UNIT INSTRUCTORS

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UNIT INTRODUCTION

What comes to mind when you hear disaster medical operations? How big of a disaster would have to of occurred in New York City before your CERT team may be deployed? What will you, as a trained NYC CERT member, be asked to do in regard to disaster medical operations? Are you ready?

The word "disaster" means different things to everyone. What comes to mind may be anything from earthquakes, floods or tornados, to a terrorist event, such as the attacks on the World Trade Center. What caused the event is not as important as the result. The bottom line is that the New York City emergency response system is likely to be strained. With proper training and preparation, NYC CERT may be able to alleviate some of the stress on the system.

There are a number of scenarios that your team may face in relation to disaster medical operations. 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 team 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 we are 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.

In this unit we 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 over 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. We will discuss 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 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 the NYC CERT member 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 OBJECTIVES

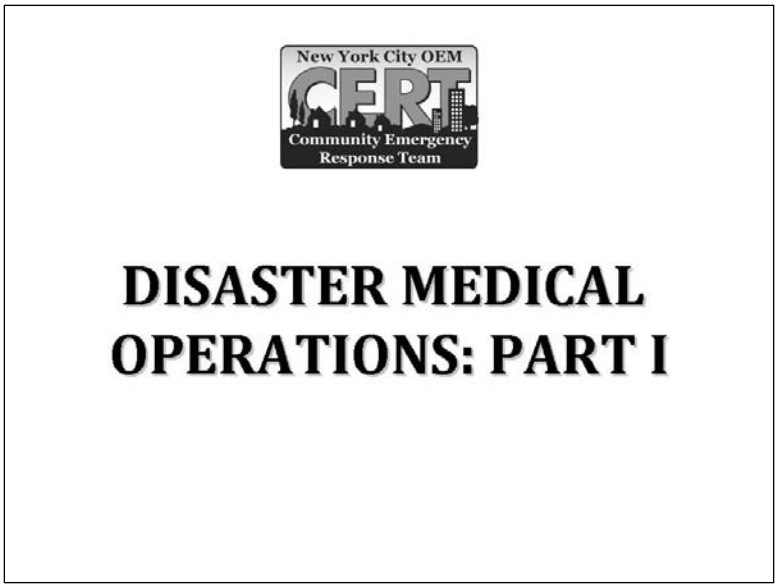
- Understand how NYC CERT will have the greatest impact in medical operations during an emergency or disaster.
- Know proper hygiene in a medical response.
- Understand how to organize an initial medical operation.
- Learn basic triage techniques.
- Understand NYC CERT's roles.

## 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.




**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.

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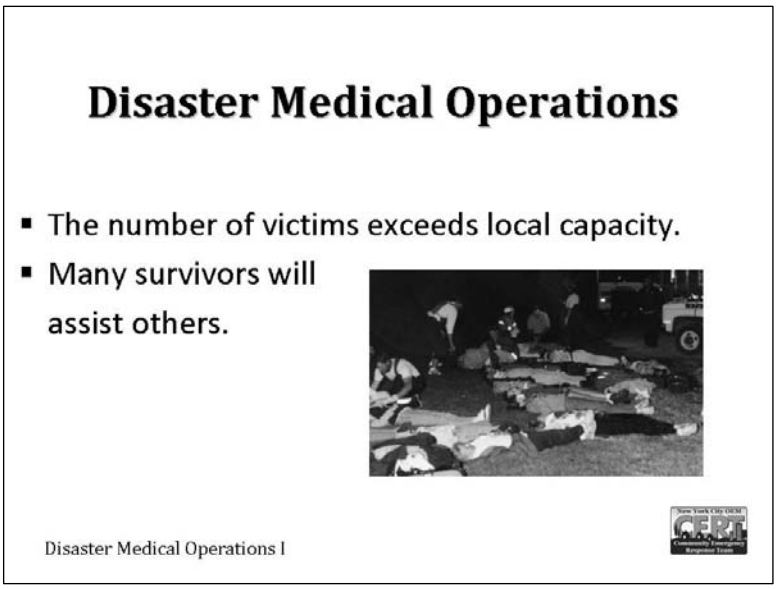


**Key Points**

- 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.

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## 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.
- Perform a head-to-toe assessment.
- Open an airway.
- Manage 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.
- Head to toe assessments are used to discover injuries not readily known during triage.
- 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.

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**Key Points**

- We will now discuss how to recognize the early phases of death.
- We will also review the limitations of NYC CERT training and the need to do the greatest good for the largest number of people.

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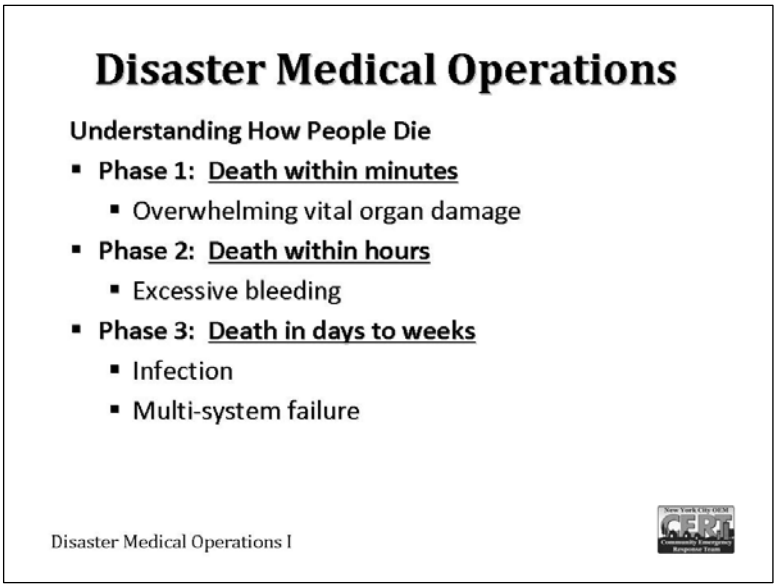


**Key Points**

- 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.

