# OPERATIONS AT EXPLOSIVE OR INCENDIARY INCIDENTS

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GLOSSARY

Assembly Area
A designated area outside of a building to which building occupants are directed to report upon implementation of a partial or full evacuation in accordance with a comprehensive fire safety and emergency action plan or a fire and emergency preparedness plan.

Improvised Explosive Device (IED)
A device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic or incendiary chemicals and designed to destroy, incapacitate, harass or distract. It may incorporate military stores, but is normally devised from non-military components.

Incendiary
Chemical mixtures and flammable liquids that cause fire.

Medical Group
Group responsible for both the Patient Triage Group and Treatment Unit.

Medical Transport Corridor
The geographical location, established via the Street Management Plan, that shall determine ambulance access to and egress from the scene.

Patient Decon Group
Group that will decontaminate patients, when necessary, before transfer to the Treatment Areas or Transportation Sector.

Patient Relay Point (PRP)
Intermediate location selected to more efficiently remove patients. The PRP will only be necessary and established when the distance or complexity of removal is determined to be beyond the capabilities of a single unit.

NOTE: Patients MUST not be left alone at ANY location.

Patient Removal Corridor (PRC)
The geographical location in which patients are transferred from either the Triage Transfer Point (Red-tag Only) or the Treatment Areas to the Transportation Sector.

Patient Transfer Group
Units responsible for physically moving patients to the Treatment Areas or Transportation Sector.

Patient Triage Group
Units responsible for triage of patients and assigning them to the Treatment Areas or Transportation Sector.

Person Borne IED (PBEID)
An IED worn, carried or housed by a person, either willingly or unwillingly.
Point of Impact (POI)  The Point of Impact is the immediate area around where the detonation occurred. Operations at the initial POI should be considered extremely hazardous and should be limited to reduce the risk to first responders and further impact to victims.

Rescue Corridor (RC)  The geographical location in which patients are transferred from the POI to the Triage Transfer Point. Personnel within this corridor may be limited based on a continuing risk/reward analysis.

Secondary Device  An additional IED used to attack individuals or vehicles after the initial event.

Street Management Plan  Interagency plan that establishes preferred equipment staging and parking to allow for the most efficient movement to and from the scene based on incident objectives.

Transportation Group  Group responsible for the transfer of patients to ambulances and delivering them to hospitals for definitive care. The Transportation Group is dependent on adequate staffing as well as supervision and street management.

Treatment Areas  Areas where medical care is provided to Red, Orange, Yellow and Green-tag Patients.

NOTE: Red treatment areas will only be established by the Medical Group if transportation is delayed.

Triage Transfer Point (TTP)  This is a designated location where medical triage takes place and patients are transferred to Orange, Yellow or Green Treatment Areas. Patients identified as Red-tag patients shall be immediately moved from the TTP(s) to the Transportation Sector. The TTP(s) may act as a relay point provided there is a direct handoff to medical personnel and immediate movement of Red-tag patients to the Transportation Sector. This will ensure continuity of medical care.

NOTE: This point was previously referred to as the Casualty Collection Point.

Patient Triage Tags

<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
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<tr>
<td>Black-tag:</td>
<td>No Transport/Deceased</td>
</tr>
<tr>
<td>Red-tag:</td>
<td>Immediate Transport/Critical</td>
</tr>
<tr>
<td>Orange-tag:</td>
<td>Life Threatening Condition/Urgent</td>
</tr>
<tr>
<td>Yellow-tag:</td>
<td>Non-Ambulatory/Delayed</td>
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<td>Green-tag:</td>
<td>Walking Wounded/Minor</td>
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1. INTRODUCTION

1.1 This bulletin outlines operational procedures for FDNY members at explosive / incendiary incidents, with an emphasis on response tactics and preventive measures.

Objectives of the Fire Department at Explosions
- Extinguish fire impacting life—no need to extinguish nuisance fires.
- Establish Unified Command in compliance with the City Incident Management System (CIMS).
- Ensure safety of the public, FDNY personnel and all emergency responders.
- Recognize the materials and any associated hazards.
- Survey (visually observe) the scene and staging areas to identify secondary threats.
- Establish a Triage Transfer Point.
- Rapid evacuation of victims from the Point of Impact (POI) and development of a Rescue Corridor (RC) and a Patient Removal Corridor (PRC).
- Institute a Street Management Plan.
- Institute a Site Safety Plan.
- Mitigate hazards.
- Decontaminate FD personnel, civilians and the affected area, as necessary.
- Notify the Bureau of Fire Investigation (BFI).
- Assist law enforcement in preservation of the crime scene.
- Restore scene safety before terminating the incident.

2. BACKGROUND / THREAT

2.1 Explosives are a specific type of hazardous material. While chemical, biological or radiological terrorist attacks remain a threat, the most frequently used weapon by terrorists is the conventional bomb, or Improvised Explosive Device (IED). IEDs may be constructed with materials legally purchased at low cost with little skill and can be easily disguised, allowing the bomber to detonate the device from a safe distance without being identified. The size, type and effectiveness of the device may be limited by the attacker’s ability to obtain large quantities of the necessary ingredients.

2.2 Although an IED is usually a crudely designed homemade bomb, when detonated it can be as lethal as conventional military explosives. IEDs may include incendiary materials or hardware to add to its destructive power. Although it is possible to include chemical, biological or radiological material with an IED, the greatest harm remains the explosive itself. IEDs can use commercial or military explosives, homemade explosives, or military ordnance and ordnance components.
2.3 **Targets** - Terrorists have targeted high-profile federal and government facilities. Locations that may also be targeted include those that are either symbolic, high profile or vulnerable to extensive damage and multiple casualties. Members shall maintain situational awareness when operating at all incidents at these locations. When operating at the scene of an explosion at any location, members shall assume the explosion was a deliberate act until declared otherwise.

2.3.1 **Hard Targets** - Hard targets may be areas that are secured and usually staffed by trained personnel or officials. They include government sites, military sites and some critical infrastructure.

2.3.2 **Soft Targets** – Soft targets are buildings, locations, areas or events with limited security and have the possibility of resulting in extensive casualties (e.g. shopping malls, hospitals, schools, houses of worship, foot races, festivals, etc.)

