic vest
- Whistle
- Flashlight
- White gloves (if available)
- Dress for the weather!



Police Science: Traffic Management



Key Points

- Wear noticeable NYC CERT gear for all types of weather or scenarios.
- White gloves allow motorists and pedestrians to see the movement and direction of your hands and the direction in which they need to go.
- If the weather is bad, make sure your reflective vest is on top of a coat or raincoat.

Notes:

Stopping Traffic

When attempting to stop traffic...



Point at vehicle in the lane you are going to stop.

Police Science: Traffic Management



Key Points

- Make sure your movements are exaggerated so motorists and pedestrians can see you.
- Your hand and arm movements need to be seen through windshields and from all different heights.
- You may think you look silly, but it will keep you safe!

Notes:

Stopping Traffic

Be sure that your hand reaches above your head to ensure visibility.



***If stopping more than one lane, stop one lane at a time.**

Police Science: Traffic Management



Key Points

- Use your hands to point, your whistle to get attention, and your arms to gesture a direction.
- Always make sure the lane of traffic can see you and your partner before it begins to move.

Notes:

Starting Traffic

- Point with your arm and index finger toward the vehicle you want to start.
- Once you get the attention of the driver, swing your hand over your head with your palm up.
- After traffic has been started from one side, drop that arm and start traffic from the other side in the same way.



Police Science: Traffic Management



Key Points

- Keep using exaggerated movements to make sure all directives can be seen clearly.
- Use a whistle to accentuate the movements.
- Start traffic moving slowly, in case you need to quickly stop it again.

Notes:

Whistle Signaling

- Make one long whistle blast to stop vehicle and pedestrian traffic.
- Make two short blasts to signal traffic to proceed.



Police Science: Traffic Management



Key Points

- When using a whistle and blasting commands, you must also use your hands and arms so the motorists and pedestrians know what to do and what direction to go.
- You must use your diaphragm to get enough air to blow the whistle. If you don't, you may become winded or dizzy and be unable to continue.

Notes:

Be aware of your surroundings.



Police Science: Traffic Management



Key Points

- **Be aware of your surroundings at all times.**
- Standing directly in front of a vehicle may get you injured.
- Before directing traffic, scout which position will give you the safest visibility.

Notes:

The Correct Way



Police Science: Traffic Management



Key Points

- Directing traffic may seem like an easy thing to do, but there are a lot of things to think about before you and your team members go into the streets.

Notes:



Intersections

Watch for:

- Protruding objects on trucks & buses
- Mirrors
- Overhanging cargo
- Open side or rear doors
- Flapping canvas
- Loose chains or rope
- Damaged vehicle bumpers

Always be alert while you are in the intersection and don't use your cell phone.



Team members must communicate with one another.

Police Science: Traffic Management



Key Points

- **Always be alert.**
- Do not talk to your partner about anything other than your traffic controlling job.
- While directing traffic, do not use a radio or phone to talk to other team members. Rely on your partner or another team member to communicate.
- Your team may use runners to get information from one intersection to another.
- **Never use your cell phone to talk or text while you are directing traffic.**

Notes:



Police Science: Traffic Management



Key Points

- Be aware of trucks and the materials they are hauling.
- Items may fall off and injure you, your partner, other motorists, and pedestrians.

Notes:

Turning Vehicles

Keep all turning vehicles in front of you at all times



especially buses, trucks, and tractor trailer combos
*articulating buses, double trailer trucks

Police Science: Traffic Management



Key Points

- **Again - Be aware of your surroundings at all times.**
- Be sure to keep all turning vehicles in front of you at all times

Notes:

Articulating Buses



*Note the turning pattern of the articulating buses.

Police Science: Traffic Management



Key Points

- *Articulating buses, also known as tandem buses, bendy buses, or accordion buses, are a type of bus with an increased passenger capacity. Found almost exclusively in public transportation use, these buses are approximately 18 m (60 ft), while regular buses are 11 to 14 m (35-45 ft). To make them nimble enough to safely navigate streets at their increased length, they are fitted with an extra axle (set of wheels) and a joint usually located slightly behind the midpoint of the bus, behind the second axle.
- These buses need extra room to turn due to their extra length.
- **Do not turn your back or look away from any bus. You may not be able to see the second half of the bus until it is too late to move out of the way.**
- Be aware that other vehicles may try to pass an articulating bus to speed ahead.

Notes:

Tractor-trailers

- The tractor will turn and the trailer (box) will pivot.
- Watch the center of the trailer.
- Tractor-trailer units require two lanes to turn.



Be extremely cautious of turns involving tractor-trailer units.

Police Science: Traffic Management



Key Points

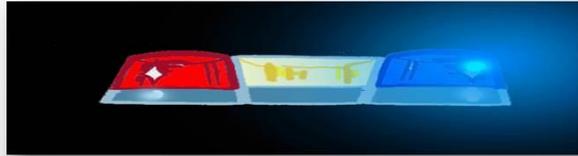
- You will need to take extra precautions with tractor trailers, especially if they need to turn a corner.
- You may need to have a third or fourth person to assist you to shut down the other lane of traffic.

Notes:

Moving Emergency Vehicles Through Intersections

Also known as “pulling” traffic:

- **Extreme caution** must be used.
- **Pedestrian safety is your top priority**; however, emergency vehicles should be expedited when possible.



Police Science: Traffic Management



Key Points

- Emergency vehicles should be using lights and sirens, but some may not use them, or you may not hear them due to other traffic noise or weather.
- Even if they are not using lights or sirens, they may still be going at faster speeds.
- Some emergency vehicles may not stop or slow down for you. Do not attempt to stop them.

Notes:

Emergency Vehicles

When you see or hear an emergency vehicle coming...



Police Science: Traffic Management



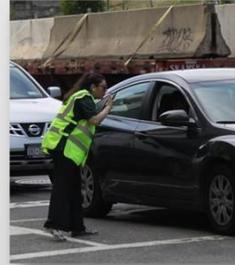
Key Points

- Keep yourself, your partner, and other motorists and pedestrians safe if you hear or see an emergency vehicle coming towards you or through your traffic pattern.
- Motion other traffic and pedestrians to stop.
- Step out of the way if they do not slow down or stop.

Notes:

Addressing Inquiries from the Public

- A motorist seeking information or directions should be moved out of the intersection.
- If the desired information is extremely brief, you may deliver it in the intersection.
- Get the motorist or pedestrian out of the intersection as quickly as possible.
- Do not confront a road-raged motorist.
- Call police for assistance via 911.



Police Science: Traffic Management



Key Points

- Most people will want information and will calm down once they know what is going on.
- Your job is not to calm motorists down. It is to get them through the area in the safest manner possible.
- If someone becomes angry, or you feel threatened, call 911 for help.