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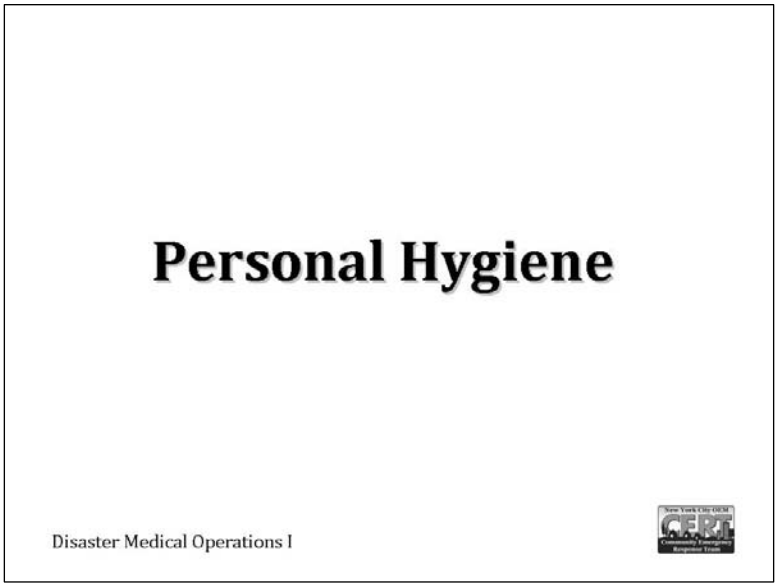


**Key Points**

- Personal hygiene is vital during disaster medical operations.
- Proper personal protection will safeguard the NYC CERT member and the patient.

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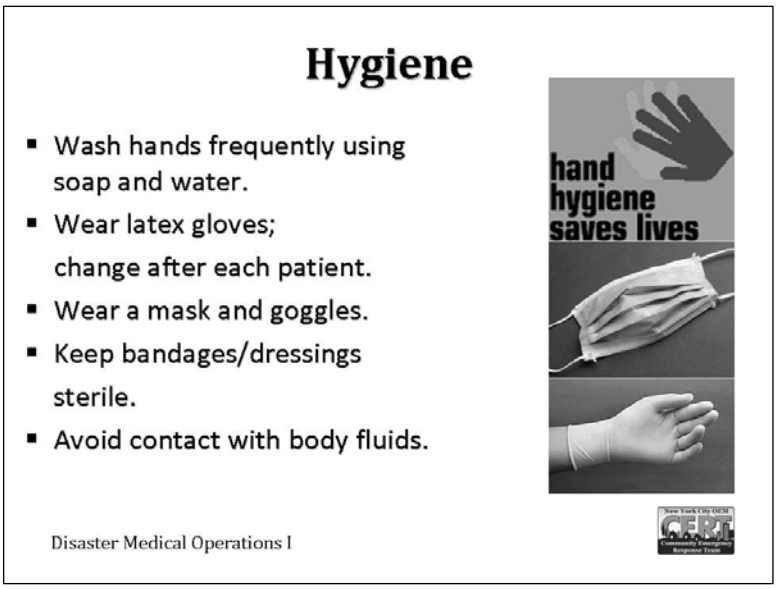


**Key Points**

- 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.

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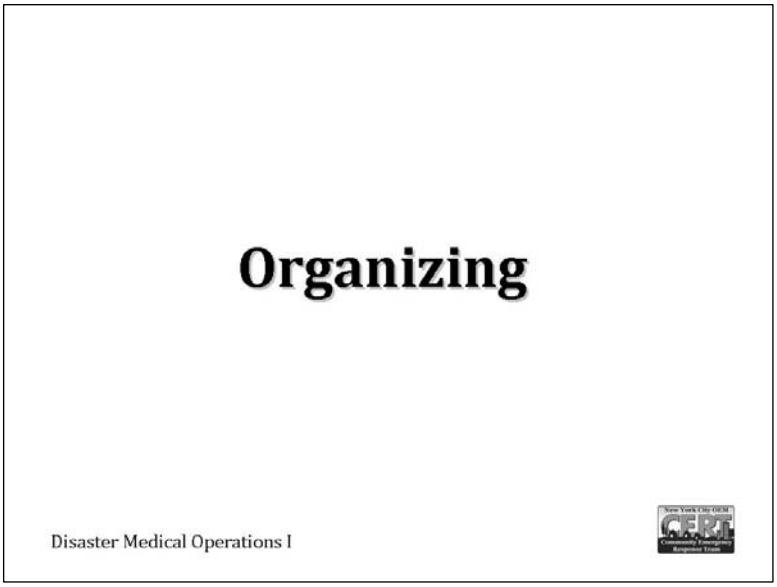


**Key Points**

- Organizing the structure used at a medical operation will create an efficient area for managing patients.
- We will also discuss the role of the FDNY EMS as the coordinator of pre-hospital care.

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## 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**

- 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 Citywide Incident Management System (CIMS) document released in April 2005.

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**Key Points**

- NYC CERT teams can triage a large number of patients effectively.
- NYC CERT members must follow the rules of triage strictly to do the greatest good for the largest number of people.

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## 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 assessed 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.

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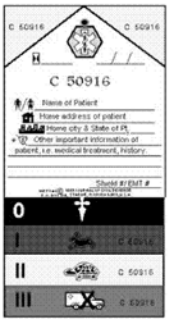
## METTAG Triage Tag

Use with S.T.A.R.T. to categorize patients:

- **BLACK** – Deceased
- **RED** – Immediate transport
- **YELLOW** – Delayed transport
- GREEN TAG – Walking wounded




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).

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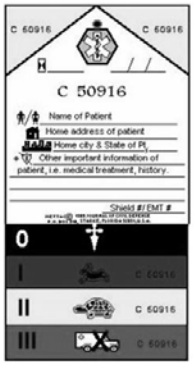
# START Procedure

- Direct all ambulatory patients (walking wounded) to a safe area.
- These are GREEN TAG 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 TO _____ (example: the parking lot by the grocery store)".
- 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.