3. **DISCOVERY OF FIREARMS, AMMUNITION AND/OR INCENDIARY DEVICES**

3.1 In the performance of duties, members of the Department may find firearms, ammunition and/or possible incendiary devices. FDNY members are not sufficiently trained to accurately determine the risk. Therefore, **members shall not attempt to handle or move ANY firearm, ammunition or incendiary device**. General actions to be taken include the following:

- The item shall not be disturbed.
- Prompt notification shall be given to the Incident Commander (IC) upon discovery of firearms, ammunition or possible incendiary devices at any operation.
- Members shall establish an isolation area and evacuate civilians as necessary.
- Firearms shall be considered loaded, dangerous and possibly "booby trapped".
- Do not permit anyone to stand in line with the muzzle or breech of any firearm.
- Notifications shall be made to the New York City Police Department (NYPD) and Bureau of Fire Investigation (BFI).
- When consistent with safety, the IC shall assign members to safeguard evidence from a safe distance until the arrival of the NYPD or BFI.
- Evidence should only be handled by the NYPD or BFI and the disposal of dangerous articles shall only be performed by law enforcement.
4. OPERATIONS AT INCIDENTS INVOLVING SUSPICIOUS OR CONFIRMED EXPLOSIVE DEVICES

4.1 Potential Detonation: Operations

4.1.1 Suspicious IED: NYPD not on scene

When units are on the scene of a suspicious explosive device prior to police department personnel, the procedure shall be as follows:

- Upon arrival, personnel and equipment should be located in a safe location, strategically positioned for quick deployment. Establish open lines of communication, keeping in mind possible power failures resulting in elevator and fire pump failure. Apparatus should be positioned to avoid heavy window glass fallout. Apparatus staging areas should be surveyed for potential secondary devices.

- HT and cell phones shall not be used within 150’ of a suspected device, and Apparatus, Post and Marine radios should not be operated within 300’ of a suspected device. **These distances are only guidelines and should not normally hamper FDNY operations since the isolation zone surrounding a device would generally exceed 300’**.

- Since water mains in proximity to the device could be rendered inoperable following a detonation, Engine Companies shall identify hydrants on mains other than those near the device. When necessary, the Department of Environmental Protection (DEP) should be requested for assistance.

- Establish a perimeter based on recommended distances (Appendix 2) and evacuate people from exposed areas. Always assume that if you can see the device you are operating in a potential kill zone.

- Establish the Incident Command Post (ICP), and if possible, a Staging Area, out of the line of sight of the device and away from any secondary threats. Request law enforcement to search these areas for secondary devices.

- Begin planning the development of a Rescue Corridor (RC) and a Patient Removal Corridor (PRC).

- Members should be aware of possible secondary devices and survey all areas of operation for signs of such devices. If one is found or suspected, notify the IC; withdraw members and viable victims to a safe area and request law enforcement to investigate.

- Continually survey the area for threats such as suspicious people and items.

- Members shall not enter a structure or building to search for explosive devices.
• Notify the dispatcher of your location and status, and request NYPD response to ensure that the Medical Transport Corridor remains intact and free of obstruction.

• The FDNY IC will inform all other agencies of actions taken upon their arrival.

4.1.2 Suspicious IED: NYPD on scene

• Follow guidelines outlined above in 4.1.1 in addition to those listed below.

• When requested by the NYPD to standby at a suspicious device, 1 Engine, 1 Ladder, 1 Battalion Chief, 1 EMS Officer and 1 BLS ambulance shall be assigned.

  **NOTE:** If the incident is below grade, Fire and EMS dispatchers will assign 2 Engines, 2 Ladders, 1 Battalion Chief, 1 EMS Officer and 1 BLS ambulance.

• The FDNY IC shall consult with the NYPD IC and ascertain if the device is still deemed “suspicious” or has been “confirmed.”

• If the presence of an IED is indicated or suspected and the NYPD is on scene, comply with CIMS protocols. The FDNY IC shall report to the NYPD IC for the purpose of cooperation and information-sharing. When reporting to the NYPD IC, proper identification by rank, unit and name shall be given.

• The FDNY IC shall evaluate the overall scene and inform the NYPD IC where Fire Department personnel and equipment would best be utilized. Complete information shall be collected from the NYPD IC for prompt transmittal to the dispatcher. Necessary progress reports shall be relayed to the borough dispatcher.

• Fire Department personnel are to be under the complete control and jurisdiction of the FDNY IC at all times.

• Cooperation with police personnel shall be considered as, but not necessarily limited to, the following:
  
  o Evacuation of persons from danger areas.
  
  o Stretching of necessary precautionary lines and assuming standby positions.
  
  o Use of ladders and forcible entry to non-involved occupancies.
  
  o Informing the NYPD of the direction and location of the Rescue Corridor and the Patient Removal Corridor.
  
  o The need to keep the EMS Staging Area unobstructed.
  
  o **Survey** of all FDNY operating locations for potential secondary devices.
4.1.3 Confirmed IED

- Continue to follow guidelines outlined above in 4.1.1 and 4.1.2.

- When the NYPD Bomb Squad **confirms** the presence of an IED, the FDNY IC shall:
  - Notify the BFI.
  - Request resources necessary to address required evacuations and the aftermath of the potential detonation/destruction.
  - Request resources to develop and support the Rescue Corridor and Patient Removal Corridor.
  - Transmit response instructions. This will allow incoming units to avoid unsafe response routes/areas and prevent the unnecessary obstruction of EMS Staging Areas and the Medical Transport Corridor.

- Within the limits of safety, FDNY members should make contact with personnel from potentially affected buildings. Custodial engineers should be available to furnish keys and provide directional guidance. Control valve locations for sprinklers, standpipes and utilities should be obtained as water damage has been extensive in past explosions.

- Provide FDNY members at designated Assembly Areas to keep evacuees informed as to the incident status.

- Flexible evacuation and containment areas should be established based on:
  - Time: (estimation of when the device may go off, if available)
  - Distance: (see Appendix 2 for evacuation distances)
  - Shielding: (presence of heavy structures or materials)

  **NOTE:** If an explosion occurs, stay down to minimize the effects of the negative shock wave.

- The FDNY IC, in consultation with the on-scene Rescue Company, Haz-Mat 1 and Safety Chiefs, along with law enforcement, will determine what equipment may be used on scene.

- Establish a Rescue Corridor and a Patient Removal Corridor.

4.1.4 Unit Staging

When possible, FDNY resources shall be staged to allow for a two-sided approach to the POI in the event the device detonates. Keep in mind that shock waves move around buildings and fragments or shrapnel can travel faster than a bullet. Avoid areas where window glass may fall on staged personnel or apparatus.
The FDNY IC should begin establishing a Street Management Plan.

- Select a Staging Area remote from the scene for Fire units.
- Confirm the location for an EMS Staging Area with the Medical Branch Director.
- Ensure that the NYPD IC and all FDNY personnel are notified of staging locations. Transmit this information over the department radio for units not on scene. Consideration should also be given to transmitting this information on the 800 MHz radio and appropriate interoperability (I/O) channel.
- Responding units shall be notified to avoid the area of the device and report to the designated staging areas.

4.1.5 At both pre-detonation and post-detonation responses, it is critical to ensure a coordinated effort between agencies (i.e. FDNY, NYPD and Federal Law Enforcement). Each agency must understand the other’s objectives to effectively and safely mitigate the incident.