Notes:



Transfer of Command

When emergency units arrive, communicate the following information:

- Locations of closures (document them).
- Number of road closures.
- Direction of traffic flow at the closure(s).

Traffic personnel must communicate with each other.

Police Science: Traffic Management



- Transfer of command will also take place if someone else from your team or another NYC CERT team comes to relieve you.
- You may be asked to brief your NYC CERT lead. This may be a team chief from another NYC CERT team.
- Only give information that is vital. The transfer of information should be completed in a quick and efficient manner.
- Do not transfer command where you are posted to direct traffic. Transfer should be done in a safe area, out of the way of traffic.

Notes:

Review

- **Never step backwards** without looking.
- Be courteous but brief when providing information to motorists.
- Expedite emergency vehicles when possible; pedestrian safety is very important.
- Keep loose articles of clothing secure.



Police Science: Traffic Management



Key Points

- If you are unsure of your abilities, practice with your team members during a meeting, or with your precinct's community affairs officers.
- Traffic management can be practiced indoors or out.
- Signaling can be practiced at anytime.
- NYC Emergency Management and the NYPD also offer traffic management classes throughout the five boroughs.

Notes:



Unit 9: Police Science and Terrorism

Review

- Emphasis is on personal and team safety!
- Work in teams of two.
- Wear CERT traffic vest.
- Know your intersection.
- Remain alert at all times.



Police Science: Traffic Management



Key Points

- Personal and team safety must not be overlooked. This is your number one priority.
- Review your objectives.
- Make sure all of your equipment is in your response bag and ready to go.

Notes:



Unit 9: Police Science and Terrorism

Questions

Police Science: Traffic Management



Notes:



Unit 9: Police Science and Terrorism



Terrorism Awareness



Terrorism Awareness



Key Points

- Terrorism is a real threat found daily around the world.
- The acts of September 11, 2001 changed the way New York City, the United States, and the world views and responds to threats and acts of terrorism.

Notes:



Unit 9: Police Science and Terrorism

Objectives

- Define terrorism.
- Identify potential targets in your community.
- Recognize indicators of terrorist activity.
- Prepare for terrorism.
- Observe and record.
- Self Care
- Preparing for Active Shooter Incidents



Terrorism Awareness



Key Points

- The objectives for this unit are for educational purposes and personal awareness.
- By knowing how terrorism may present itself in NYC, you can be prepared both as a New York City resident and as a member of NYC CERT.

Notes:



Unit 9: Police Science and Terrorism

Definition of Terrorism

The unlawful use of force or violence committed by a group or individual against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives.

-U.S. Department of Justice

Terrorism Awareness



Key Points

- While there are many definitions of terrorism, the above, from the U.S. Department of Justice, concentrates on the legal aspect of committing the act of terrorism.

Notes:

Terrorists & Organizations



Osama Bin Laden gained world recognition as the leader of the Al-Qaeda by masterminding the 9/11 attacks in 2001. With ties all over the world, and an extensive underground network of sleeper cells, his followers continue his Jihad (holy war) against the United States.

Terrorism Awareness

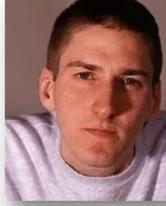


Key Points

- Osama Bin Laden gained world recognition as the leader of the Al-Qaeda by masterminding the September 11, attacks in 2001.
- With ties all over the world, and an extensive underground network of sleeper cells, his followers continue his Jihad (holy war) against the United States.

Notes:

Terrorists & Organizations



Timothy McVeigh, a domestic terrorist born here in NY state, considered himself a patriot defending the second amendment rights of United States citizens. Crusader for the rights of gun owners, he modeled an attack on the Alfred P. Murrah building after that he read in novel called the Turner Diaries by William Pierce. He was convicted and sentenced to death for his crimes.

Terrorism Awareness



Key Points

- Timothy McVeigh, a domestic terrorist born here in NY state, considered himself a patriot defending the second amendment rights of United States citizens.
- Crusader for the rights of gun owners, he modeled an attack on the Alfred P. Murrah building after that he read in novel called the Turner Diaries by William Pierce.
- He was convicted and sentenced to death for his crimes.

Notes:

Terrorists & Organizations

Lucas Helder, 21 year old college student, placed 18 pipe bombs in the trunk of his parents' car and went on a weekend spree that stretched five mid-western states. He injured four postal employees and two civilians by placing pipe bombs in their mails boxes. Arrested by the FBI with information that was given to them by the boy's parents, he was apprehended with six unexploded bombs still in the trunk of the car. He has claimed insanity as a defense.



Terrorism Awareness



Key Points

- Lucas Helder, 21 year old college student, placed 18 pipe bombs in the trunk of his parents' car and went on a weekend spree that stretched five mid-western states.
- He injured four postal employees and two civilians by placing pipe bombs in their mails boxes. Arrested by the FBI with information that was given to them by the boy's parents, he was apprehended with six unexploded bombs still in the trunk of the car.
- He has claimed insanity as a defense.

Notes:

Terrorists & Organizations

Shoko Asahara – leader of the Aum Shinrikyo (Supreme Truth) established in 1987. They aim to take over the Japanese Government and eventually the world. This group was approved as a religion in 1989 by the Japanese Government, and Asahara claimed to have 4,000 members worldwide. In 1995, he orchestrated an attack in the Tokyo subway by releasing sarin gas. This attack killed 13 people and injured close to 5,000.



Terrorism Awareness



Key Points

- Shoko Asahara – leader of the Aum Shinrikyo (Supreme Truth) established in 1987. They aim to take over the Japanese Government and eventually the world.
- This group was approved as a religion in 1989 by the Japanese Government, and Asahara claimed to have 4,000 members worldwide.
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- This attack killed 13 people and injured close to 5,000.

Notes:

Terrorists & Organizations



Umar Farouk Abdulmutallab, 23, popularly referred to as the "Underwear Bomber", is a suspected terrorist who attempted to detonate plastic explosives hidden in his underwear while on board Northwest Airlines Flight 253, en route from Amsterdam to Detroit, Michigan, on December 25, 2009

Terrorism Awareness



Key Points

- Umar Farouk Abdulmutallab, 23, popularly referred to as the "Underwear Bomber", is a suspected terrorist who attempted to detonate plastic explosives hidden in his underwear while on board Northwest Airlines Flight 253, en route from Amsterdam to Detroit, Michigan, on December 25, 2009.

Notes:

Terrorists & Organizations



Faisal Shahzad is a Pakistani American who attempted the May 1, 2010, Time Square car bombing.

Terrorism Awareness



Key Points

- Faisal Shahzad is a Pakistani American who attempted the May 1, 2010, Time Square car bombing.

Notes:

Terrorists & Organizations

Dzhokhar Tsarnaev, age 19, planted IEDs at the Boston Marathon on April 15, 2013, which killed 3 people and injured over 264 others.