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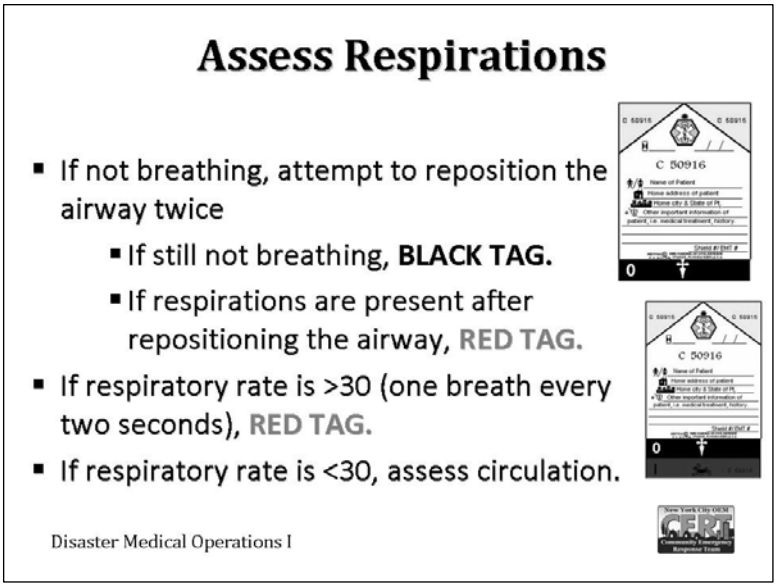


**Key Points**

- 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.

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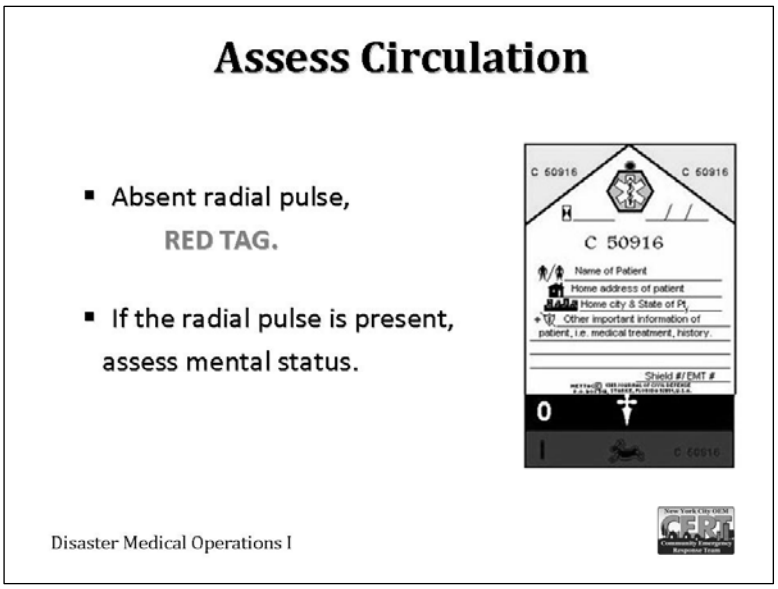


**Key Points**

- Patients who are breathing may still not have a radial pulse. This is a clear indication of a circulation problem.
- Two methods to assess circulation quickly are to depress the nail bed or ear lobe of the patient and determine if color is regained within two seconds. If color is not restored within two seconds, the patient should be red tagged.

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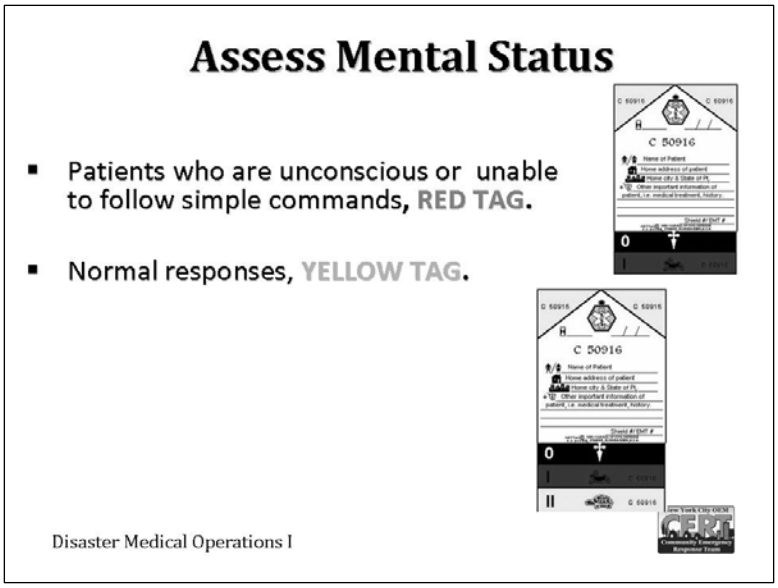


**Key Points**

- 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?

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## 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.

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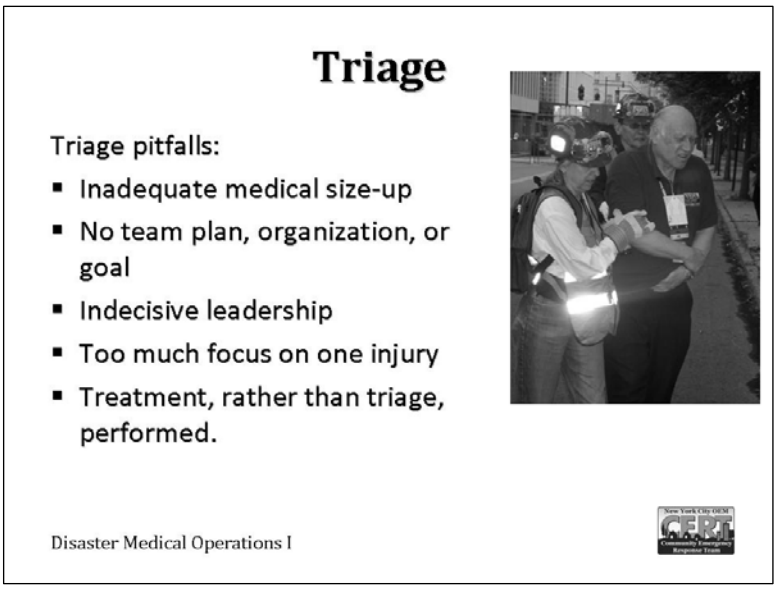


**Key Points**

- 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; and
  - 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.