- Identify a Rescue Corridor, Patient Removal Corridor and Medical Transport Corridor to rapidly evacuate victims.
- Inform the NYPD of the need to keep the EMS Staging Area unobstructed.

5. OPERATIONS AT INCIDENTS INVOLVING DETONATED EXPLOSIVE DEVICES

5.1 Post Detonation: General

The primary mission of the FDNY at explosions, whether intentional or accidental, is to save lives. While operating at these incidents, members shall be guided by the following considerations:

- Safety of the public and members of the Department.
- Search and Rescue.
- Pre-Hospital Emergency Medical Care.
- Hazard Mitigation (e.g. collapse, fire, etc.)
- Safeguarding and Preservation of Evidence.

After an explosion occurs, strategies may include rescue, defensive operations, offensive operations or a combination of such. The goal of perpetrators committing these acts is to injure or kill as many people as possible, with the potential for using secondary devices to injure or kill first responders. Operations at the initial POI must be limited to reduce the risk to first responders and further impact on victims.
5.1.1 First Arriving Units (General)
- Transmit a preliminary report describing the scene, number of victims, resources required and possible location of the ICP. Consider transmitting a 10-60 with the appropriate code.
- Provide information for the staging of incoming units in a protected area using distance and/or shielding. This area should be identified in conjunction with the NYPD.
- Evacuate endangered civilians.

5.1.2 Hazard and Risk Assessment
- Units shall conduct a 360° survey and approach all explosions as deliberate acts. Be alert and survey the scene for secondary threats and hazards. When possible, avoid any potential receptacles for secondary devices such as garbage cans, parked vehicles, mailboxes, etc.
- Inspect the structural stability of surrounding buildings.
- Avoid windows and falling glass.

5.1.3 Safety of Members
- Ensure that responding apparatus are not positioned in the immediate area of the POI.
- Members should don appropriate PPE. However, members should not don their SCBA facepieces unless there are indications of respiratory danger based on victim reaction (SLUDGEM) or meter readings. Wearing the facepiece could inhibit vision at this type of operation.
- EMS units shall follow procedures detailed in Section 5.5.
- Fire units should respond to the POI and Triage Transfer Point with the following equipment:
  - Meters
  - Skeds
  - Tourniquets
  - Triage tags
  - CFR equipment
- Do not approach a suspect’s remains or explosives still on the scene; there may be undetonated or partially detonated explosives present, or a secondary device. These items may be susceptible to external stimuli or have a functioning backup system, secondary initiator or delayed timer. Components of the device may still pose a hazard.
- Use the reach of stream to avoid placing members in the danger area.
• Refrain from opening doors, lockers, pails, etc.
• Stage incoming units in a protected area that has been searched for threats. Request the NYPD to conduct all searches. FDNY members assigned to a Staging Area must also conduct a thorough survey of the area to ensure that all threats and suspicious objects are identified and mitigated.

**NOTE:** Members of the FDNY are not trained to conduct a search for explosive devices. Members are to survey (visual observation) the Staging Area but shall not conduct a search for devices.

• Leave emergency vehicles that were inside of the primary blast/crime scene area in place until the NYPD Bomb Squad can determine they are safe to move and moving them will not destroy key evidence.

5.2 Post Detonation: Mass Casualty Incident (MCI)

At emergencies involving IEDs with multiple casualties, our mission takes on a greater level of complexity as our strategies must include public and first responder safety within the context of possible additional hazards. The following guidelines support the execution of FDNY Core Competencies. These guidelines are based on the following priorities:

• Priority removal of critically injured patients (Red-tag).
• Coordination of Fire and EMS resources.
• Positioning medical resources to maximize medical care.
• Establishing the structure of the incident early to best facilitate patient removal.
• Search and Rescue.
• Fire Suppression.

The rapid removal of patients from the POI can be most efficiently accomplished by establishing the following operational plan:

• Resources at the POI should identify those most critically injured. These victims are then removed to the Triage Transfer Point via the Rescue Corridor where they shall be triaged and tagged. Red-tag patients will be moved directly to the Transportation Sector, via the Patient Removal Corridor, where they will be immediately transported to medical care facilities. The remaining patients will be removed to appropriate Treatment Areas for ongoing triage and transport.

**NOTE:** Refer to the diagram in Appendix 3 for a graphical depiction.
FDNY operational strategies may include rescue and/or defensive operations. At times, a combination of these strategies may be necessary to protect life. A risk/reward analysis will have to be made at the scene regarding resource commitment at the POI. It is incumbent upon the FDNY IC to limit members operating at the POI to those necessary to achieve strategic and tactical objectives. Depending on conditions (i.e., IDLH) this may consist of utilizing only the first arriving Engine and Ladder. These decisions are based on a continuous risk/benefit analysis of conditions.

5.2.1 All units responding to MCI incidents must consider the national, conceptual model “THREATS”:
- **Threat Suppression.**
- **Hemorrhage / Airway control.**
- **Rapid Extrication of critical victims.**
- **Assessment and triage by medical providers.**
- **Transport of victims to designated hospitals.**
- **Site management (law enforcement).**

5.2.2 **Threat Suppression** of secondary devices, fire, smoke, hazardous materials or collapse may have to be addressed first or simultaneously with mass casualty care. First arriving units will conduct a size-up and risk/benefit assessment before deciding to enter the scene. Specific strategies and tactics to address these threats shall conform to procedures outlined in Department publications such as Firefighting Procedures, Hazardous Materials Tactics, Collapse Operations and EMS Operating Guide Procedures (OGP).

5.2.3 **Hemorrhage / Airway Control** is a lifesaving medical intervention that should be applied at the POI. This supports the main concept of Basic Life Support and Tactical Emergency Casualty Care composed of the following actions within the limits of safety:
- Identify victims requiring rapid extrication. (i.e., exhibiting life threatening injuries such as severe hemorrhaging, amputation or compromised airway).
- Apply hemorrhage control (tourniquet) and/or airway management on these patients.

5.2.4 **Rapid Extrication** from the POI via skeds. Within the limits of safety, preparation for removal should occur in conjunction with lifesaving medical interventions and will require coordination, involving firefighters and EMTs/Paramedics. This may consist of various configurations depending on scene conditions and should be based on the establishment of the following:
- Rescue Corridor
- Patient Relay Point (when necessary)
• Triage Transfer Point—the functionality of this point is dependent on the establishment of two groups:
  o Patient Triage Group
  o Patient Transfer Group
• Patient Decon Group (when necessary)
• Treatment Areas
• Patient Removal Corridor
• Medical Transport Corridor
• Transportation Group

5.2.5 Assessment of patients by medical providers (Paramedics, EMTs or CFRs) will occur following standard protocols to appropriately triage and treat patients. At incidents involving IEDs, there is a possibility that a victim may be one of the suspects. If a suspicious device is discovered on a victim during patient assessment, immediately cease the assessment, notify the IC, law enforcement and all first responders in the area, and evacuate forthwith.