Terrorism Awareness



Key Points

- Dzhokhar Tsarnaev, age 19, planted IEDs at the Boston Marathon on April 15, 2013, which killed 3 people and injured over 264 others.

Notes:

Terrorists & Organizations



Terrorism Awareness



- Terrorists and terrorist organizations can be of any race or religion. They can be of any socio-economic class or from any country. There is no one type of person to look for when looking for a terrorist.

Notes:

Past Terrorist Targets

Oklahoma City (1995)



WTC (1993/2001)



Pentagon (2001)



Northwest Flight 253 (2009)



Times Square (2010)



Boston Marathon (2013)



Terrorism Awareness



- All these six attacks occurred within the United States.
- Two attacks occurred at the World Trade Center eight years apart. This shows the patience and careful planning of the terrorists.
- Many attacks were carried out by American-born citizens such as Timothy McVeigh (Oklahoma City), Eric Robert Rudolph (1996 Olympic Park Bomber) and Dr. Bruce Ivins, (anthrax attacks).
- What did each of these targets stand for to Americans?
- Were the terrorists successful in carrying out their goals?
- What were the short-and-long term effects of these attacks on the United States?

Notes:

Characteristics of Terrorist Operations

- Attacks are often well-planned out.
- Use the smallest organizational element possible.
- Follow strict security measures.
- Target areas that are undefended or have a weak security profile.
- Tend to employ secondary and/or multiple attacks.



Terrorism Awareness



Key Points

- Terrorist operations are usually planned years in advance.
- The smallest organizational element may be one or two persons used to carry out an attack, not a large group.
- The smallest organizational element and strict security measures make it difficult to detect an impending attack.
- Security measures are often tested prior to the attack to expose the target's weaknesses.
- Secondary attacks usually occur about 20 minutes after the initial attack and are often placed in the path of the first responders.

Notes:

Terrorist Goals

- Cause mass casualties.
- Cause loss of critical resources.
- Disrupt vital services.
- Disrupt economy.
- Cause individual and mass panic and fear.



Mumbai, India 11/26/08 *Rex Features*



Paris, France 11/14/15

Terrorism Awareness



Key Points

- The goal of most terrorist is to expose the vulnerability of the target.
- This can be done in a variety of ways such as:
 - Mass casualties;
 - Loss of critical resources; and
 - Economic disruption.
- Attacks in Mumbai, India, and Paris, France, accomplished all three listed above.

Notes:

Identifying Potential Targets

Which target is more vulnerable than the other?



Shopping mall



City Hall



Parade

Terrorism Awareness



Key Points

- A hard target is a building, piece of critical infrastructure (i.e. dam, power plant, utility company, etc.) or other commercial or non-commercial entity that has rigid security measures in place, including barriers, cameras, guards, etc.; ex. The Statue of Liberty or Grand Central Station.
- A soft target is less visible and will have less security measures; ex. shopping malls.
- A shopping center is the most vulnerable place listed for the following reasons:
 - Inferior security (smaller staff with limited training);
 - No restrictions for entry; and
 - Multiple access points.

Notes:



Indicators of Terrorism

Terrorism Awareness 

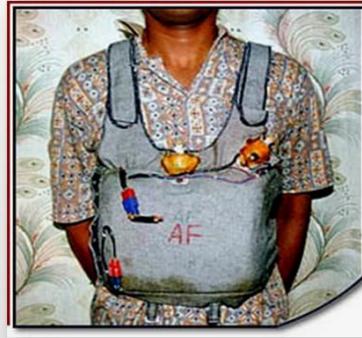
Key Points

- We will discuss NYC CERT roles at a possible terrorist incident.
- What are things to look for in regards to terrorism or a terrorist attack?
- What might your role be in a terrorist attack?

Notes:

Terrorist Weapons

- **B**iological
- **N**uclear
- **I**ncendiary
- **C**hemical
- **E**xplosive



Terrorism Awareness



- Use the acronym B-NICE to remember the five types of weapons.
- Biological weapons usually will not have an immediate effect on victims and may not be detected until after the release.
- Nuclear weapons are difficult to attain and an unlikely method of attack.
- Incendiary weapons are an inexpensive method to instill panic and fear. One example is a Molotov cocktail.
- Chemical weapons have an immediate effect on victims and will produce similar symptoms on all victims.
- Explosives are the most common choice of terrorist weapon. They are an inexpensive method of doing extensive damage to both victims and structure.

Notes:



Improvised Explosive Device

Terrorism Awareness



Key Points

- Improvised explosive devices (IEDs) are one type of terrorist weapon.
- IEDs are often seen as a choice of terrorist attack.
- We will also discuss possible limited NYC CERT actions at a potential improvised explosive device incident.

Notes:

Potential IED Hiding Places



Terrorism Awareness



Key Points

- Just about anything and anyplace can be used as a potential hiding place for an IED.
- NYC CERT members should consider the possibility of IEDs being placed in:
 - Mail packages, letters, or mailboxes;
 - Desks or storage containers of any kind;
 - Utility closets or boiler rooms;
 - A ceiling with removable panels;
 - Any area that is hidden by drapes or curtains;
 - Restrooms and public hallways; and
 - Trash receptacles.
- Familiarization with some of the more common hiding locations will help NYC CERT members to be more aware and alert in preparing for the initial attack, as well as being alert to the possibility of a secondary device and where it may be concealed.

Notes:

Never Approach a Suspicious Package



Terrorism Awareness



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Key Points

- NYC CERT trained members should never attempt to approach or investigate a report of a suspicious package.
- A NYC CERT member should consider:
 - Call 911 and start the emergency response system.
 - Limit access to the area.
 - Attempt to evacuate the area.
 - Update NYCEM or 911 as to changing conditions, if any.

Notes:

Vehicle-Borne Improvised Explosive Device



Terrorism Awareness



Key Points

- The bombing in Manchester, England demonstrates the amount of devastation and damage a vehicle IED can deliver. There was warning of the impending detonation; therefore the area was evacuated prior to the explosion.
- In Oklahoma City on April 19, 1995, home-grown terrorist Timothy McVeigh drove a massive homemade bomb concealed in a rental truck. He parked the car outside the targeted building and walked to another car and drove away. The bomb exploded killing a total of 168 people, including 19 children, and more than 500 were injured.
- A vehicle can be used to easily deliver large quantities of powerful explosives to targets with precision and relatively low costs when you consider the damage that can be inflicted.
- There is also no sophisticated knowledge or training that is required to deliver this type of IED, and it can be detonated remotely.
- Vehicle explosions offer high visibility and drama.