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# Triage Quiz

Disaster Medical Operations I

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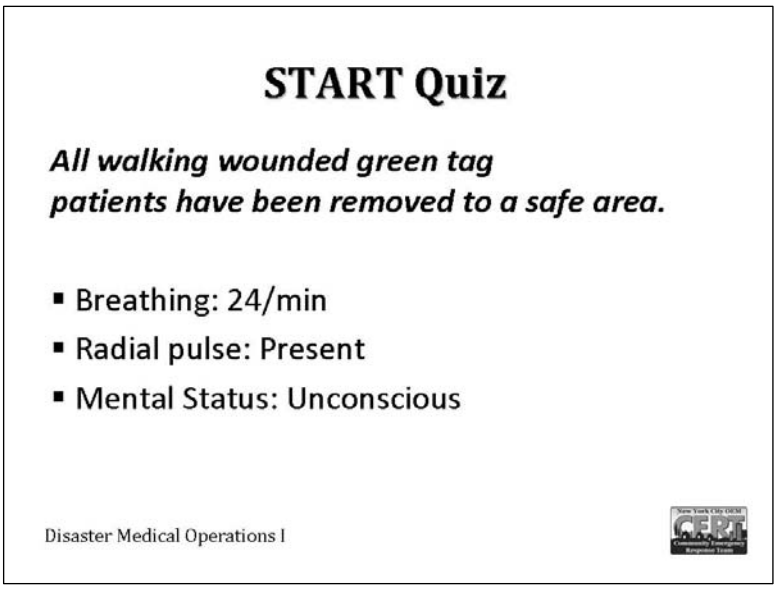


**Key Points**

- 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.

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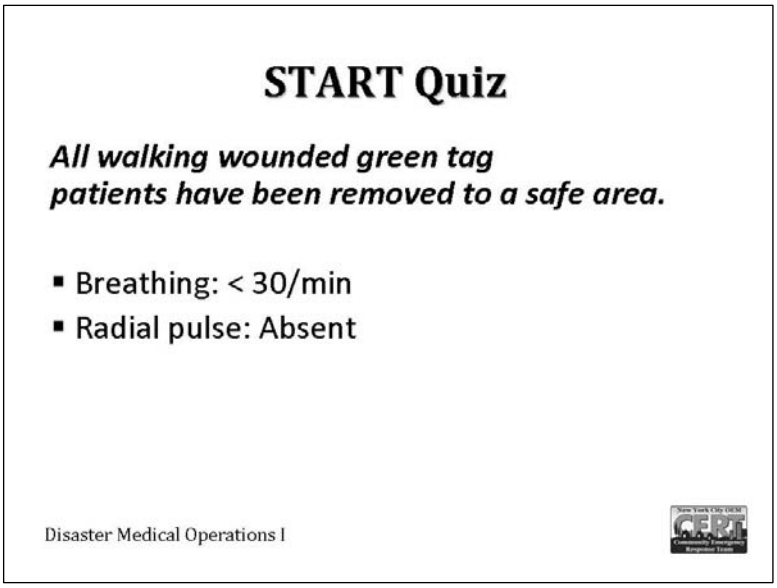


**Key Points**

- 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.

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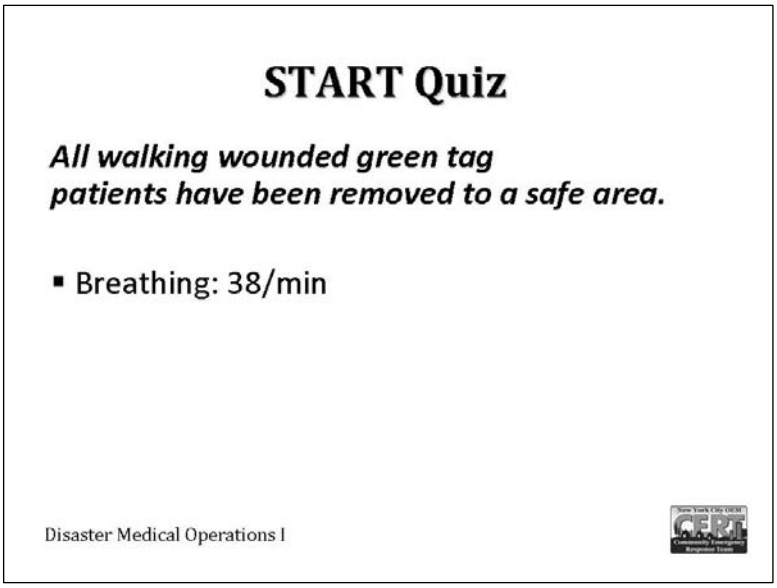


**Key Points**

- 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.

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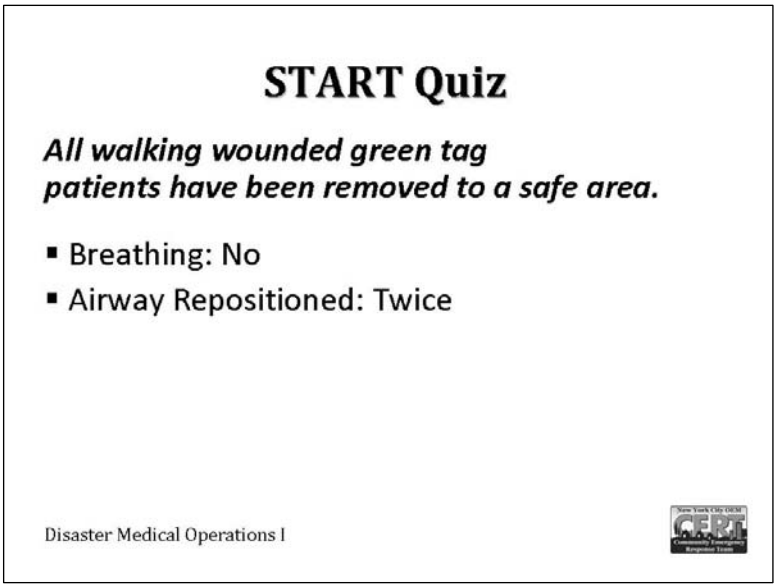


**Key Points**

- 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.