5.2.6 Transportation of Patients to ambulances so that they may be delivered to hospitals for definitive care. The Transportation Group is dependent on adequate staffing, supervision and street management. It is imperative that the Medical Transport Corridor is kept clear of traffic to maintain both access and egress. This corridor should be established and maintained early in the operation by the implementation of a Street Management Plan. Communication and coordination with law enforcement will support this objective.

5.2.7 Site Management contains two important objectives: the safety of responders and crime scene investigation. This is particularly vital for an IED event where the threat of a secondary device must be considered as part of the incident response strategy. The FDNY IC shall ensure that law enforcement provides force protection and perimeter security.

5.3 Post-Detonation: Fire Branch

When operating at the POI, a secondary device detonation is always possible. Therefore, the goals are to limit member operating-time in this area while triaging and removing as many critical victims as possible to the Triage Transfer Point. Conduct a rapid patient assessment by:

• Opening the victim’s airway by repositioning their head once to assess for respirations.
• Controlling massive hemorrhaging of a viable victim to save life. This may entail the use of a tourniquet.

**NOTE:** During this assessment, if there are indications that the victim may be wearing a person-born IED, immediately notify the IC, law enforcement and all first responders in the area, and evacuate forthwith. This will ensure we do not bring a threat to a Triage Transfer Point.

Rapid evacuation of victims from the POI to the Triage Transfer Point, and subsequently to Treatment Areas (or Transportation Sector for Red-tag patients) is necessary. The movement of victims may include:

• Rapid evacuation of critical victims from the POI.
• Verbal or hand-signals to direct ambulatory victims where to go (Green Treatment Area).
• Deceased (Black-tag) victims left in place.

All viable, non-ambulatory victims MUST be moved to the Triage Transfer Point, where they will be directed to the appropriate Treatment Area.

• **Critical** patients shall be Red-tagged and immediately removed to the Transportation Sector to be brought to a local hospital for definitive care.
• **Urgent** patients shall be Orange-tagged and removed to a separate Orange Treatment Area.
• **Non-life threatened** patients shall be Yellow-tagged and removed to a separate Yellow Treatment Area.
• **Minor-injured, ambulatory** patients (Green-tagged) shall be directed from the POI to the Green Treatment Area, remote from the Triage Transfer Point.

**NOTE:** All injured patients shall be transported from the incident as soon as possible unless they refuse medical attention.

**Operational Guidelines**

The following initial operational guidelines are intended to address the need to rapidly triage and evacuate victims from the POI, as well as the potential need for fire suppression. Incipient fires can be ignored if not a threat to victims and first responders. The FDNY IC shall utilize additional Fire resources to handle:

• Fire Suppression (when necessary)
• Search and Rescue
• Support of Medical Branch Operations
• Additional Metering
5.3.1 **First Arriving Engine Company**

- If first unit on scene, confirm the location of the POI using plain language on the department radio. Notify the dispatcher and advise incoming units that an explosion has occurred, so that all incoming units may alter response routes when necessary. Consider staging in a protected area, being mindful of distance and/or shielding.

- Consider transmitting a 10-60 with the appropriate code.

- Properly position the apparatus, establish water supply, stretch a precautionary 2½" hoseline and, when necessary, knock down fires threatening victims.

- While stretching a precautionary line, if a Ladder Company is not on scene or delayed, the Engine Officer should enter the POI to determine the following:
  - Number of victims
  - Initial location of the ICP
  - Initial location of the Triage Transfer Point
  - Preferred routes for evacuation and removal of victims (Rescue Corridor)

  **NOTE:** Relay this information to the Engine Company Chauffeur (ECC) for transmission over the department radio for all incoming units.

- If there is no threat of fire, remove skeds and CFR equipment for use in the POI.

- If a Ladder Company is *still* not on the scene after all of the above actions have been taken, enter the POI and begin conducting rapid assessments as per Section 5.3.

  **NOTE:** During the rapid assessment, if there are indications that the victim may be wearing a person-borne IED, immediately notify the IC, law enforcement and all first responders in the area, and evacuate forthwith.

- Only deceased victims should be tagged in the POI (Black-tag).

- Use skeds to remove critical victims from the POI to the Triage Transfer Point.

- If there are no EMS units at the Triage Transfer Point, then proceed with triage of critical victims.
• Upon arrival of the 1st Ladder Company, the Ladder Company Officer must make contact with the Engine Company Officer to determine further commitment of staffing. All effort must be made to continue to limit members operating in the POI.

5.3.2 Second Arriving Engine Company

• Properly position the apparatus and establish water supply. Do not block the Patient Removal Corridor or Medical Transport Corridor.

• Remove meters, skeds and CFR equipment from the apparatus and report to the Triage Transfer Point.

• If no Ladder Companies are on the scene, determine from the 1st arriving Engine if assistance is needed with victim assessment and removal from the POI.

• If Ladder Companies are on scene, the 2nd Engine can be used to:
  o Assist in triage.
  o Utilize skeds to assist in the removal of victims to the various Treatment Areas or to the Transportation Sector.

• The 2nd arriving Engine Officer must remain at the Triage Transfer Point and assume control until relieved by a Battalion Chief. This officer will be responsible for:
  o Supporting EMS operations.
  o Providing information and situational awareness to the FDNY IC (until relieved).
  o Providing Patient Tracking Information, including:
    ▪ Number of patients
    ▪ Identification information
    ▪ Patient tag designation (as available)
    ▪ Location removed to: Treatment Areas or identity of hospital

5.3.3 Additional Engines Companies can be used to:

• Support fire suppression.

• Support medical functions (e.g. patient triage or movement of patients). If assigned to support the Medical Branch, units must report to the Triage Transfer Point with assigned skeds and CFR equipment.

• Provide hoselines for decontamination as needed.

• Be aware that members may need to assist EMS during transportation.
5.3.4 First Arriving Ladder Company

- If first unit on scene, confirm the location of the POI using plain language on the department radio. Notify the dispatcher and advise incoming units that an explosion has occurred, so that all incoming units may alter response routes when necessary. Consider staging in a protected area, being mindful of distance and/or shielding.

- Consider transmitting a 10-60 with the appropriate code.

- Properly position the apparatus and remove meters, skeds and tourniquets.

  **NOTE:** If the incident involves the Subway System, the 1st arriving Ladder Company must set up the CORE relay. Skeds and other equipment must be brought to the platform by other units.

- While members are removing necessary equipment, the Ladder Officer should enter the POI to determine the following:
  - Number of victims
  - Initial location of the ICP
  - Initial location of the Triage Transfer Point
  - Preferred routes for evacuation and removal of victims (Rescue Corridor).