Notes:

Always Consider Secondary Devices



Terrorism Awareness



Key Points

- NYC CERT members should always consider the possibility of a secondary device and should be aware of the importance of distance and shielding. NYC CERT members work only under the direction of first responders.
- Terrorists may use secondary explosive devices to kill and injure emergency personnel that are responding to an initial attack. It is likely that these devices will be placed along the route of responders.
- The first video shows the bombing of the Sandy Springs Abortion Clinic in Georgia from 1997. About an hour after first responders arrived on the scene of an explosion a second blast occurred destroying the fire chief's vehicle and injuring six additional victims, including a firefighter, an FBI agent, an ATF agent, and bystanders who were too close to the scene.
- The second video shows the Boston Marathon Bombings from April of 2013, in which a pressure cooker bomb exploded during the annual event. Seconds later, a second bomb exploded an about 200 yards away from the first. Three civilians were killed with about 260 injuries.
- Secondary devices most often detonate approximately 20 minutes after the initial explosion. These devices can be concealed almost anywhere, including on victims.

Notes:

Preparing for Terrorism



Terrorism Awareness



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Key Points

- The role of NYC CERT and your role as a citizen of the United States are to be vigilant in preparing for terrorism.
- As is always the case, preparedness is the first step to surviving a disaster and proper planning will allow NYC CERT to offer the greatest amount of assistance to the greatest number of people during a disaster.
- Preparing loved ones, neighbors, and others in your community about terrorism awareness will also increase the role of NYC CERT.

Notes:

CERT Guiding Principles

Always do a thorough size-up:

- What are the dangers?
- What are the team capabilities?
- What are the team limitations?



Team safety is the number one priority!

Terrorism Awareness



Key Points

- The most important principle for each and every NYC CERT member to understand is safety is always our top priority and ensuring team safety is everyone's responsibility.
- As evidenced by the events on September 11, 2001, the recovery from a major terrorist event may take weeks, months, or more.
- In a long term recovery operation, the scene may be determined safe enough for NYC CERT members to operate under the direction of NYC Emergency Management.
- NYC CERT will only be tasked with responsibilities which are within the scope of your training.

Notes:



If You See Something, Say Something

- 911 – for EMERGENCIES
- 311 – Non-emergencies or general information
- 1-888-NYC-SAFE - Counter Terrorism Hotline
 - Suspected terrorist activity
 - 24-hours a day
 - All calls are confidential.



Terrorism Awareness



Key Points

- New York City and the MTA have a security awareness campaign known as “See Something, Say Something”.
- This campaign is meant to reinforce the efforts of the MTA and police to keep New Yorkers safe. The goal is for all citizens to join the police and the MTA as the eyes and ears of the transportation system.
- After the train bombings in Madrid, officials stated that several passengers interviewed remembered seeing the unattended knapsacks that turned out to contain the bombs, but they did not alert anyone.
- NYC CERT members should be suspicious of anything that is left unattended whether they are using mass transit or in any aspect of your daily activities. With this heightened level of awareness and an understanding of how to report this suspicious activity, NYC CERT members will be working to combat terrorism in our city.

Notes:

CERT Role at a Terrorist Incident

- Do not touch it!
- Move away from the object or area.
- Keep onlookers away from the device.

- Caution! Using cellular phones or two-way radios may detonate an explosive device!



Terrorism Awareness



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Key Points

- As we discussed, the role of NYC CERT members at a terrorist event will most likely be limited. This is not a traditional NYC CERT response, and members should be aware that a terrorist incident or a suspected terrorist incident is a STOP sign for NYC CERT members to respond.
- It will be the responsibility of NYC Emergency Management and other first responders to secure the scene and determine whether or not CERT may be deployed, as it is for any NYC CERT deployment.
- If a terrorist incident is suspected, NYC CERT members should attempt to take in the entire area during their size-up and move as quickly as possible to a safe location.
- NYC CERT members should remember:
 - Do not touch any suspected device or package.
 - Move away from the object or area.
 - Keep onlookers away.
 - Report findings to authorities immediately.

Notes:



Observation and Recording

- **DO NOT** become personally involved.
- Examine the entire situation before taking action.
 - Be cautious of secondary devices.
- Look for signs of a release or exposure.
- Obtain or verify information from victims.
- Record as many details as possible:
 - Number of victims
 - Symptoms
 - Devices used for release

Terrorism Awareness



- Observe what is happening before your eyes and believe that it is real. Take a look at the big picture before you react. Keep in mind that terrorists will deploy secondary and tertiary devices to inflict further damage to those that respond to aid the initial victims.
- Observe the area for signs of release or exposure to chemicals. Gather as much information as possible from victims. Try to verify from victims what happened or what they witnessed by asking them basic questions.
- Document as much information as you can concerning victims and the signs and symptoms they are displaying. Try to determine the type of device used in the attack so emergency responders can operate accordingly.

Notes:

Self-Care During Terrorist Incidents

At the incident:

- Limit exposure time.
- Increase the distance from the hazard.
 - Stay upwind.
- Add shielding.



Terrorism Awareness



- Since it is very difficult to immediately determine what the overall threat is at a terrorist incident, the best formula for safety is time – distance – shielding. Each element of this formula will protect you, but all three are required for complete protection.
- **Time** – Limit the time you are exposed to the contaminated area. This will minimize your exposure to whatever threat the terrorist deployed in the attack.
- **Distance** – Move yourself to an area that minimizes or removes the threat of injury or death. In case of explosions, many victims are killed because of the blast effect. The energy of the explosion is enough to kill people if they are too close to the source.
- **Shielding** – Get to an area of cover such as behind a substantial wall or building. You often hear experts say “if you can see the bomb, the bomb can see you”. That means that you could be seriously injured or killed if you don’t provide cover for yourself.

Notes:



What to Do if Exposed

- Leave the contaminated area immediately.
- Report to a casualty collection point:
 - Once contaminated, you are a victim.
- Report for decontamination:
 - Clothing removal?
 - Showers?
 - Medical examination?

CERT members and victims should remain on scene until they are evaluated & released by trained personnel.

Terrorism Awareness



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Key Points

- If you have been exposed to some type of contaminant at an incident, you need to remove yourself from the immediate area as quickly as possible. You need to protect yourself by getting to a casualty collection point or let EMS know that you feel you have been contaminated and need treatment.
- Before getting treatment from EMS, you must be decontaminated so you do not cross contaminate others that are assisting other victims. Decontamination may simply consist of removing your outer layer of clothing or be as complex as showering and scrubbing the substance from your skin.
- Once you have been decontaminated, you will be medically examined for signs and symptoms of exposure. EMS will monitor your condition, provide medication if necessary, and counsel you on the effects of the exposure.
- NYC CERT members and all exposed victims should remain on scene until they are evaluated by EMS. Many times a simple decontamination of removing the outer layer of clothing will remove up to 90% of the exposure. You do not want to cross contaminate everyone you come in contact with as you travel and bring the contaminants into your home. Get evaluated.