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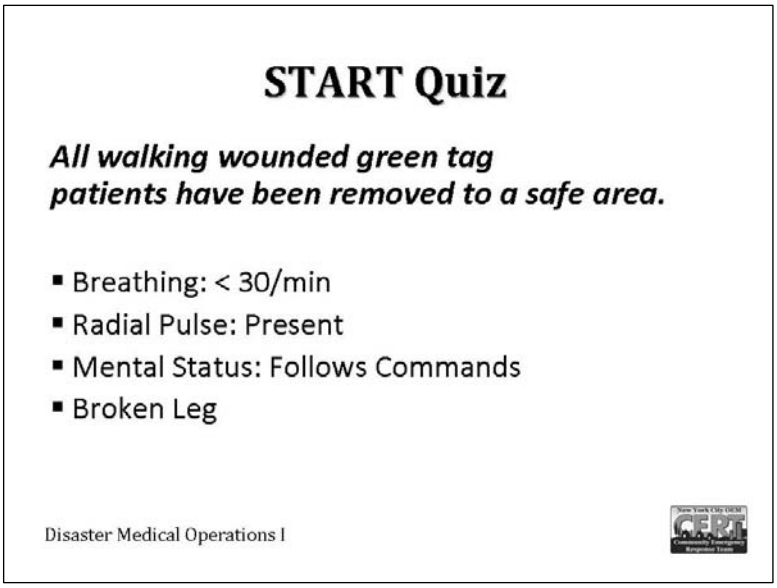


**Key Points**

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

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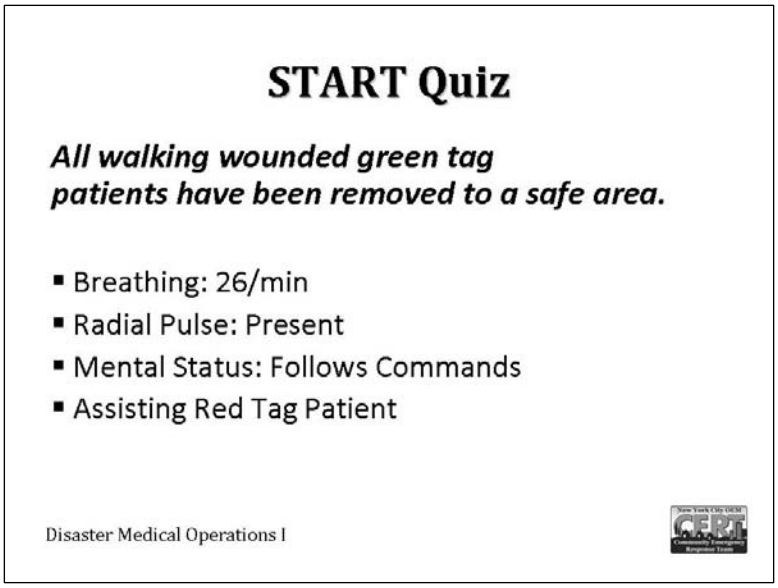


**Key Points**

- Yellow Tag
  - Less than 30 respirations per minute,
  - Radial pulse present, and
  - Able to follow simple commands (answer three questions);
  - **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.

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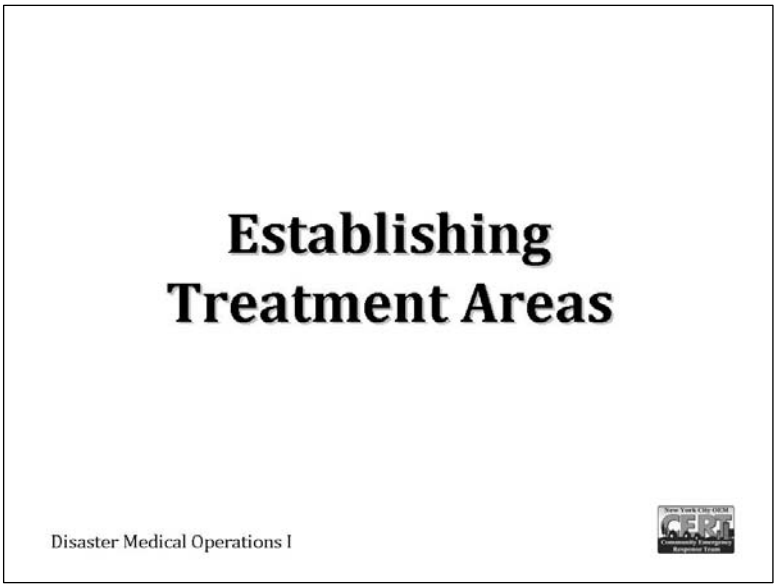


**Key Points**

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

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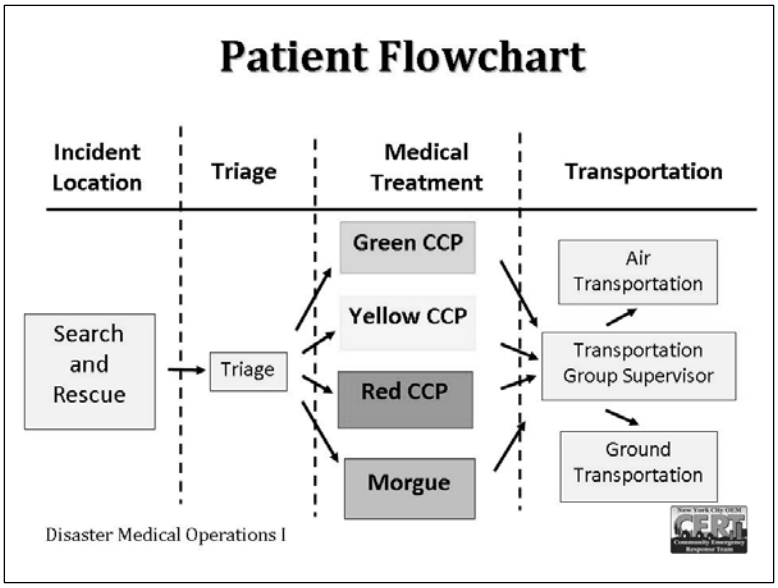


**Key Points**

- 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.