  **NOTE:** Relay this information to the Ladder Company Chauffeur (LCC) for transmission over the department radio for all incoming units.

  - Enter the POI and begin conducting rapid assessment as per Sec. 5.3.

  **NOTE:** During the rapid assessment, if there are indications that the victim may be wearing a person-borne IED, immediately notify the IC, law enforcement and all first responders in the area, and evacuate forthwith.

- Only deceased victims should be tagged in the POI (Black-tag).

- Give verbal commands and hand-signals to ambulatory victims.

- Use skeds to remove critical victims from the POI to the Triage Transfer Point.

- If there are no EMS units at the Triage Transfer Point, then a member must remain with patients at the location until relieved, ensuring continuity of care. Members may be relieved by:
  - EMS personnel
  - A CFR unit
• If the distance to the Triage Transfer Point is too long, the 1st Ladder Company may establish a Patient Relay Point (PRP) where they will transfer each victim to the 2nd Ladder Company. The 1st Ladder Company will return to the POI with empty skeds from the 2nd Ladder Company for retrieval of more victims. If a PRP has been established by the 1st Ladder Company, then the 2nd Ladder Company will continue victim removal from the PRP to the Triage Transfer Point. This process will be more effective and help limit the number of members operating in the POI.

**NOTE:** Patients MUST not be left alone at ANY location.

• If numerous victims need removal to the Triage Transfer Point, the 1st arriving Ladder Company Officer must notify the FDNY IC for assistance. If the FDNY IC is not on scene the 1st Ladder Company Officer can directly request assistance from the 2nd Ladder Company Officer or 1st arriving Engine Company (if not engaged in fire suppression).

### 5.3.5 Second Arriving Ladder Company

- Properly position the apparatus. Do not block the Patient Removal Corridor or Medical Transport Corridor.
- Assist or provide relief at the POI as requested and needed.
- Remove meters, skeds and tourniquets.
- Report to the Triage Transfer Point and assist in the removal of patients to either Treatment Areas or the Transportation Sector.

**NOTE:** If the incident involves the subway system, the 1st arriving Ladder Company is responsible for the **CORE** relay. The 2nd Ladder must now conduct reconnaissance of the POI.

### 5.3.6 Additional Ladder Companies and SOC Units

Additional Ladder Companies and SOC Units can be used for:

- Fire Suppression or Emergency Operations
- Search and Rescue
- Support along the Patient Removal Corridor
- Additional metering
- Addressing other hazards:
  - Survey for secondary devices  
  - Collapse  
  - Confined space  
  - Hazardous material assessment
5.4 Post-Detonation: Command Assignments (Fire)

5.4.1 The 1st arriving Battalion Chief and NYPD Supervisor shall establish a Unified Incident Command Post.
   - According to CIMS, Incident Commanders must be in “voice, visual and arm’s distance of each other.”

5.4.2 The FDNY IC should request NYPD assistance at the Transportation Sector to assist in implementation of the Street Management Plan.

5.4.3 Unified Command strategic objectives consist of:
   - Public and first responder life safety.
   - Lifesaving care and immediate removal of Red-tag patients from the scene.
   - Medical care and removal of all patients to the hospital.
   - Mitigation of fire, smoke, collapse or hazardous materials.

5.4.4 Assignments

   All Chief Officers must report in with their assigned Post Radios. This is crucial to effective sectoring as the incident increases in scale and staffing.

   A. First Battalion Chief

   While responding, notify units to use caution, use meters for initial environment assessment, and gather information regarding on-scene conditions. Determine if the location of the incident, a Patient Removal Corridor, and/or the Triage Transfer Point have been established. Confirm Medical Branch resources have been assigned and if an EMS Staging Area has been established. Ensure all information gathered is transmitted over Fire and EMS dispatch frequencies.

   Assume Incident Command upon arrival and take the following actions:
   - Confirm the location of the incident, on-scene conditions and the establishment of the Rescue Corridor, Patient Relay Point and Triage Transfer Point. Transmit this information over the HT and department radio.
   - Announce the location of the ICP. Conduct a scene size-up and deploy units and resources to address mass casualties, fire, smoke, hazardous material or collapse operations.
   - If it is determined that on-scene conditions will not affect the safety of FDNY members and victims, direct all FDNY members to don the appropriate level of PPE and have units conduct mass casualty operations utilizing skeds, tourniquets, triage tags, etc. This information shall be transmitted via the handie-talkie (HT) and department radio for incoming units.
• Work with the 1st arriving EMS Conditions Officer to determine the Patient Removal Corridor, Treatment Areas and Transportation Sector.
• Transmit higher alarms or special call resources to support the strategy and tactics to be implemented.
• Provide progress reports as required.

**B. Second Arriving Battalion Chief**

Report to the Triage Transfer Point.

• Coordinate with, and support, the EMS Officer assigned to the Triage Transfer Point. Provide situational updates to the FDNY IC and request additional Fire resources to support the operations of both the Patient Triage Group and Patient Transfer Group.

**E. Third Arriving Battalion Chief**

Report to the POI.

• When there are no additional hazards impacting operations, the primary responsibility of this Chief Officer will be to support assessment/ triage, lifesaving medical treatment and removal operations. Call for additional Fire and EMS resources as needed, and continually monitor the scene for potential safety hazards.

**F. Fourth Arriving Battalion Chief**

Report to the Transportation Sector.

• Ensure the implementation of the Street Management Plan.
• Coordinate with, and support, the Transportation Group Leader. Provide updated information to the FDNY IC and call for additional Fire resources to support the operations of the Transportation Group.
• Request the cooperation of the NYPD in order to maintain the Medical Transport Corridor clear of traffic for ambulance access and egress.

**Deputy Chief (Fire)**

Assume Incident Command upon arrival.

• Review ongoing operations and deployment of units to ensure that the strategic goals of mass casualty care, fire suppression, search, collapse rescue or hazardous materials mitigation are either in progress or are being implemented.
- Ensure the transmission of progress reports. Ensure the transmission of additional alarms or call for special resources to support ongoing incident operations.
- Effective operations will be heavily dependent on the early establishment of a Communications Plan with the appropriate use of primary and secondary tactical frequencies, command channels and interoperable communications.

5.5 Post-Detonation: Medical Branch

5.5.1 First Arriving Units (EMS)

- Upon arrival, select an appropriate area for the staging of EMS resources and report to the ICP. Estimate the number of patients and the extent of injuries, initiate triage, and request additional EMS resources.
- EMS will make a final determination of the Triage Transfer Point location and communicate this location to the FDNY IC. Early identification and establishment of this point serves as the core of a successful MCI operation.
- Provide a preliminary radio report. Advise incoming ambulances of the preferred access and egress route.