Notes:



Transfer of Command

- Location of explosion
- Number of victims
- Buildings affected by the explosion
- Location of street closures
- Indicators of criminal activity
- Location of victims and witnesses

Terrorism Awareness



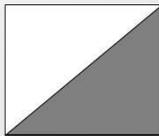
Key Points

- When first responders arrive, identify yourself as a NYC CERT member and provide the information you have gathered to the emergency responders.
- Provide the facts you know; do not speculate. Inform the emergency responders what you witnessed and information other witnesses provided.
- Inform the emergency responders if you took any actions to close streets or set up a casualty collection point and what those locations are.
- Ask the emergency responders if you can be of any further assistance. They may give you an assignment or have you standby for further orders.

Notes:

Incident Command Post

- Location where primary command functions are performed
- Only one per incident
- Usually not relocated once established



Terrorism Awareness



Key Points

- The Incident Command Post is identified by the symbol above.
- NYC CERT lead should always remain at the Command Post
- The NYC CERT lead may be reassigned as first responders arrive on scene.
- NYC CERT teams should be guided by the NYC Emergency Management citywide incident coordinator (CIC) on scene.
- A single command post provides a coordination of resources from one location and limits duplication of services by coordinating with other agencies

Notes:

Staging Areas

- Temporary locations to place available resources
- Staging Area Manager reports to Incident Commander.
- Resources in staging area are available and ready to work.



Terrorism Awareness



Key Points

- The NYC CERT staging areas will be managed by a staging area manager.
- It should be located at a remote location away from the incident so resources are not depleted prior to use.
- The staging area manager reports directly to NYC CERT lead until the operations section lead is established.
- NYC CERT lead should consider initially staging personnel for relief and monitor changing conditions.
- Once a staging area is established NYC CERT members should report to the staging area manager, not the command post.

Notes:



Unit 9: Police Science and Terrorism

Active Shooter

Terrorism Awareness



Key Points

Notes:



Profile of an Active Shooter

- An active shooter is an individual actively engaged in killing people; in most cases there is no pattern to their selection of victims.
- The average active-shooter incident lasts 12 minutes. 37 percent last less than five minutes.
- Overwhelmingly, the offender is a single shooter (98 percent), primarily male (97 percent). In 40 percent of the instances, they kill themselves.
- Two percent of active shooters bring IEDs as an additional weapon.

Terrorism Awareness

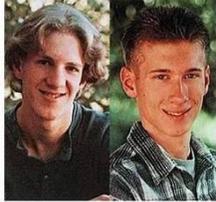


Key Points

- Many active shooters will kill themselves when, or even before, law enforcement arrives on the scene
- 10% of active shooters end up stopping and walking away on their own, meaning 90% will continue killing until they are stopped
- 20% of active shooters will move to a second location

Notes:

Active Shooters



Dylan Klebold, Eric Harris
Columbine, Colorado
April 20, 1999
15 Killed

Terrorism Awareness



Key Points

Columbine

- Received a large amount of media attention, deadliest school shooting at the time
- Sparked national conversation about mass shootings, changed police tactics drastically
- Lasted a long duration by today's standards
- Started shooting just after 11 am
- SWAT Team had school surrounded by 12 am
- The two gunmen committed suicide at this time
- Police didn't enter the school until after 1 am

Extremely rare for an active shooter situation to last this long in modern times as law enforcement is no longer trained to contain it like a hostage situation, but instead to immediately engage the shooter and stop them from killing more victims. The gunmen also planted IED's around the school

Notes:

Active Shooters



Seung-Hui Cho
Blacksburg, Virginia
April 16, 2007
33 Killed

Terrorism Awareness



Virginia Tech

- Deadliest shooting by a single gunman in US history; one of deadliest in the world.
- Gunman used two handguns, a Glock 19 (9mm) and a Walther P22 (.22)
- Due to the modern tactics used by law enforcement to confront active shooters police arrived within three minutes, breached the building five minutes later and the shooter killed himself, possibly saving dozens of lives.

Notes:

Active Shooters



James Holmes
Aurora, Colorado
July 20, 2012
12 Killed

Terrorism Awareness



Key Points

Aurora

- Attacked a movie theater
- 2nd deadliest shooting in Colorado after Columbine
- Huge amount of injuries, 70 people injured
- Used three guns and tear gas
- Of shooters shown here, only one that didn't commit suicide and surrendered to police
- Police arrived within 90 seconds of first 911 call, he was apprehended five minutes later
- At first he was mistaken for a police officer due to his tactical clothing
- Had rigged his apartment with explosives before travelling to shooting location
- Serving 12 life sentences for murder in addition to over 3,000 years for attempted murder

Notes:



Active Shooters



Adam Lanza
Sandy Hook, Connecticut
December 14, 2012
28 Killed

Terrorism Awareness



Key Points

Sandy Hook

- 20 year old shooter shot 20 children ages 6 to 7, plus seven adults
- Deadliest shooting at a US grade school or high school
- Used one rifle and one handgun
- The event lasted about five minutes and 156 shots were fired

Notes:



Unit 9: Police Science and Terrorism

Active Shooters



Dylan Klebold, Eric Harris
Columbine, Colorado
April 20, 1999
15 Killed

Seung-Hui Cho
Blacksburg, Virginia
April 16, 2007
33 Killed

James Holmes
Aurora, Colorado
July 20, 2012
12 Killed

Adam Lanza
Sandy Hook, Connecticut
December 14, 2012
28 Killed

Terrorism Awareness



Notes:



Preparing for an Active Shooter

- Because active shooter situations evolve quickly and are often over within 10 to 15 minutes individuals must be prepared.
- Good practices for coping with an active shooter:
 - Be aware of your environment and possible danger
 - Look for the two nearest exits wherever you are
 - Have a plan:
 - Run
 - Hide
 - Fight

Terrorism Awareness



Notes:



Unit 9: Police Science and Terrorism

Run, Hide, Fight



Terrorism Awareness



Notes:



Run

- If there is an escape path, attempt to evacuate
- Evacuate whether others agree or not
- Leave your belongings behind
- Help others escape if possible
- Prevent others from entering the area
- Call 911 when you are safe



Terrorism Awareness



Key Points

Run

- If there is an escape path, attempt to evacuate
- Evacuate whether others agree or not
- Leave your belongings behind
- Help others escape if possible
- Prevent others from entering the area
- Call 911 when you are safe

Notes:

Hide

- Lock and/or blockade the door
- Silence your cellphone
- Hide behind large objects
- Remain very quiet



Terrorism Awareness



Key Points

Hide

- Lock and/or blockade the door
 - A door chock can be a useful tool
- Silence your cellphone
- Hide behind large objects
- Remain very quiet

Notes:



Unit 9: Police Science and Terrorism

Fight

- As a last resort and only if your life is in danger
- Attempt to incapacitate the shooter
- Act with physical aggression
- Improvise weapons
- Commit to your actions



Terrorism Awareness



Key Points

Fight

- As a last resort and only if your life is in danger
- Attempt to incapacitate the shooter
- Act with physical aggression
- Improvise weapons
- Commit to your actions

Notes:



When Law Enforcement Arrives

- Remain calm and follow instructions
- Keep your hands visible at all times
- Avoid pointing or yelling
- Know that help for the injured is on its way

Terrorism Awareness



Key Points

- Remain calm and follow instructions
- Keep your hands visible at all times
- Avoid pointing or yelling
- Know that help for the injured is on its way

Notes:



Unit 9: Police Science and Terrorism

Questions?