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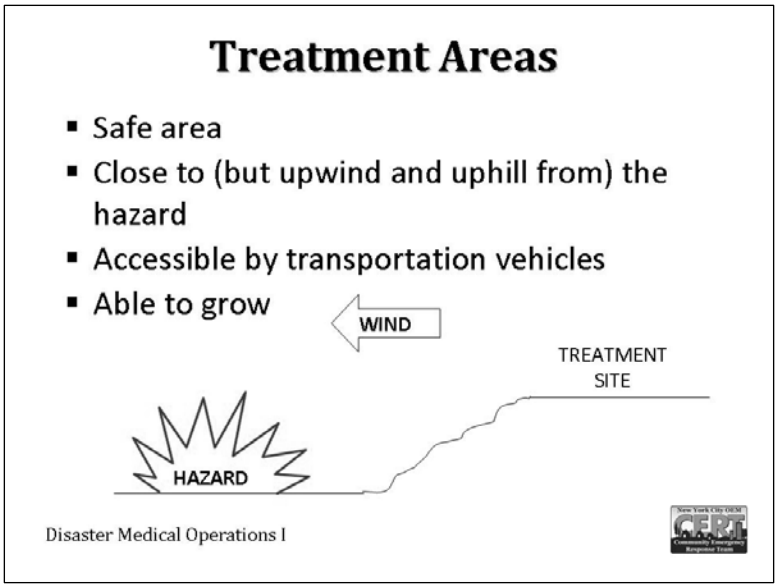


**Key Points**

- 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.

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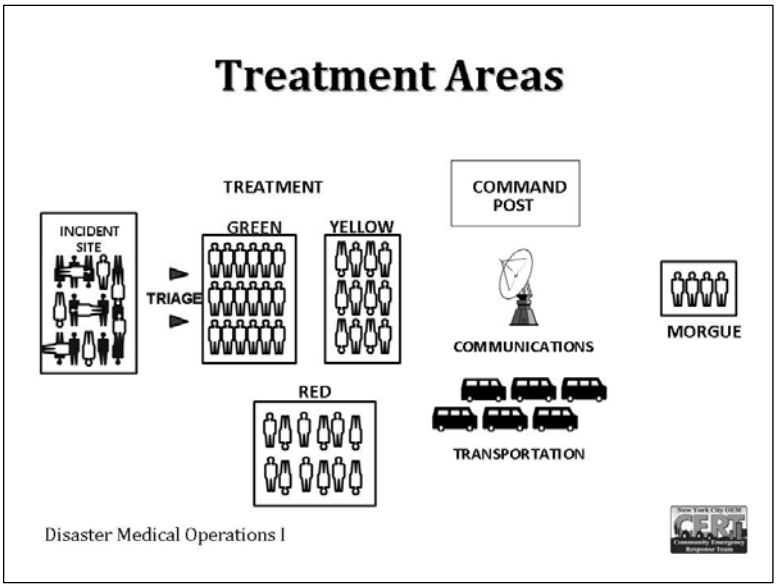


**Key Points**

- 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 tags 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.

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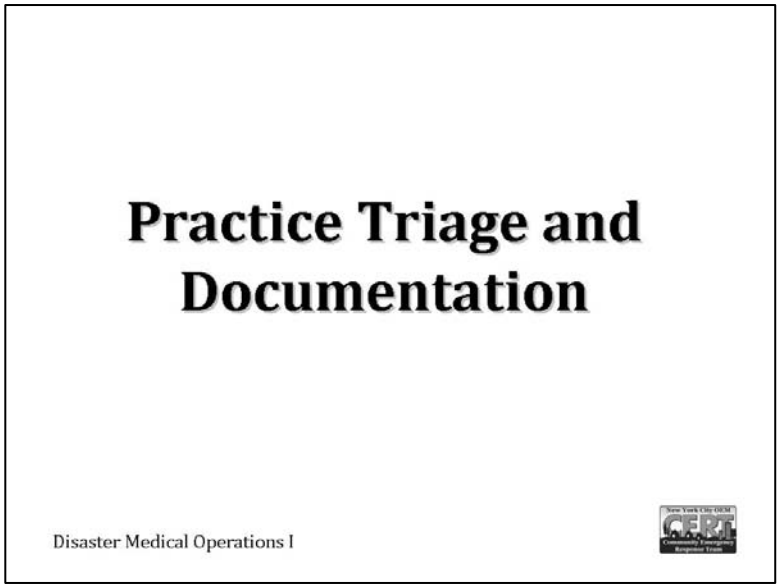


**Key Points**

- 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.

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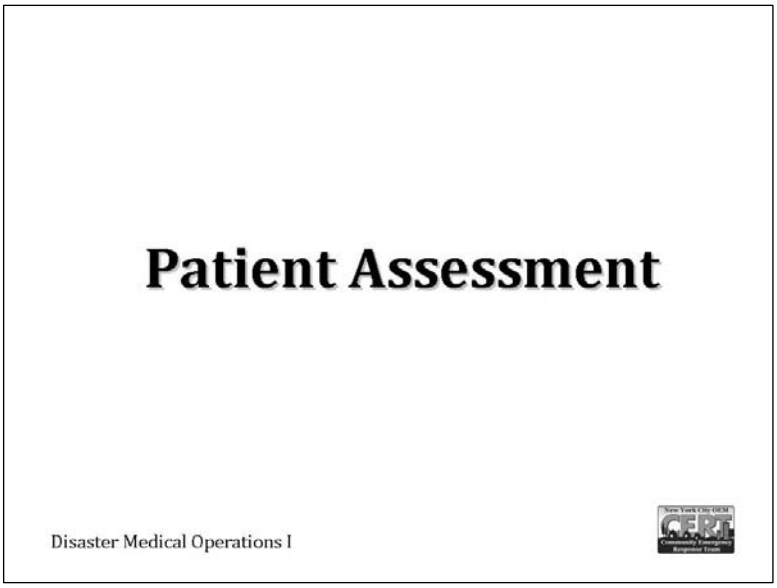


**Key Points**

- Patient assessment and the signs to look for when determining a patient's injuries are important parts to the overall disaster medical operations.
- We will discuss NYC CERT's roles in patient assessment.

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## Conducting Patient Assessment

Head-to-toe assessment:

- Determine extent of injuries and treatment; document injuries.
- Wear personal protective gear.
- Assess all patients.
- Use verbal/hands-on approach.
- Pay careful attention.
- Look, listen, feel.

Disaster Medical Operations I

**Key Points**

- 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.