5.5.2 Points / Groups

The 1st arriving EMS Officer will establish the following:

- Medical Group:
  - Triage Transfer Point
  - Treatment Areas (Orange, Yellow and Green)
- Transportation Group

**NOTE:** The Medical Branch Director shall assign staff based on need and resource availability.

Triage Transfer Point

- Patient Triage Group comprised of a minimum of an EMS Officer and ambulance.
- Patient Transfer Group made up of 2nd arriving Fire units and the 2nd arriving Battalion Chief.
- Operations at the Triage Transfer Point shall be coordinated by the EMS Officer and a Battalion Chief.
- Priority will be given to identifying and removing Red-tag victims. The FDNY IC and Medical Branch Director shall be updated every 15 minutes with the number of Red-tagged patients remaining at the Triage Transfer Point and any need for additional resources for transportation.

- The FDNY IC and Medical Branch Director shall ensure the establishment and maintenance of the Patient Removal Corridor for the Transportation Group.

**Treatment Areas**

- Orange, Yellow and Green Treatment Areas will be established as needed.  
  **NOTE:** Red Treatment Areas will only be established by the Medical Group if transportation is delayed.

- An EMS Officer shall be assigned as the Treatment Unit Leader. When necessary, a Battalion Chief will also be assigned to assist in coordination of resources in the different Treatment Areas.

The Treatment Unit Leader assumes responsibility for patient treatment and preparation for transport at these points, and directs the movement of patients to transport location(s).

**Transportation Group**

- The purpose of this group is to facilitate the movement of patients via ambulance to area hospitals.

- Coordinate with the FDNY IC to ensure that the Street Management Plan allows access and egress from the ambulance staging location. All units shall assist in maintaining clear routes for ambulances.

- An EMS Officer shall be assigned as the Transportation Group Supervisor and will be assisted by a Battalion Chief.

- The Transportation Group Supervisor will:
  - Ensure an adequate location and sufficient resources for the Transportation Group.
  - Coordinate patient transportation and destination, and the maintenance of records relating to patient identification and type of injuries.
  - Direct operations so that patients are removed from the scene according to their triage status, with Red-tag patients receiving first priority.
  - Coordinate with the Medical Branch Director to avoid overloading any one specific hospital.
• An EMS Officer will be assigned as the Patient Tracking Coordinator.
  o The Patient Tracking Coordinator maintains communication with hospitals and/or other medical facilities to ensure proper patient transportation and coordinates information through the Transportation Group Supervisor.
• The Patient Tracking Report (EMS form 106.20.01) is to be filled out by the Patient Tracking Coordinator.

5.6 Post-Detonation: Command Assignments (EMS)

5.6.1 First Arriving EMS Officer
• The 1st arriving EMS Officer will report to the ICP as the Medical Branch Director until relieved.
• The Medical Branch Director will keep the FDNY IC informed of the number of patients and their triage categories.
• Confirm the location and establishment of the Triage Transfer Point, Treatment Areas, Patient Removal Corridor and Transportation Sector, ensuring appropriate staffing in each.

5.6.2 Second Arriving EMS Officer
• Make contact with the Medical Branch Director.
• Transfer Medical Branch if Higher Rank
• Establish groups/sectors with priority to the Triage Transfer Point
• Ensure both the Patient Triage Group and Patient Transfer Group have been established. Ensure ongoing triage and appropriate removal of patients to the Treatment Areas or Transportation Sector.
• Work closely with the FDNY IC as a function of Unified Command and ensure coordinated operations for all medical care on scene.
• Ensure Treatment Areas are established and supported to facilitate treatment and transport of all patients to medical facilities.
• Keep the FDNY IC informed of the number of patients and their triage categories.

5.7 Post-Detonation: Street Management

5.7.1 Considering that a MCI is going to require multiple units, first arriving units must take positions that allow necessary resources and equipment to arrive and operate effectively.
5.7.2 It is critical for first responding units to address street management and fire control. Apparatus shall be parked in a manner that special equipment, ambulances, etc., can make their way to and from the scene when ordered by the IC.

- Apparatus placement, as well as the coordination and cooperation of all responding agencies, is vital to success.
- Position apparatus away from the POI, giving consideration to the potential for a secondary explosion.
- Nonessential units should not block the street. Only apparatus authorized by the FDNY IC should be positioned on the street. Later arriving apparatus may only be used for their personnel; the apparatus should be parked away from the scene in a secondary staging area.

5.7.3 Initial EMS units shall establish an EMS Staging Area.

- Additional EMS units should stage away from the POI, in an area where access and egress can be unimpeded to facilitate patient transport.

5.7.4 The FDNY IC should consider assigning a Battalion Chief to the position of Street Management Coordinator with the following responsibilities:

- Establish a Street Management Plan.
- Establish contact with NYPD and EMS Officers for traffic flow.
- Ensure access/egress of essential vehicles.
- Position apparatus for most efficient use.
- Coordinate apparatus staging areas.

5.8 Post-Detonation: Communications

5.8.1 The need for a command channel should be anticipated and established early in the operation. Therefore, all Chief Officers must report in with their assigned Post Radios. Chief Officers must be mindful that Post Radios and Marine Radios should not be operated within 300’ of a suspected device.

5.8.2 Consider the use of:

- Interoperable radio frequencies (NYMAC).
- TAC U with NYPD ESU.
- EMS CW 1 to provide immediate information to incoming EMS resources.
• ACU 1000 carried by the Field Communication Unit. (This device can program an emergency alert channel for all FDNY and NYPD units operating at the scene).

**NOTE:** FDNY Communication Units have additional equipment such as the Enhanced Post Radio, DARS and handheld 800 MHz radios. The FDNY IC should anticipate the use of these special-trained units for the implementation of communication links and the establishment of a Communication Plan.

6. **TYPES OF EXPLOSIVES / ENERGETIC MATERIAL**

6.1 **Pyrotechnics** - Creates smoke, heat, light and sound (e.g., fireworks).

6.2 **Low Explosives** - Controlled release of gas that creates a propellant, causing a pushing effect. Designed to burn and easier to ignite; initiated by flame or impact, detonates at speeds less than 3000 ft/sec (e.g., black powder, smokeless powder, rocket fuel).

6.3 **High Explosives** - Initiated by shock from a detonator or blasting cap (not spark or flame). Creates a shattering effect in an instantaneous release of energy for maximum dispersion and damage. Detonates at speeds greater than 3000 ft/sec (an average bullet from a rifle travels at approximately 2700 ft/sec) and the weapon of choice for suicide terrorists.

6.4 **The Effects of Detonated Explosives** - Explosions are the result of the release of massive volumes of gas in a sudden and violent manner followed by high temperature (exothermic), shock and a loud noise. Rapid decomposition takes place as the material changes from a solid to superheated gas.