Terrorism Awareness



Notes:



Unit 9: Police Science and Terrorism

LESSONS LEARNED

- Understand the role of NYC CERT in traffic control situations and keeping a safe perimeter.
- Practice safe traffic control techniques with a partner.
- Raise awareness of the terrorist mindset and how you can be more cognizant of what is going on around you and what you can do when something just doesn't seem right.
- Understand what to do in an active shooter incident. As a NYC CERT member your role is not to engage the active shooter.

COMMUNITY AWARENESS

- What lessons were learned in this unit that you might bring to your community?
- What is a message you might stress, learned this week, during a Ready New York presentation?

PREPARING FOR YOUR FINAL WEEK

This is your last unit before the disaster simulation. The ideas and awareness you received during the terrorism part of this unit may come into play during your exercise. Practice your traffic safety and know the techniques of how to properly and safely block off traffic and deal with angry drivers.

EVALUATION

Please fill out the evaluation for Unit 9 in the back of the binder. When completed, please hand in to your NYC Emergency Management Liaison.

UNIT RESOURCES

NYC CERTs are not equipped or trained to respond to terrorist incidents. It is not in a response role where you and your team members will play an important part in keeping your community safe from terrorists. By preparing your family and neighbors, NYC CERT can do the most good.

There are ways to prepare for a terrorist incident. Some of the steps for preparing for a terrorist incident are the same as for natural hazards but a few require special planning.

The steps to take to prepare for a terrorist attack include:

- Assembling a disaster supply kit. Disaster supplies for terrorist incidents are the same as for other hazards and should definitely include a battery-powered radio with extra batteries and a cordless or cellular telephone. Those who live in high-risk areas (such as those who live within the 10-mile emergency planning zone around a nuclear facility) will be provided with additional information by their local emergency management agencies.
- Identifying a safe room in the home or workplace and a meeting place outside of the home or workplace. Because the public will not know in advance whether to evacuate or shelter in place, it is necessary to plan for both. Because many chemicals are heavier than air, a safe room in the house should be on the main level or second level (not in the basement) and should have as few doors and windows as possible. A meeting place outside of the home should be outside of the area and upwind from the incident.



Unit 9: Police Science and Terrorism

- Develop a family communication plan. Depending on the family members' locations at the time of an attack, it may not be possible to get to the meeting place. Identifying an out-of-state or out-of-area contact or other communication plan will facilitate communication and the knowledge that family members are safe.
- All of the above pertain to your team as well. Make sure you make the same arrangements for your team so that you can maintain communication and help support your community during a disaster.

Remember that:

- Team safety is the number one priority. All NYC CERT members owe it to themselves and their loved ones not to become victims while trying to help others.
- Always do a thorough size-up and stop, look, listen, and think before taking any action.

Consider:

- Dangers, both evident and possible.
- Team capabilities, including how many NYC CERT members are available, the training that they have had, and the equipment that is available at the scene.
- Team limitations.

NYC CERT protocols for Terrorist Incidents

- As with hazardous materials, terrorist incidents are a stop sign for NYC CERT members.
- Take in the whole area during the size-up. If any of the indicators of a terrorist incident are present, do not proceed with the response.

If terrorism using a weapon of mass destruction is suspected, NYC CERT teams will be very limited in what they can do. Professional responders will need specialized equipment and personnel to respond to a terrorist incident.

If you observe any of the indicators of a terrorist incident, you should:

- Not touch it!
- Move away from the object or area.
- Report it to authorities immediately.
- Cellular phones and two-way radios create static electricity and may detonate explosive devices. NYC CERT members should always report suspected explosive devices via landline.

Self-Care during Terrorist Incidents

It is important to know what actions to take in a terrorist incident.

There are three factors that significantly affect safety at a terrorist incident:

- Time: limiting the amount of time in the area of an incident limits exposure.
- Distance: evacuate the area. Professional responders suggest maintaining distance of between 1,000 and 1,500 feet from the incident. Move upwind and uphill from the incident site.
- Shielding: the shielding provided by a sturdy building or even a wall can increase protection from contamination, radiation, or blast effects.

Time, distance, and shielding requirements are based on an initial size-up of the situation. If you are inside a building that is not damaged and you are not in immediate danger, you should listen to Emergency Alert System (EAS) broadcasts for information about whether to evacuate or shelter in place.



Unit 9: Police Science and Terrorism

NYC CERT members can expect professional responders to treat terrorist incidents much the same as hazardous materials incidents. As such, the next step that they will take is to establish three incident zones to minimize the risk of spreading contamination from the incident site.

- The hot zone includes the incident scene and the contaminated area around the scene. If the incident is outdoors, the hot zone will spread downwind, taking wind speed into consideration.
- The warm zone is upwind from the hot zone and is used to isolate victims during decontamination. It is called the warm zone because the evacuees can carry or spread a contaminant into this area. Professional responders will hold those who require decontamination in the warm zone until decontamination is complete so that contaminants do not spread.
- The cold zone is located upwind and beyond the warm zone. Those who are not contaminated or who have been decontaminated will be evacuated to the cold zone and kept there until professional responders authorize them to leave.

If there are any reason to believe that chemical or radiological contamination has occurred in your area put distance between you and the agent. If exposed to a chemical agent or radiation, use basic decontamination procedures.

Be sure to heed the points listed below:

- Leave the contaminated area immediately (at least 1,000 to 1,500 feet upwind and uphill) to limit the time of exposure and reduce contamination levels.
- Take decontamination action. Seconds count! The goal is to limit the time that the agent is in contact with the skin.
 - Remove everything from the body, including jewelry. Cut off clothing that would normally be removed over the head to reduce the probability of inhaling the agent.
 - Wash hands before using them to shower.
 - Flush the entire body, including the eyes, underarms, and groin area, with copious amounts of cool water. Hot water opens the pores of the skin and can promote absorption of the contaminant. Using copious amounts of water is important because some chemicals react to small amounts of water.
 - If soap is immediately available, mix the soap with water for decontamination. Avoid scrubbing with soap because scrubbing can reduce the layer of protective skin, thus increasing absorption of the contaminant.
 - If working with a buddy, work together to decontaminate each other. If hosing someone else off, avoid physical contact with both the person and the runoff.
 - Blot dry using an absorbent cloth. Do not rub the skin! Put on clean clothes.
- Report for decontamination as soon as possible. Professional responders will be setting up decontamination stations somewhere around the site.