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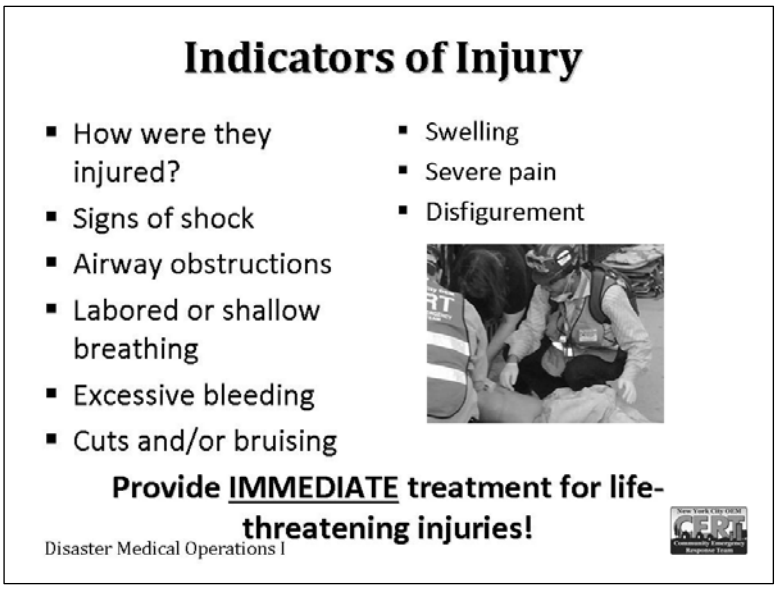


**Key Points**

- 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.

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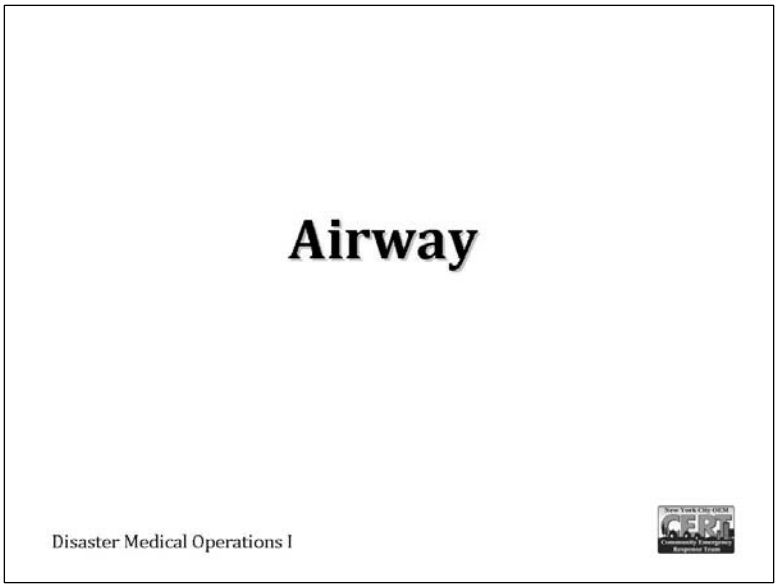


**Key Points**

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

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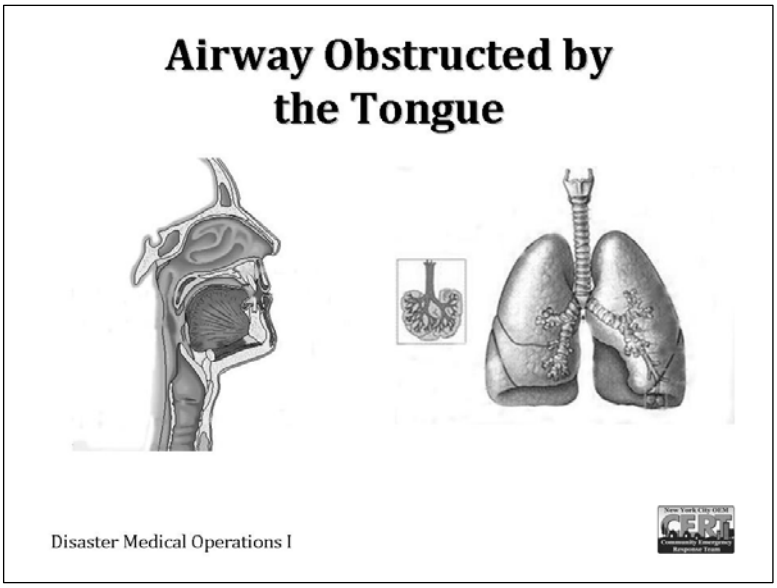


**Key Points**

- 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.

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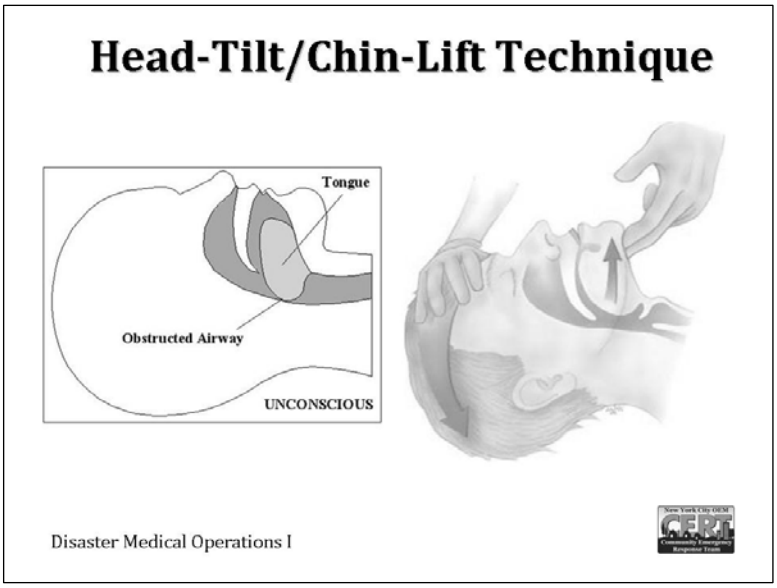


**Key Points**

- 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.