6.4.1 **Blast pressure** - Excess pressure caused by a detonated explosive device. Positive blast pressure moves quickly away from the center of the explosion, followed by a vacuum effect. Negative blast pressure follows, as the pressure moves back toward the center of the explosion at a high rate of speed. Blast pressure may blow glass into a building and the negative pressure may then pull that same glass a considerable distance from the building. Severe injuries to internal organs may result if exposed to blast pressure.

6.4.2 **Fragmentation** - Pieces of the device, added shrapnel (nails, ball bearings, etc.) or surrounding materials are propelled away from the explosion. Severe injuries may be caused by flying fragments. Depending on the power of the device, a fragment can travel three times faster than a bullet. At the Olympics in Atlanta in 1996, one person was killed and over 100 more injured when a pipe bomb filled with nails and screws exploded from within a hidden knapsack.
6.4.3 **Thermal effects** - Sometimes called incendiary effects, heat is generated by the detonation and appears briefly as a fireball that may be up to 3650º, lasting no more than 0.5 seconds. Those closest to the explosion may experience severe burns as well as lung damage from inhalation of hot gases.

6.5 **Detonation Methods** - Five forms of stimuli or “insults” that initiate explosions include heat, friction, impact, electrostatic discharge (ESD) and shock. These insults can be accidentally (by first responders or civilians on scene) or intentionally (by a terrorist or his/her handler) applied to cause an explosion. In general, shock initiates high explosives with detonators, and flame initiates low explosives with primers. Members familiar with the components of the triggering apparatus may recognize what may be a device prior to it detonating. The following methods may be used to trigger an insult to set off an explosive device:

- **Command detonation** - A switch or button activated by hand.
- **Hard-wired** - Electrical wires between devices or leading away from the device.
- **Remote controlled** - Battery powered devices such as doorbell ringers, pagers, cell phones, car alarms, garage door openers or two-way radios that detonate explosives via radio frequency transmission.
- **Time Delay** - A mechanical triggering device using a time piece such as a wristwatch or alarm clock to initiate an explosion at a specific time.

7. **TYPES OF IMPROVISED EXPLOSIVE DEVICES**

7.1 **Improvised Explosive Devices (IED)** - IEDs consist of components that include a power supply, initiator, explosives and a switch. IEDs may be delivered and detonated using any of the following methods:

7.1.1 **Vehicle Borne Improvised Explosive Device (VBIED)** - A car, limousine, van or truck loaded with explosives and driven to a target where it is detonated. Other vehicles that may be used include boats, airplanes, bicycles or motorcycles.

- VBIEDs can be driven to a location and the device detonated remotely or a suicide bomber can drive the vehicle into the intended target.
- Commercial vehicles acquired by terrorists may include package delivery operators, food delivery, lawn care/maintenance, laundry, etc.
- Cloned official vehicles such as fire apparatus, ambulances and police cars may be used as VBIEDs.
- Current VBIED terrorist tactics include attacking multiple targets simultaneously with multiple vehicles per target, possibly including a shooting team.
7.1.2 **Letter** - Envelopes or packages delivered by post that may be explosive or incendiary. Usually victim-activated during the opening process and include items such as letters, books, musical greeting cards or boxes of candy. Some suspicious characteristics of a letter/package are:

- Oversized, padded packages.
- Stained.
- Marked “Personal/Confidential”.
- Excessive postage or no return address.
- Unusual odor.
- Oddly shaped or lopsided.
- Mailed from a foreign country.

7.1.3 **Satchel or Backpack** - Carried or planted IEDs that are portable and concealable and, if left behind, are usually in a container that would not appear out of place in the surroundings. IEDs can also be disguised in flashlights or soda cans. On March 11, 2004, ten bombs concealed in backpacks were planted on four different commuter rail trains in Madrid and detonated during rush hour, killing 191 people and injuring 1,800.

7.1.4 **Suicide Bomber** - An individual who transports (carries, drives, flies, etc.) a device to detonate at a particular location with the intention of killing themselves as well as bystanders. Devices may be anti-personnel in nature (designed to injure or kill people) or may be intended to cause structural damage. **The profile of the contemporary suicide bomber is that there is no profile.**

- Some suicide bombers may be accompanied to their target by a handler or someone who can remotely detonate the device at the most opportune time. This tactic is a back-up plan to ensure the device will be detonated even if the bomber decides not to carry out the attack.
- Handlers often lurk in the vicinity near the perpetrator prior to detonation. They may precede the bomber to survey the target or use a remote device to detonate the explosives if the bomber appears to have second thoughts. The handlers themselves may appear out of place or look nervous or fidgety; another possible indicator of an attack.
- Suicide bombers often detonate their devices in places where large groups gather; they can augment the device with items such as nails, bolts or other shrapnel.
7.2 **Improvised Incendiary Devices (IID) / Arson** - IIDs are firebombs that ignite and burn. IIDs may be used more as a force to produce disruption, damage and structural damage. IIDs such as the Molotov cocktail are usually small (for concealment and the ability to carry it by hand), and are often easy to make. The obvious complication of an IID is fire, causing property damage and possibly loss of life.

Arson has been used by terrorist groups to damage property and injure civilians. The initial fire may overwhelm fire protection systems. An arsonist may set multiple fires, increasing the size of the overall fire while also blocking exits for inhabitants. These types of fires may flashover much quicker than normal. Research indicates there is no reliable method to determine the difference between an Improvised *Incendiary* Device and an Improvised *Explosive* Device. Therefore, **members shall not handle any type of device thought to be explosive or incendiary.**

The NYPD Bomb Squad shall be requested if a device is discovered. Care shall be exercised in extinguishing activated incendiary devices. Precautionary hoselines shall be stretched and members staged in a safe area, out of the line-of-sight of the device. Members shall always be aware of the danger of a possible secondary threat and operate accordingly.

7.3 **Chemical Reaction Bombs** - A chemical reaction bomb is a mixture of at least two chemicals that naturally react with each other. The chemicals are mixed in some type of container, usually a plastic soda bottle. The chemical reaction produces pressure that causes the bottle to explode. Juveniles perpetrate most crimes associated with these devices since the materials are often easy to obtain and inexpensive. These devices pose a threat to the bomb maker and others in the vicinity because the reaction time of these bombs is unpredictable. The dangers come from fragmentation and chemical burns to the skin. Chemical reaction bombs become more dangerous when hardware is added or when mixed in a glass container.

7.4 **Secondary Devices** - Members should anticipate the presence of a secondary threat; possibly an explosive device or a shooter, or any combination of the two. Terrorists may use more than one device in a targeted area. Terrorists may also use fire to draw in firefighters and then set off an IED. The use of multiple devices is an increasing trend in attacks worldwide.