Treating Others

The first priority for NYC CERT teams is personal safety. NYC CERT members should take self-protective measures only. You should not attempt to treat victims in the contaminated area. NYC CERT members can tell people who are leaving the area about using basic decontamination procedures and waiting for responders.



Unit 9: Police Science and Terrorism

What First Responders Will Do

There are several measures that you can expect first responders to take when they arrive at the scene of a terrorist incident.

The first step that first responders will take is to conduct a thorough size-up. They will follow steps that are very similar to those that NYC CERT members may take to determine:

- What is going on?
- How bad the situation is and how much worse could it get?
- What measures can be taken to control the incident safely?
- What resources will be needed?

Reporting Possible Incidents

- 911 – for EMERGENCIES!
 - All crimes in progress.
 - If immediate Police, Fire, or EMS response is needed!
- 311 – Non-emergencies or information on City services.
 - Alternate side parking rules in effect
 - Garbage collection schedule
 - No heat / hot water complaints
 - Other general information
- 1-888-NYC-SAFE – Counter-terrorism hotline
 - Report suspected terrorist activity, 24 hours a day.
 - All calls are confidential.



Unit 10: Disaster Simulation

UNIT INSTRUCTOR INFORMATION

Name	Agency	Contact Information

UNIT INTRODUCTION

This module is a practical application of all the lessons you have learned over the past nine weeks. During this class, your entire team will respond to a variety of simulated emergencies that will test your knowledge of ICS, fire safety, light search and rescue, police science and terrorism awareness, disaster medical operations and triaging, and NYC's urban environment.

UNIT OBJECTIVES

- Review and practice the materials taught in Units 1-9.
- Put ICS into practical use to respond to a disaster.
- Practice personal and team safety.
- Practice NYC CERT deployment policy and procedure.
- Practice working as a team, where communication is vital.

UNIT REVIEW

Use everything you have learned in the last nine weeks to prepare you and your team members for this week's disaster simulation. Helpful hints: stay calm, communicate, and do not rush into action!

LOOKING FORWARD

Congratulations on successfully completing your NYC CERT basic training! Following graduation, you will join your existing community team. You have much to offer your teams, so bring your enthusiasm and your new emergency and disaster knowledge to keep your community safe!



Unit 10: Disaster Simulation

Official CERT ID Policy

- The credential is the only official identification issued by NYCEM to NYC CERT members.
- The ID must be carried with you to any CERT event or deployment.
- The credential allows you to perform only those roles identified in the NYC CERT Standard Operating Procedures (Appendix F).
- You will initially be issued a temporary ID. The permanent credential card will be issued when the team chief reports satisfactory performance during the 6-month probationary period.

Disaster Simulation



Notes:



Unit 10: Disaster Simulation

Official CERT ID Policy

- The permanent credential is valid for two years.
- After two years, the credential is renewed if fully compliant with re-credentialing obligations.
- The credential does not allow you to break City, State or Federal laws. Deliberate misuse of a NYC CERT credential may result in disciplinary action up to and including dismissal from the CERT program, as well as legal proceedings against the member.

Disaster Simulation



Notes:



Unit 10: Disaster Simulation

How CERT Assembles

1. Teams get notified to deploy.
2. Team members report to assembly point with:
 - CERT shirt
 - Response bag
 - CERT ID card
3. CERT lead evaluates number of personnel and their skills.
4. CERT lead assigns ICS roles.



Disaster Simulation



Key Points

- Basic NYC Emergency Management requirement for active status:
 - Attends at least 4 post-training events
 - Deploys to planned events
 - Team Chief requirements:
 - Attends regular meetings
 - Submits activity reports
 - Participates in drills and exercises
 - Shows up to deployments
 - Respectful and cooperative behavior

Notes:

Final Scenario



Disaster Simulation



Key Points

Things you and your instructors will do in advance of your disaster simulation:

- Decide who the NYC CERT Lead will be.
- Know who will lead and participate in operations, logistics, and planning.
- Have materials ready to respond *and* record.

Notes:



Unit 10: Disaster Simulation

What is going on?

- Severe thunderstorms are predicted in NYC.
- NYC has been experiencing very unusual weather.
- The time is approximately 7 PM.
- The temperature outside is 45 degrees .



Disaster Simulation



Key Points

- How does this information benefit you?
- What planning do you need to make with respect to this information?

Notes:



Unit 10: Disaster Simulation

NYCEM Notifies Your Team

- Your Team Chief is contacted by NYCEM Watch Command.
- Watch Command gives them the following information:

Disaster Simulation



Notes:

Thunderstorm Path



Disaster Simulation



Key Points

- Based on your knowledge of the deployment protocol, what are your next steps?

Notes:



Unit 10: Disaster Simulation

NYCEM supplies the following information:

- A tornado has touched down in your neighborhood.
- The tornado's effects have devastated your community as well as surrounding neighborhoods.
- The 911 system has been overtaxed.
- First responders will be delayed.

Disaster Simulation



Notes:

Your Next Steps



- It looks as though your CERT will be deployed.
- Notify and assemble your team.

Disaster Simulation



Notes:



Unit 10: Disaster Simulation

Your Team is Assembled

What Do You Do Now?

Disaster Simulation



Key Points

- What are some things based on your knowledge thus far, that you might be preparing for?
- Write down your next steps below.

Notes:



Unit 10: Disaster Simulation

NYCEM provides more information:

- Power has been lost throughout your neighborhood.
- Signals are out and traffic is stagnating to the point of gridlock.
- There have been numerous lightning strikes which have ignited small fires.
- A tree has fallen and caused a 15-passenger van full of commuters to crash into a newspaper stand.
- The worker from the stand is still missing and assumed to be beneath the debris.
- The passengers on the bus are suffering various injuries and are in need of triage.

Disaster Simulation



Notes:

Address the following:

- ICS
- Fire Safety
- Light Search & Rescue
- Traffic Safety
- Disaster Medical Operations



Are we a TEAM or a mob?

Disaster Simulation



Notes:



Unit 10: Disaster Simulation

Review Your Steps

How Did We Do?