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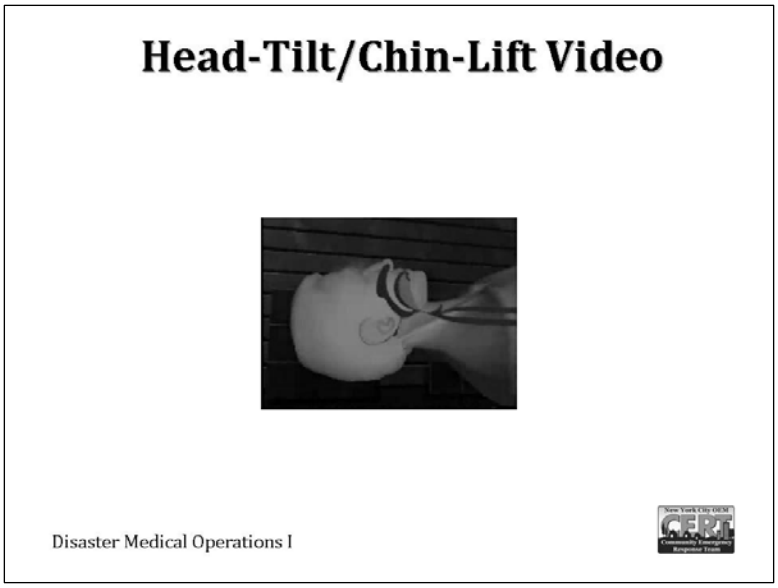


**Key Points**

- 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.

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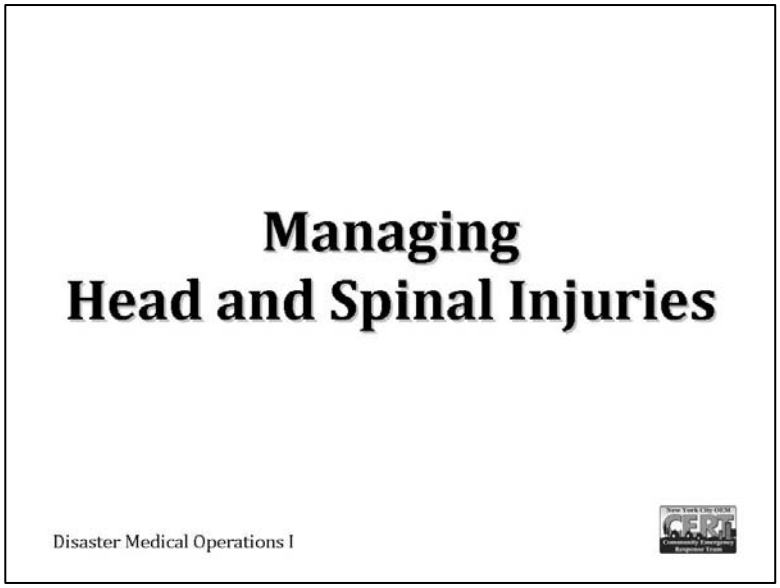


**Key Points**

- Closed head and spinal injuries need specific knowledge of how to manage.
- We will also discuss NYC CERT roles in managing closed head and spinal injuries.

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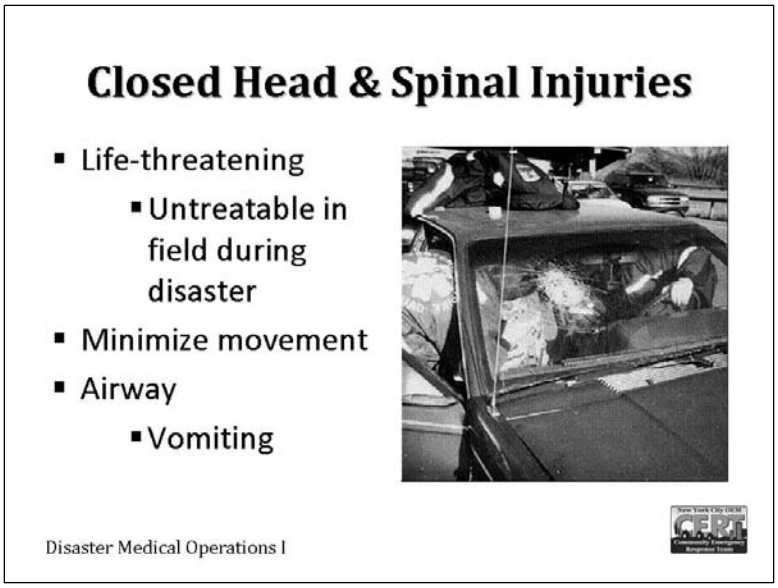


**Key Points**

- 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.

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## 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
- How injured?

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.

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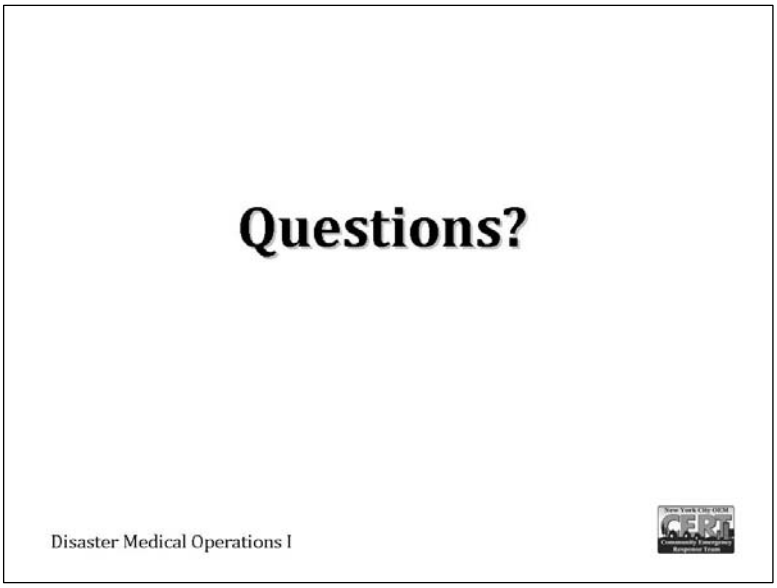


Notes:

## 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, learned this week, during a Ready NY presentation?

## 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.

## EVALUATION

Please fill out the evaluation for Unit 5 in the back of the binder. When completed, please hand in to your OEM liaison.

## UNIT RESOURCES

American Red Cross in Greater New York
http://www.nyredcross.org/

American Heart Association
www.americanheart.org/