8. **PREVENTION / RECOGNITION / AWARENESS**

8.1 All Department personnel need to be aware of possible suspicious surroundings or individuals who may be planning an attack. Research and analysis suggests that future attacks may not be large-scale plots, such as the September 11th attacks. Instead, there may be smaller, less-centralized plots that are more difficult for the intelligence community to detect. Therefore, it is essential that members remain vigilant and take appropriate action when they encounter suspicious behavior and circumstances.
8.2 During responses to routine assignments, members are constantly interacting with the public and may observe behavior or materials that indicate an attack in the planning stages.

8.3 **If terrorist activity is suspected, follow procedures outlined in AUC 363.**

8.4 **Indicators of Terrorist Surveillance**
- Prolonged or unusual interest in security measures.
- Overly interested observation of security or Department drills.
- Questioning of security personnel.
- Use of camera or video recorders beyond the interest of tourism.
- Unusual behavior such as staring or quickly looking away.
- Unusual questions directed to an FDNY member.

8.5 **Indicators of Terrorist Activity**
- Unusual or out-of-place chemicals.
- Cameras, bank equipment, document scanners, laminators or other equipment used in producing identification documents.
- Large amounts of cash, traveler’s checks or money orders.
- Ammunition, firearms or other weapons.
- Surveillance equipment, still and video cameras, night vision goggles, GPS units, etc.
- Suspicious training manuals.
- Maps, blueprints or photos of possible terrorist targets.
- Occupancies with little or no furniture.
- Living quarters in a business.
- Stocked items that do not match the type of business or empty shelves in a business.
- Obvious devices or components (blasting caps, timers, etc.)
- Chemical fires.
- Toxic odors.
- Brightly colored stains or rusted metal fixtures in residences, hotels, self-storage units, etc.
8.6 **Modification to Vehicles (cars/tankers)**
- Recent weld marks on the tanker portion of a tanker truck.
- Unusually clean areas.
- Fresh paint on some portions of the vehicle.
- Non-functioning gauges.
- Missing hoses or connections.
- Excessive vehicle weight or uneven weight distribution.
- Strong chemical, gunpowder or unusual fuel odors emanating from a vehicle.

8.7 **Illegal/Clandestine Labs**

8.7.1 Residential and commercial occupancies throughout the City have the potential to house some type of illegal laboratory. These labs may be for the production of drugs, chemical experiments, biological experiments or explosives.

8.7.2 Regardless of the product being made, many of these labs look similar; FDNY members are not sufficiently experienced to differentiate drug, chemical, biological or explosive labs. Across the nation, explosive labs have been mistaken for drug labs.

8.7.3 Labs may be part of an organized illegal drug production and distribution scheme, a terrorist plot, or a curious youth experimenting with internet recipes.

8.7.4 The explosives made in a homemade bomb lab are extremely unstable and can easily detonate. For example, the residue from an explosive lab that falls onto a carpet may detonate when stepped on.

8.7.5 When members suspect or discover any type of clandestine lab, they shall immediately stop, DO NOT TOUCH ANYTHING, retrace their steps and back out of the area. Members shall not attempt to determine the type of lab prior to leaving.
- Members must realize that their clothing/equipment may now be contaminated and/or evidence. Consult with Haz Mat and the NYPD to verify.
- Upon the discovery of any type of lab the following notifications shall be made:
  - Battalion Chief.
  - Deputy Chief.
  - Request Haz Mat to respond.
  - NYPD (including the Bomb Squad when necessary).
  - BFI.
- Evacuate surrounding occupancies as needed.
**Appendix 1: Effects of Overpressure & Blast Injuries**

<table>
<thead>
<tr>
<th>Pressure (psi)</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 psi</td>
<td>Personnel knocked down</td>
</tr>
<tr>
<td>5 psi</td>
<td>Possible ear drum rupture</td>
</tr>
<tr>
<td>15 psi</td>
<td>50% chances of ear drum rupture</td>
</tr>
<tr>
<td>30 psi</td>
<td>Possible lung injury</td>
</tr>
<tr>
<td>75 psi</td>
<td>50% chance of lung injury</td>
</tr>
<tr>
<td>100 psi</td>
<td>Lethal threshold</td>
</tr>
<tr>
<td>200-250 psi</td>
<td>Nearly 100% lethal</td>
</tr>
</tbody>
</table>

**Blast Injuries**

External indicators of a blast wave (compressed air) injury may not be evident. Victims who were near the seat of the blast should be monitored for delayed onset of symptoms. Injuries that EMS personnel may encounter at the scene of an explosion include:

A. **Type I Blast Injuries**: Blast Pressure Injuries
   
   Primary blast injuries are the result of pressure created from the blast. Areas that are air-filled are most susceptible. The rapid changes in pressure can cause tearing or distortion to internal organs. Symptoms of these injuries may not develop for hours after injury.

B. **Type II Blast Injuries**: Flying Debris Injuries
   
   Propelled fragmentation of containers, surrounding materials or additives (nails, ball-bearings, etc.) may cause multiple, large and possibly contaminated wounds. Flying glass is a major secondary injury-causing hazard.

C. **Type III Blast Injuries**: Victim is thrown into objects. The victim becomes a projectile.

D. **Type IV Blast Injuries**: Other injuries caused by the explosion such as:
   - Inhalation of incendiary chemicals and/or smoke.
   - Chemical or thermal burns (most common).
   - Asphyxiation.
   - Crush injuries.
Appendix 2: FBI-DHS Bomb Threat Stand-Off Card
Appendix 3: MCI-IED Strategy

IED / MASS CASUALTY INCIDENT

BEGIN AT POINT OF IMPACT (POI)
- Known threats suppressed
- Hemorrhaging/ Airway Control
- Rapid Extrication

ORANGE (urgent)
- Triage
- Transfer Point
  - EMS Officer & Unit
  - Tag Patients
  - Patient Transfer Group: Relays or Continues with Red Tags to Ambulance

DECON if needed

RESCUE CORRIDOR

RED Tags
- Go Directly to TRANSPORT PATIENT REMOVAL CORRIDOR (PRC)
- Site Management
- T.H.R.E.A.T.S.
  - Threat Suppression
  - Hemorrhaging/ Airway Control
  - Rapid Extrication to Safety
  - Assessment by Medical Providers
  - Transport to Definitive Care
  - Site Management

INCIDENT COMMAND POST
- FDNY IC: 1st FDNY BC
- Medical Branch Director: 1st EMS Supervisor
- NYPD Supervisor

EMS TRANSPORT
- KEEP EMS EGRESS AND ACCESS ROUTES CLEAR

YELLOW (non life-threatening)
- Triage
- Transfer Point
  - EMS Officer & Unit
  - Tag Patients
  - Patient Transfer Group: Relays or Continues with Red Tags to Ambulance

GREEN (minor)
- Triage
- Transfer Point
  - EMS Officer & Unit
  - Tag Patients
  - Patient Transfer Group: Relays or Continues with Red Tags to Ambulance

Use Distance and Shielding