Disaster Simulation



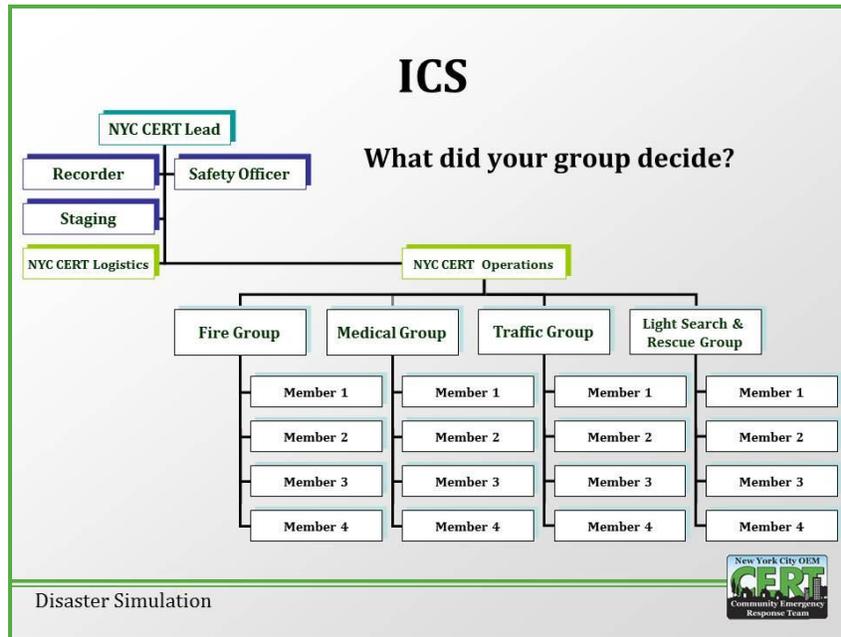
Key Points

- During your disaster simulation:
 - Safety was your number one priority.
 - You gathered the necessary information to make well-informed decisions.
 - You had sufficient resources available.
 - You communicated clearly and concisely.
 - All observations and actions were recorded.
 - You efficiently transferred command.
- What did you miss? Be honest.

Notes:



Unit 10: Disaster Simulation



Key Points

- Review ICS often. If you don't use it, you lose it!

Notes:



Unit 10: Disaster Simulation

Incident Command System

- Team notification
- Assembling the team
- Selection of CERT Lead
- Communication capabilities
- Deployment and resources
- Record observations and actions
- Transfer of command

Disaster Simulation



Notes:

Fire Safety



Key Points

- Size-up the situation.
- Assess the type of fire and determine the safety concerns.
- If appropriate, you must choose the correct fire extinguisher and operate the extinguisher properly.
- What safety precautions must you take as NYC CERT with respect to fires?

Notes:

Fire Safety

- Select Operational Leader
 - Fire Group Supervisor
- Use PPE
- Use proper extinguisher
- Teams of two
- Fires no larger than a wastepaper basket
- “Overhaul”



Disaster Simulation



Key Points

- Remember your objectives.
- **Safety is always your top priority.**
- Team communication

Notes:

Light Search and Rescue

What did your group decide?



How did you organize and operate?

Disaster Simulation



Key Points

- Did you and your team:
 - Size-up the situation.
 - Assess the situation and determine safety concerns.
 - If appropriate, you will proceed with leverage and cribbing operation to extricate trapped victims.

Notes:



Unit 10: Disaster Simulation

Light Search and Rescue

- Assemble resources from cache or on scene.
- Remove lightly trapped victims first.
- Only enter lightly damaged structures.
- Operate within your training and limitations of your team.
- Report findings to CERT lead:
 - Victims located and removed
 - Victims unable to be removed



Disaster Simulation



Key Points

- Team Communication
- Proper equipment to perform light search and rescue was available

Notes:

Traffic Safety



Key Points

- Size-up the situation.
- Assess the situation and determine safety concerns.
- Is traffic management needed? Who will provide it?

Notes:

Traffic Safety

- Proper Protective Gear:
 - Flashlight
 - Reflective vest
 - Whistle
- Operate in teams of two.
- Select appropriate roadways to manage traffic flow.
- Restrict non-emergency personnel from entering the danger area.



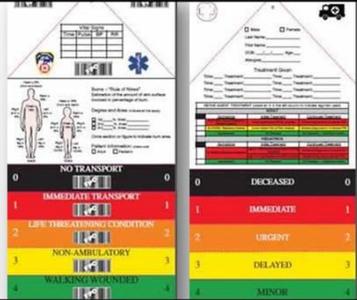
Disaster Simulation



Notes:

Disaster Medical

What did your group decide?



How did you organize and operate?

Disaster Simulation


Key Points

- Size-up the situation.
- Do victims need first aid and triaging when appropriate?
- Document signs, symptoms, and treatment provided.

Notes:



Unit 10: Disaster Simulation

Disaster Medical

- Perform Victim Triage (START).
 - Identify Green tags by calling out
 - Triage remaining patients
- Select Casualty Collection Point:
 - Remote from danger zone
 - Removed from elements
- Document findings.
- Report findings to CERT Lead.



Disaster Simulation



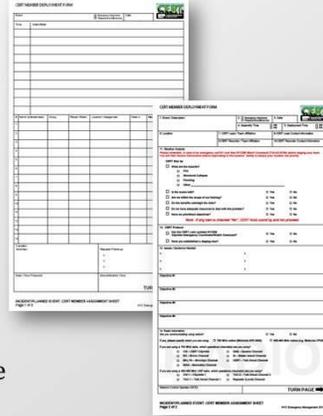
Key Points

- Did your team remember all the different parts of disaster medical operations?

Notes:

Transfer of Command

- CERT lead consolidates recorded info
 - Member Deployment Form →
- Upon arrival of first emergency responder:
 - Identify yourself and your team.
 - Report findings and tasks accomplished.
 - Make sure you only give accurate information.
 - Do not take a long time to exchange information.



The image shows two overlapping forms. The top form is the 'CERT MEMBER DEPLOYMENT FORM' which includes fields for Name, Position, and a table for recording member status (e.g., Assigned, Released, Injured). The bottom form is the 'CERT MEMBER COLLECTION FORM' which includes sections for 'CERT INFORMATION' (Name, Position, etc.) and 'CERT TASKS' (a list of tasks with checkboxes for completion).

Disaster Simulation



Key Points

- In a real incident/emergency:
 - NYC CERT lead must complete the Member Deployment Form and provide a copy to NYC Emergency Management and first responders.
 - NYC CERT lead must make sure all information is gathered during a response.

Notes:



Unit 10: Disaster Simulation

Transfer of Command

- Turn over documented information:
 - Number of victims – trapped and removed – separated by triage color
 - Names of victims removed from the scene and to where they were transported
 - Locations of victims found and unable to be removed
 - Number and location of fires
 - Location of street closures

Disaster Simulation



Notes:



Unit 10: Disaster Simulation

Disaster Simulation

There is a lot going on and a lot to think about.

You guys did a great job!

Thank you for your dedication and participation over the last ten weeks!
See you at graduation!

Disaster Simulation



Notes: