# HAZARDOUS MATERIALS INCIDENT PLAYBOOK


## HAMPTON ROADS MASS CASUALTY INCIDENT RESPONSE GUIDE

August 2024

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# INTRODUCTION

The Hampton Roads Hazardous Materials Incident Playbook provides a series of checklists to accompany and complement the organizational framework, operational concepts and procedures for a Hazardous Material (HazMat) incident. Additionally, checklists included in this Playbook are designed to support the coordination and execution of an effective Emergency Medical Services (EMS) response to a HazMat incident.

This Playbook will highlight command structures, roles, and responsibilities and aims to improve operational coordination among all levels of government during an EMS response to a HazMat incident. Additionally, this Playbook provides guidance and processes to support information-sharing, foster collaboration, and coordinate responses to reduce EMS vulnerability to a HazMat incident.

This Playbook intends to facilitate rapid medical engagement and victim intervention following a chemical exposure or contamination incident within the response community, at a medical event and/or at the scene of a HazMat incident or weapons of mass destruction (WMD) incident. Guidelines, checklists and actions addressed in this Playbook comply with OSHA 29 CFR 1910.120 for hazardous materials response and National Fire Protection Association (NFPA) 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents.

## BACKGROUND

Hazardous materials are present in every community. They are in almost every home and most hospitals and factories. In addition, hazardous materials are shipped daily via land, air, and sea pathways and are used to inspect pipelines.

When released, hazardous materials harm people, the environment, and critical infrastructure. The potential for harm exists regardless of whether hazardous materials are released accidentally, by a malicious actor, or by weather-related events.

Hazardous material incidents affect a wide range of stakeholders. For example, facility workers who regularly handle hazardous materials, transportation carriers, nearby residents and students, and first responders are all at risk of health impacts from hazardous materials.

First Responders can improve their resilience when responding to a hazardous materials incident in several ways, including reducing the likelihood of a release and being prepared to respond to a potential release effectively.

The Virginia Department of Health (VDH) and the VDH Office of Emergency Medical Services (OEMS) have established general Medical Care Protocols in response to HazMat incidents. Local EMS response agencies should be prepared to implement Hazardous Materials Medical Care Protocols for emergency treatment and handling nonspecific exposure and specific exposure conditions.

The possibility of secondary contamination shall be recognized as a threat to EMS providers, and measures must be taken to reduce the chance of such contamination. Appropriate protective gear shall be worn at all applicable times during treatment procedures. When possible, contamination shall be left at the emergency scene with proper precautions for the definitive care facility.

Victims may require transport for more definitive medical care involving Hazardous Materials/WMD. EMS personnel should notify the nearest appropriate medical facility, advising the emergency department of the nature, number of victims, and extent of operations from the scene.

Early notification will alert the hospital of the need to set up decontamination and/or isolation areas to treat exposed individuals. The report should include specific names of chemicals involved (if available), particular amounts, and the type of exposure expected (i.e., inhalation, skin absorption, ingestion, or injection).

## EMS RESPONSE TO A HAZARDOUS MATERIALS (HAZMAT) INCIDENT

EMS agencies are critical links within the community response system for emergency preparedness planning. EMS personnel are often the first to arrive at an incident scene. They must assess the nature and extent of the hazard and the urgent needs of victims, including initial contact and treatment of people who have been chemically contaminated.

For effective coordination and communication, hospitals, EMS agencies, and other response agencies must participate in local HazMat planning meetings, incident management, and protocol review. Administrators should be aware of the contingency plans of other participants, such as fire, police, health departments and area hospitals, and understand what services are performed by each of them.

EMS staff should be on planning committees that develop and periodically review these contingency plans. A common characteristic of successfully managing chemical incidents is adequate contingency planning. Local emergency planning committees are mandated under federal law to identify high-risk locations and ensure proper response planning and training. Planning requires the involvement of an array of community institutions, including fire, EMS and police departments, community hospitals, other health facilities, and the Peninsula Poison Control Center.

## PLANNING ASSUMPTIONS

This section presents situations and concepts applicable to HazMat incidents:

- During the response to a HazMat incident, all agencies and jurisdictions will operate under the National Incident Management System.
- Stakeholder agencies are aware of the specific hazards and vulnerabilities.
- A HazMat incident may include a criminal act, making law enforcement the lead agency following threat containment.
- A HazMat incident may not be apparent to responding organizations at individual incident sites.
- Agencies responding to a single incident that could be part of a HazMat incident will share information and intelligence quickly to create a common operating picture.
- A HazMat incident may not be contained locally and could require coordination with adjacent regions and neighboring states.

- All stakeholder agencies will participate in and support regional coordination efforts for a HazMat incident response.
- Expected mutual aid resources may not be available or may be significantly delayed.
- Resources from government agencies (local, state, and federal) and private-sector organizations may be available, but during a HazMat incident may not be immediately available.
- Local agency resources will be more rapidly depleted during a HazMat response than by a single-site event; extensive use of state and federal resources, including those obtained through mutual aid agreements, may be required.

# AUTHORITIES

The following policies, statutes, bylaws, regulations, executive orders, or directives pertain to powers, authorities, or requirements that affect or relate to emergency planning and disaster response.

## FEDERAL

OSAC 2022-N-0020 Standard for Mass Fatality Incident Management

Robert T. Stafford Disaster Relief and Emergency Assistance Act and Amendments

Homeland Security Presidential Directives #5, Management of Domestic Incidents

Homeland Security Presidential Directive #8, National Preparedness

Title 44 of the Code of Federal Regulations

United States Department of Homeland Security

National Incident Management System (NIMS)

National Response Framework (NRF)

Emergency Management and Assistance, 44 Code of Federal Regulations (CFR)

Hazardous Waste Operations and Emergency Response, 29 CFR 1910.120

Federal Radiological Emergency Response Plan

National Oil and Hazardous Substances Pollution Contingency Plan

Occupational Safety and Health Association (OSHA), Part 1910, Subpart H “Hazardous Materials”

Universal Task List (UTL) 2.0

## COMMONWEALTH OF VIRGINIA

Commonwealth of Virginia Emergency Services and Disaster Laws of 2000, as amended, Title 44, Chapter 3.2 Code of Virginia, §44-146.19 through §44-146.28, as amended.

Commonwealth of Virginia Emergency Operations Plan, Virginia Department of Emergency Management, October 2021.

# REFERENCES

ICS and NIMS Guidance from Federal Emergency Management Agency (FEMA)

Homeland Security Exercise and Evaluation Program (HSEEP)

# RECORD OF CHANGES

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# ACRONYMS

| Acronym | Definition |
|---|---|
| **ALS** | Advanced Life Support |
| **BLS** | Basic Life Support |
| **AMA** | Against Medical Advice |
| **CFR** | Code of Federal Regulations |
| **CAN** | Conditions, Actions, Needs report |
| **CPR** | Cardiopulmonary Resuscitation |
| **EMS** | Emergency Medical Services |
| **FEMA** | Federal Emergency Management Agency |
| **HazMat** | Hazardous Materials |
| **HRMCIRG** | Hampton Roads Mass Casualty Incident Response Guide |
| **HRMMRS** | Hampton Roads Metropolitan Medical Response System |
| **IC** | Incident Command or Incident Commander (depending on context) |
| **ICS** | Incident Command System |
| **MCI** | Mass Casualty Incident |
| **NIMS** | National Incident Management System |
| **NRF** | National Response Framework |
| **OCME** | Office of the Chief Medical Examiner |
| **OEMS** | Office of Emergency Services |
| **OSAC** | Organization of Scientific Area Committees for Forensic Science |
| **OSHA** | Occupational Safety and Health Association |
| **PIO** | Public Information Officer |
| **PSAP** | Public Safety Answering Points |
| **SAU** | Situational Awareness Unit |
| **TCL** | Target Capabilities List |
| **UTL** | Universal Task List |
| **VDEM** | Virginia Department of Emergency Management |
| **VDH** | Virginia Department of Health |
| **VFC** | Virginia Fusion Center |
| **WMD** | Weapons of Mass Destruction |

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# CONCEPT OF OPERATIONS (CONOPS)

## HAZMAT INCIDENT RESPONSE OBJECTIVES

Personal and site safety are the paramount concerns for First Responders. Site Safety "standard practices" shall include barring entry into the Hot Zone without proper precautions, proper protective clothing based on the risk, and knowledge and permission of the Incident Commander (IC). Treatment can begin when it is safe, including but not limited to Basic Life Support (BLS) procedures. Patients should be evaluated for contamination and decontaminated accordingly.

The following Hazardous Materials medical care guidelines are designed and applied based on the level of training the responder possesses and maintains, along with the equipment levels at the responder's disposal. These are classified within three levels of HazMat medical response. At each level, the prerequisite procedures apply.

Incident responses will vary based on the specifics of the incident. The following response objectives should be considered during a HazMat incident response:

- Medical Action Plans specific to EMS response to hazmat incidents provide operational response protocols, regulations, and requirements. **Note:** HazMat incidents may upscale very quickly. EMS responders should be prepared to reposition or evacuate the scene at a moment's notice.
- Mutual aid agreements between local and regional HazMat response authorities are in place.
- Validation of the Medical Action Plan complies with all local, regional and state guidelines for HazMat incidents.
- Distribution of medical action plans to all local, regional, state and federal officials responsible for supporting HazMat incidents, even if medical action plans are not part of the permitting process of the local jurisdiction.
- A copy of the Medical Action Plan must be available on-site to all EMS personnel at the HazMat incident.
- Medical protocols and procedures addressed in the Medical Action Plan are approved by the EMS response agency primarily responsible for delivering emergency medical care in the jurisdiction of the incident.

# FIRST ON-SCENE EMS ACTION CHECKLIST

| Victim-Related Cues | Confidence, if observed in multiple victims |
|---|---|
| Casualties with no apparent reason or trauma | High |
| Casualties clustered in a geographical area, especially downwind from an incident or low-lying areas. | High |
| Similar medical symptoms in multiple victims not explained by the incident | High |
| Breathing difficulty, coughing not otherwise explained | High |
| Burns or irritation on the skin (not from fire) | High |
| Tearing of eyes not otherwise explained | Moderate |
| Disorientation not otherwise explained | Moderate |

**Figure 1. Key cues for recognition of a Chemical HAZMAT Incident**

| Victim-Related Cues | Confidence |
|---|---|
| Multiple casualties exhibiting similar symptoms | Moderate |
| Mass casualties with no apparent reason for trauma | Moderate |
| Sudden unexplained weakness, collapse, apnea, or convulsions | Moderate |
| Dimmed or blurred vision | Moderate |
| Hypersecretion signs and symptoms (such as drooling, tearing, and diarrhea) | Moderate |
| Inhalation signs and symptoms (eye, nose, throat, chest irritation; shortness of breath) | Moderate |
| Burn-like skin signs and symptoms (redness, blistering, itching, sloughing) | Moderate |

**Figure 2. Key cues for recognition of a Chemical WMD Incident**

**Objective 1:** Contain the Threat to Prevent Further Loss of Life

**Tasks:**

- ☐ Deploy law enforcement to contain threats utilizing tactical deployment based on the situation.
- ☐ Deploy Fire/HazMat teams to detect, contain, and remove any release or potential release of hazardous substances to control or stabilize the incident.
- ☐ Notify the VDEM Situational Awareness Unit (SAU) and Virginia Fusion Center (VFC) for analysis and early recognition of a HazMat Incident.
- ☐ Alert and/or deploy mutual aid resources.
- ☐ Establish and secure ingress/egress routes.
- ☐ Establish Incident/Unified Command.
- ☐ Coordinate with local Emergency Operation Centers.
- ☐ Identify and respond to subsequent attacks.
- ☐ Establish an Area Command, if applicable.
- ☐ Gain and maintain situational awareness at additional sites.

**Objective 2:** Provide timely lifesaving and life-sustaining actions

**Tasks:**

- ☐ Deploy multidisciplinary teams to provide necessary medical care at the point of injury, such as a Rescue Task Force, as applicable.
- ☐ Evacuate casualties to critical care facilities.
- ☐ Coordinate with hospitals and healthcare facilities to determine their ability to receive mass casualties.
- ☐ Provide medical assistance at additional attack sites.

**Objective 3:** Create and Maintain Public Messaging

**Tasks:**

- ☐ Establish a Joint Information Center.
- ☐ Disseminate alert messaging.
- ☐ Issue protective action guidance to the public.

**Objective 4:** Secure Potential High-Priority Target Sites

**Tasks:**

- ☐ Assess the risk of additional attack sites, including Critical Infrastructure and Key Resources.
- ☐ Coordinate security operations at additional at-risk sites based on the initial attack profile.
- ☐ Activate mutual aid agreements and request resources for protective measures at additional sites.

**Objective 5:** Initiate Recovery and Post-Incident Activities

**Tasks:**

- Establish reunification and/or Family Assistance Centers.
- Conduct ongoing intelligence/investigations operations.
- Re-establish compromised critical infrastructure in the affected area, if necessary.

# HAZMAT SCENE LAYOUT

Care should be taken to set up the scene to ensure safe and efficient operations. Responders need to establish an orderly flow of patients from the incident scene through the treatment area and onto the transport area. The scene layout should create a funnel effect, where patients are moved from the widest portion of the funnel to the incident location and enter the treatment area through a controlled entry point. From the treatment area, they will progress through the transportation area and onto an ambulance or other vehicle.

The following uncontaminated patient flow diagram (Figure 3) exemplifies one way to organize the scene. How a scene is organized will depend on scene security and location, terrain, weather, the number of patients, and other factors.

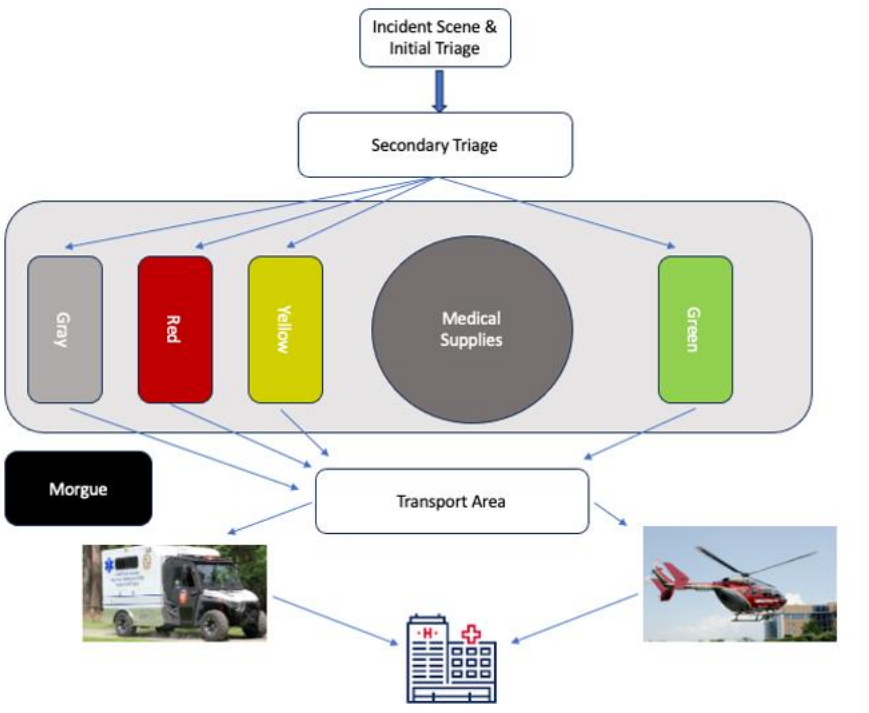


**Figure 3. Scene Setup for Casualty Care – Uncontaminated Scene Layout**

## SCENE SETUP FOR CASUALTY CARE – CONTAMINATED SCENE LAYOUT

The management of contaminated patients requires a notably different scene layout. First, an orderly flow of patients from the incident scene in the Hot Zone, through the Warm Zone, then through the Cold Zone, and then on to the transport area must be established to prevent contamination of the Cold Zone.

The following contaminated patient flow diagram provides a sample diagram (Figure 4) of one way to organize the scene. The hazardous material involved, weather, wind, terrain, the number of patients, and other factors must be considered during a HazMat-related MCI.

Managing contaminated patients requires an orderly flow from the incident scene in the Hot Zone through the Warm Zone and then through the Cold Zone, where victims are cleared to the transport holding area. This phased approach is required to prevent contamination to the EMS transporters or hospital personnel.

The following contaminated patient flow diagram provides a sample diagram of one way to organize the scene. The hazardous material involved, weather, wind, terrain, the number of patients, and other factors must be considered during a HazMat-related MCI.

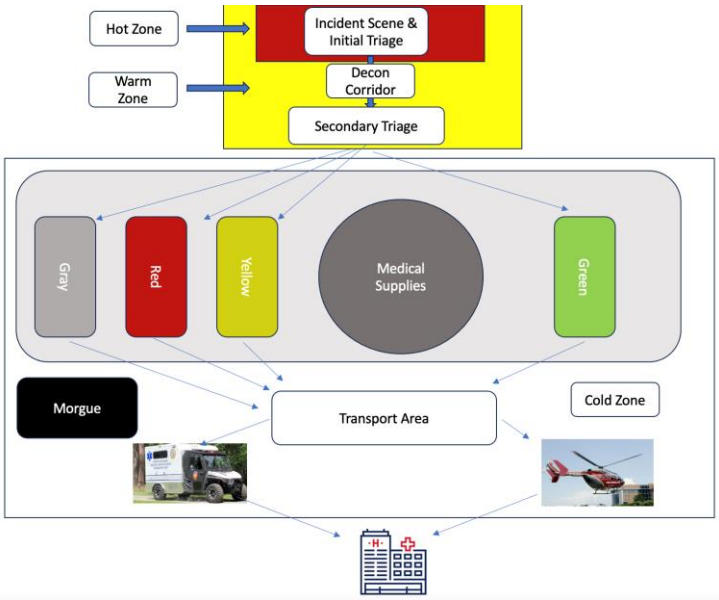


**Figure 4. Scene Setup for Casualty Care – Contaminated Scene Layout**

## DESIGNATION OF THE HOT, WARM, AND COLD ZONES

Designation of offensive and defensive HazMat operations is the responsibility of the Fire Department and the local/regional HazMat Team. Once EMS arrives on the scene and recognizes the incident as a HazMat, they must back out immediately to a position of safety and alert incoming responders of a potential HazMat incident.

Upon arrival, the HazMat Team will assess the incident scene and designate a Hot Zone, Warm Zone, and a Cold Zone.

**Hot Zone:** The Hot Zone is the area that immediately surrounds a hazardous materials incident. The Hot Zone typically extends out in a 360-degree radius around the incident scene. Patients may receive antidotes and other lifesaving treatments in the Hot Zone. Entry into this area is usually restricted to HazMat team members.

**Warm Zone:** The Warm Zone is where personnel and equipment decontaminate, and Hot Zone support occurs. The designation of access control points reduces the spread of contamination. The Warm Zone is the first place where patients will be decontaminated. Patients may receive antidotes and other lifesaving treatments in the Warm Zone. Once patients have been decontaminated, they will be transferred into the care of EMS providers in the Cold Zone.

**Note:** The administration of life-saving treatments takes precedence over decontamination for radiologically contaminated patients, and the responder's safety is within a reasonable level of risk.

**Cold Zone:** The Cold Zone is the control zone for HazMat incidents. In addition, the Cold Zone contains the Incident Command Post (ICP) and other incident support facilities and resources.

## EMS ROLES AND RESPONSIBILITIES

Transportation of patients during an incident will be conducted by licensed prehospital EMS agencies guided by the IC or designee. In accordance with local plans and policies, units and personnel involved in mutual aid response to a HazMat incident will be dispatched through the responding agency's dispatch/PSAP.

In accordance with local plans, each prehospital agency will operate under the purview of its Operational Medical Director using its agency's protocols. In addition, the accepted Virginia Prehospital Patient Care Report and/or the Virginia Triage Tag will be used for documentation.

Any agency or other entity responding to a HazMat incident will be responsible for maintaining all medical and operational documentation. Operational and medical documentation will be readily available to the IC or their designee.

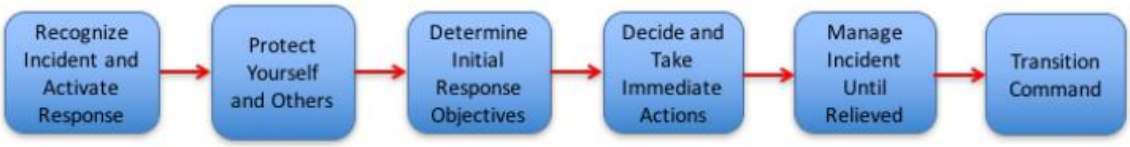


**Figure 5. Initial Response Process for Chemical HAZMAT Incident**

# EMERGENCY MEDICAL OPERATIONS CHECKLIST

This Playbook's emergency medical response operations component addresses key operational details central to the successful delivery of emergency medical care. Emergency medical operations are detail-oriented; many detailed items are essential to appropriate medical care at a well-planned event.

## LOCAL EMERGENCY MEDICAL SERVICES

Primarily will be responsible for the following:

- ☐ Provision of initial medical care to address immediate threats to life or limb.
- ☐ Triage and initial stabilization for the systematic evaluation and categorization of victims.
- ☐ Transportation of patients to the trauma center or hospital.
- ☐ Participating in a Rescue Task Force (if applicable).
- ☐ Coordinate deployment of personnel, equipment, supplies and other resources necessary to implement regional plans and programs for an emergency medical response during an incident when requested by local emergency management.
- ☐ Assist with locating and coordinating the deployment of EMS resources at a state level to respond to the HazMat incident. Provide incident management assistance and/or support as requested for emergency operations.
- ☐ Submission of state-required records and reports.
- ☐ If there is a federal ambulance contract activation for a HazMat incident, it will assist in coordinating these resources as requested by FEMA or the U.S. Public Health Service.

# CONSIDERATION FOR EVALUATION AND CARE OF IMPAIRED ATTENDEES

The incident operational plan must include procedures to safely contain and restrain attendees who are assaultive to other attendees and/or harmful to themselves. They must be restrained physically for their safety and that of other attendees.

- EMS has security staff near fixed locations to support EMS with disruptive individuals who are impaired mentally or physically.
- EMS initial evaluation, treatment and response to any stabilizing emergency medical interventions must be reported to event security and/or operations, with recommendations for one of the following dispositions:
  - Further on-site medical observation, follow-up evaluation, and care appropriate to the venue environment.
  - Immediate EMS transport to an appropriate emergency department.
  - Release of the non-emergent patient to a guardian who is present, able to assume custodial care, and willing to sign an impaired person release form confirming the assumption of care.
  - Release of the patient to law enforcement.
  - Release the non-emergent patient to their independent status only if a normal or baseline mental and ambulatory status is confirmed.
- Strict incident EMS documentation of the previous steps must be executed according to guidelines designed and approved by the incident operations and medical directors.

# LEVEL OF CARE CHECKLIST

The level of care component of the medical action plan defines minimum standards for emergency medical capability at a HazMat incident and the preferred credentials and experience of the medical sector personnel. BLS which includes the ability to deliver cardiopulmonary resuscitation (CPR), early defibrillation and hemorrhage control, must be the minimally acceptable level of care available at a professionally covered mass gathering event.

- ☐ A basic level of care plan must exist for every HazMat incident.
- ☐ EMS care must support BLS personnel and advanced life support personnel, and the unique capabilities associated with the chosen level of care that justify this choice.
- ☐ Determine how assets and personnel will be deployed to achieve early defibrillation capability for anyone within the HazMat incident to meet a collapse-to-shock goal of five minutes or less. This may not be achievable in some situations or environments, so the fastest possible response will be addressed. **Note:** Provision of invasive patient care in a Hot Zone is un-advised. The collapse-to-shock 5-minute goal does not apply to those that require decontamination pre-shock.
- ☐ Ensure all providers assigned to the HazMat incident have the education/training of EMS providers regarding medical protocols and/or procedures specific to the actual event.
- ☐ Ensure the level of care available at any HazMat incident reflects, at a minimum, that which is available in the surrounding community.
- ☐ When ALS resources and personnel are limited during a HazMat incident, they should be in a fixed position in the Cold Zone.

# EMT PARAMEDIC LEVEL OF CARE CHECKLIST

- ☐ The role of the EMT-Advanced and Paramedic at a HazMat incident is primarily evaluation, stabilization, and/or treatment of acutely ill and/or injured patients who require ALS level care or invasive medical therapy to manage airway, ventilator, and cardiovascular instability.
- ☐ EMT-Advanced and Paramedic personnel charged with direct patient care responsibilities must be certified or licensed in the state where a HazMat incident occurred.
- ☐ Use of EMT-Advanced and Paramedics are strongly encouraged for all HazMat incidents in the following circumstances:
- ☐ Limited transportation resources.
- ☐ Large numbers of exposed, contaminated or injured.
- ☐ Significant risk for developing life and/or limb-threatening injury (i.e., explosive incidents).
- ☐ Long transport times to definitive care facilities.
- ☐ EMT-Advanced and Paramedics are knowledgeable in the medical management of patient care needs resulting from a HazMat incident.
- ☐ EMT-Advanced and Paramedics know the Incident Command System (ICS), mass casualty incident response, and field triage.

# EMT BASIC LEVEL OF CARE CHECKLIST

The role of the EMT at a HazMat incident is primarily the evaluation and treatment of acutely ill and/or injured patients who require only minor or uncomplicated treatment unless there is no ALS capability available.

- ☐ EMTs charged with direct patient care responsibilities are certified or licensed in the state where the HazMat incident occurred.
- ☐ EMTs are certified in CPR and First Aid.
- ☐ EMTs charged with direct patient care responsibilities are knowledgeable in the unique aspects of HazMat incident medical care.
- ☐ EMTs with direct patient care responsibilities are familiar with the ICS, mass casualty incident response, and field triage.

# PRIMARY EMS RESPONSE PROCEDURES CHECKLIST

## INITIAL ACTIONS

If emergency medical responders arrive (first) on-scene of a HazMat incident, implement the following tactical steps:

**Safety**

- ☐ Provide a Report on Conditions.
- ☐ Protect yourself, others, and your unit (withdraw if necessary).
- ☐ Utilize a cautionary approach: uphill, upwind, and upstream.
- ☐ Identify if rescue is needed.
- ☐ Account for all personnel.

**Isolate the Area and Deny Entry**

- ☐ Keep everyone at least one hundred (100) feet away from small incidents and at least five hundred (500) feet away from large incidents.
- ☐ Position vehicle headed away from the incident.
- ☐ Consider a crime scene.
- ☐ Notify/Update additional emergency responders by providing a situational update that includes conditions, actions, and needs (CAN).

## SECONDARY ACTIONS

If public safety personnel have not arrived on the scene, implement the following tactical steps:

**Command**

- ☐ Establish Command.
- ☐ Establish, identify, and report the location of the Command Post.
- ☐ Establish a Safe Refuge Area.
- ☐ Attempt to separate symptomatic and asymptomatic patients without making contact or entering potential contamination zones.
- ☐ Direct incoming emergency response vehicles to a staging location in a safe area that is uphill, upwind, and upstream.

**Identify Hazardous Materials**

- ☐ Ask bystanders what they saw, smelled, tasted, heard, or felt.
- ☐ Ask who, what, where, when, and how related to the incident.
- ☐ Use binoculars to maintain a safe distance (if possible).

- Look for labels, placards, markings, etc. Refer to the current Department of Transportation (DOT) Guidebook at the following link: https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2020-08/ERG2020-WEB.pdf

## SUPPORTIVE ACTIONS:

- Private EMS providers shall continue supporting on-scene public safety organizations. However, only trained public safety HazMat or authorized specialized personnel can enter the Hot Zone or Warm Zone of a HazMat incident.
- EMS providers shall coordinate with on-scene Hazardous Materials Technical Specialists to provide receiving hospitals with the following information:
  - Chemical names.
  - Decontamination methods used on-scene.
  - DOT reference number.
  - Any appropriate treatment information/considerations.
  - EMS providers shall notify every receiving hospital as soon as possible.

**Decontamination:**

Only trained HazMat responders are allowed to decontaminate potentially contaminated patients properly and any emergency responders in the Warm Zone.

The trained HazMat responders must properly decontaminate all potentially contaminated patients before emergency medical responders can administer medical treatment or transport the patients to an emergency medical facility.

Patient decontamination, if required, should be conducted in the Warm Zone with trained personnel wearing appropriate chemical-protective clothing and respiratory equipment (e.g., Regional HazMat Team, HRMMST, etc.). Decontamination actions may include determining the potential for secondary contamination, its necessity, and the extent of decontamination.

- Select appropriate personal protective equipment for wear by personnel in the Warm Zone.
- Decontaminate patients when exposed to an unidentified gas, liquid, or solid material.
- Remove clothing and fresh air decontamination (in certain situations, oxygen may be administered in the Warm Zone during fresh air decontamination).
- Remove clothing and gross water rinse, followed by mild soap and another water rinse.
- Remove clothing and gross water rinse, followed by a mild neutralization solution (e.g., sodium bicarbonate) and another water rinse.
- Provide emergency decontamination for patients with critical injuries and illnesses requiring immediate patient care or transport.
- Identify and consider crime scene-related issues such as preserving evidence, the chain of custody, etc.
- Different decontamination procedures for equipment.

In some cases, victims may remove themselves from the contaminated area. Therefore, channeling these victims into a decontamination corridor consisting of the strip, flush, and cover activities is essential. This action may be necessary to save lives and protect first responders before establishing a more formal contamination reduction corridor.

# MASS CASUALTY INCIDENT AND DISASTER PLANNING CHECKLIST

EMS operations must be prepared for the possibility of a HazMat response quickly becoming a Mass Casualty Incident, especially with the threat of many disaster scenarios, including the real possibility of terrorism by ballistic, nuclear, biological, or chemical attack. No expectations should be made that a complex terrorism response plan will be created solely by the medical sector for every incident. However, the incident operations and medical directors should participate in multi-agency contingency planning for such scenarios to educate EMS personnel on the initial response and risks to these occurrences.

- ☐ EMS operations and medical directors have a plan for the possibility of an MCI or disaster during a HazMat incident.
- ☐ EMS personnel know the MCI operations procedures, including medical protocols and other operational guidelines.
- ☐ All medical personnel have been assigned contingent MCI roles before arriving on a HazMat incident scene.
- ☐ Triage tags are available on jurisdictional EMS units. **Note:** Patient triage will not be provided until victims are decontaminated and processed to the Warm or Cold Zones.
- ☐ See Hampton Roads Mass Casualty Incident Response Guide (HRMCIRG) for additional details on EMS response operations and checklists.

## HAZARDOUS MATERIALS RESPONSE TO A MASS GATHERING INCIDENT CHECKLIST

- ☐ EMS personnel have been briefed about potentially hazardous materials at or near the venue.
- ☐ Medical Operations Director can maintain close contact with security officials so that they may be alerted to any possibility or threat of terrorism as early as possible.
- ☐ To maintain secure communications, designate a law enforcement/security official to communicate any official event requests for resources.
- ☐ Hazardous Materials mitigation capability is on-site or immediately available to the event for high-profile mass gathering events and those in which threats considered credible by jurisdictional law enforcement have been received.

## EMS COMMUNICATIONS CHECKLIST

- ☐ A basic medical communications plan is operational for every HazMat incident.
- ☐ Communications plans address the number, type and functionalities of equipment necessary and available.
- ☐ Designated radio frequencies, cell numbers, and other supervisory medical personnel contact information have been established and distributed.
- ☐ Communication compatibility and interoperability have been tested.
- ☐ Common or agreed-upon communications language has been identified and integrated into field operations and command.
- ☐ Radio frequency designations should be allocated to HazMat responders.

# HMMS DUODATE KIT DISTRIBUTION CHECKLIST

- ☐ 24 yellow DuoDote Boxes (yellow Pelican case - 11 in. x 10 in. x 7 in.) to 16 Fire/EMS agencies and seven hospitals.
- ☐ Each yellow DuoDote Box will contain 10 DuoDote Auto-Injectors.
- ☐ The yellow DuoDote Boxes have replaced the orange Hampton Roads Metropolitan Medical Response System (HRMMRS) WMD Antidote Kits, except for the Southside Regional Hazardous Materials Teams and the Hampton Roads Metropolitan Medical Strike Team.
- ☐ These teams will continue to carry an orange HRMMRS box containing 50 DuoDote Auto-injectors.


**Figure 6. Duodote Auto-Injector Compared to Mark I Kit**

## HMMS DUODOTE KIT STEPS FOR USE

**Do Not Remove Gray Safety Release until ready to use.**

**Never touch the Green Tip (Needle End)!**

- ☐ 1. Tear open the plastic pouch at any of the notches. Remove the DuoDote auto-injector from the pouch.
- ☐ 2. Place the DuoDote auto-injector in your dominant hand (if you are right-handed, your right hand is dominant). Firmly grasp the center of the DuoDote auto-injector with the Green Tip (needle end) pointing down.
- ☐ 3. With your other hand, pull off the Gray Safety Release. DuoDote is now ready to be administered.
- ☐ 4. The injection site is the mid-lateral thigh area. The DuoDote auto-injector can inject through clothing. Ensure pockets at the injection site are empty. People with not a lot of fat at the injection site should also apply an injection at the mid-lateral thigh, but before giving the injection, bunch up the thigh to provide a thicker area for the injection.
- ☐ 5. Firmly push the Green Tip straight down (at a 90° angle) against the mid-lateral thigh until you feel the DuoDote auto-injector trigger. After the auto-injector triggers, hold the DuoDote auto-injector firmly in place for approximately 10 seconds.
- ☐ 6. Remove the DuoDote auto-injector from the thigh and look at Green Tip. If the needle is visible, the drug has been administered. If the needle is not visible, check to be sure the Gray Safety Release has been removed, and then repeat the above steps beginning with Step 4, but push harder in Step 5.

- 7. After administering the drug, push the needle against a hard surface to bend the needle back against the DuoDote auto-injector.
- 8. Put the used DuoDote auto-injector back into the plastic pouch if available. Leave the used DuoDote auto-injector(s) with the patient to allow other medical personnel to see the number of DuoDote auto-injector(s) administered.
- 9. Immediately move the patient away from the contaminated area and seek definitive medical care.

If additional antidotes are needed, coordinate with your local Hospitals/Emergency Departments to obtain additional pharmaceuticals and supplies from the Strategic National Stockpile Emergency Medical Services and CHEMPACKS. For more information on the Strategic National Stockpile and CHEMPACKS, refer to the Hampton Road Mass Casualty Incident Response Guide, Annex B.

## TRANSPORTATION OF CHEMICALLY CONTAMINATED PATIENTS

Chemically contaminated patients should undergo emergency decontamination before being transported. First Responders should, at minimum, strip the patient's clothes, flush their skin with water, and cover them with sheets or another covering. The Incident Safety Officer should consider the chemical-specific information from the hazardous materials response resources and prescribe appropriate personal protective equipment for transport personnel.

## TRANSPORTATION OF RADIOLOGICALLY CONTAMINATED PATIENTS

Radiologically contaminated patients must be transported via ground ambulance or another designated vehicle. Do not withhold life-saving treatment from patients solely because they are contaminated with radioactive material. In this instance, the rendering of life-saving treatment takes precedence over decontamination. Unstable ALS patients requiring immediate transport can be “packaged” to reduce the likelihood of spreading contamination to providers, the ambulance or the hospital. These patients should be packaged as shown below:

# PACKAGING CONTAMINATED PATIENTS FOR TRANSPORT CHECKLIST

Complete the following steps when packaging a contaminated patient for transport.

- ☐ Cover the ground or floor up to the location of the patient.
- ☐ Place two sheets on a clean (uncontaminated) ambulance stretcher.
- ☐ Transfer patient from triage or treatment area to the clean ambulance via stretcher.
- ☐ Wrap one sheet around the patient to cover all extremities, leaving access to the head and airway.
- ☐ Monitor the patient and apply treatment per protocol and procedure.
- ☐ Decontaminate the stretcher
- ☐ Decontaminate the ambulance treatment area before loading the "clean" stretcher.

# ACCIDENTAL EXPOSURE OF EMERGENCY MEDICAL RESPONDERS' CHECKLIST

- ☐ If medical responders identify contamination during any transport, they shall immediately stop at the closest safe location, notify local Communications that they are contaminated and request a fire department response. Crew safety and patient care are the highest priorities. Therefore, responders presenting with symptoms secondary to exposure to a contaminant should be considered patients.
- ☐ If medical responders identify that they are contaminated at any incident site, they shall immediately notify the IC. Responders presenting with symptoms secondary to exposure to a contaminant should be considered patients.
- ☐ Emergency medical responders accidentally contaminated at the HazMat incident scene shall only board the transport apparatus once thoroughly decontaminated. Responders presenting with symptoms secondary to exposure to a contaminant should be considered patients.
- ☐ Patients and emergency medical responders accidentally contaminated (e.g., by gastric contents) in the transport apparatus shall immediately wash with water and contact the IC for advice on further decontamination.

## EMS PATIENT CARE DOCUMENTATION CHECKLIST

- ☐ EMS responders must complete patient documentation on all patient contacts per agency and medical direction protocol.
- ☐ EMS responders have Patient Refusal Forms for patients who refuse medical evaluation and/or care and/or transport against medical advice (AMA). EMS responders must inform patients of the risks of doing so and should sign a statement attesting to their actions. If the patient is unwilling to sign, the EMS responder may document that the patient refused to sign in testimony to the previous.
- ☐ EMS operations have special arrangements and administrative processes designed and set in place for the care and/or refusal/AMA of minors and patients with mental impairment.
- ☐ Receiving hospitals are provided with a copy of the patient care documentation.
- ☐ Any person who receives medical care, advice or supplies from a medical professional at a HazMat Incident will be considered a patient. Therefore, the interaction of event EMS personnel with them will be regarded as a "patient contact."
- ☐ Documentation will be performed on the status of parent contact whenever minors present as patients.

## EMS PATIENT CARE SALT TRIAGE

**SALT** (Sort, Assess, Life-Saving Interventions, Treatment and/or Transport):

- ☐ Begin where you are.
- ☐ Ask anyone who can walk to move to a designated area.
- ☐ Use surveyor's tape to mark patients.
- ☐ Move quickly from patient to patient.
- ☐ Maintain patient count.
- ☐ Provide only minimal treatment.
- ☐ Keep moving!

Remember…Establish COMMAND, SAFETY, SURVEY, SEND, SET UP, AND SALT TRIAGE

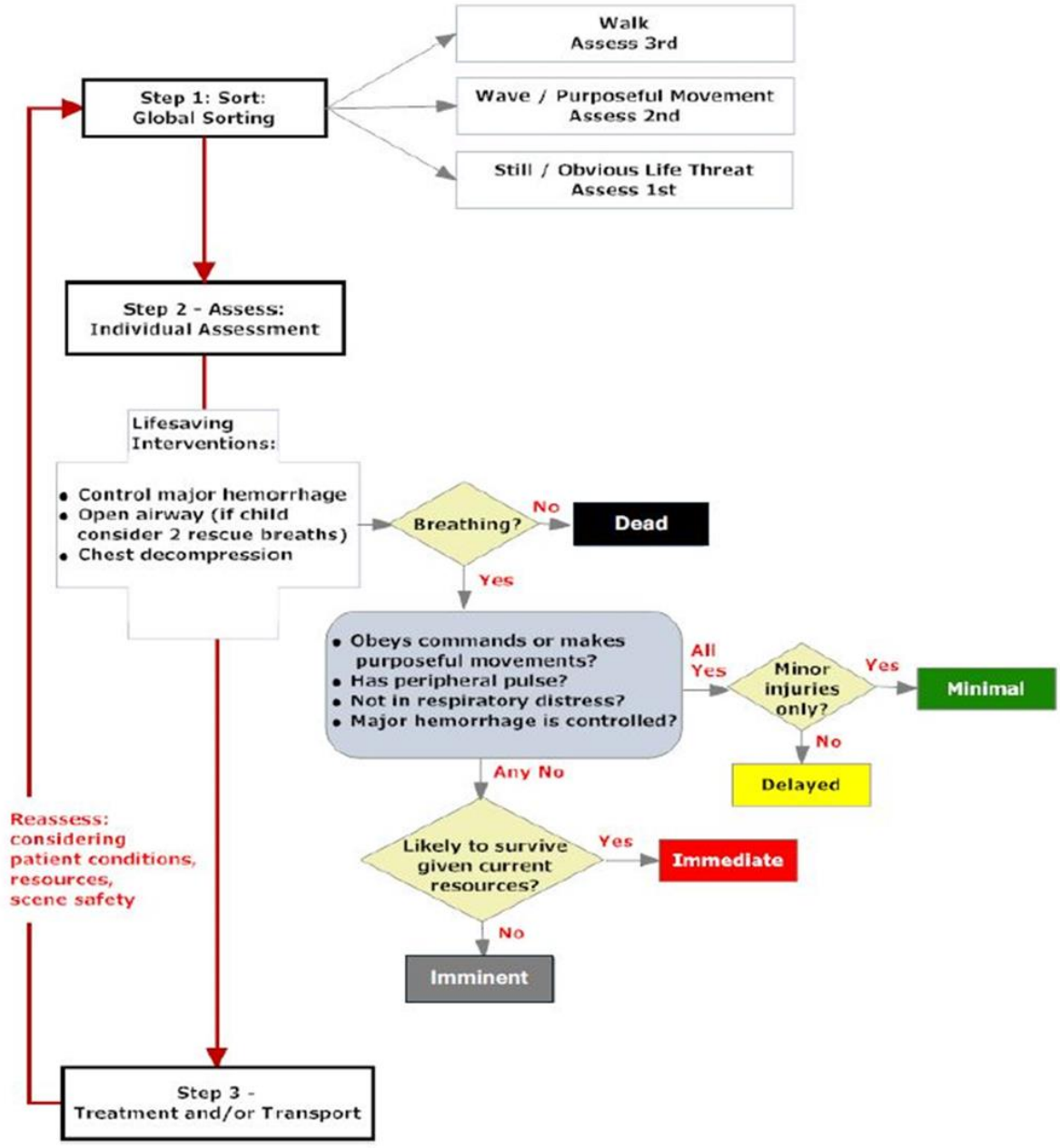


**Figure 7. SALT (Sort, Assess, Life-Saving Interventions, Treatment and/or Transport) Triage[1]**

[1] https://chemm.hhs.gov/salttriage.htm

# SALT TRIAGE CATEGORIES

**IMMEDIATE: (RED TAGGED)**

- Life-threatening injuries/illnesses.
- Risk of asphyxiation or shock is present or imminent.
- High probability of survival if treated and transported immediately.
- Can be stabilized without requiring constant care or elaborate treatment.

**DELAYED: (YELLOW TAGGED)**

- Potentially life-threatening injuries/illnesses.
- Severely debilitating injuries/illnesses.
- Can withstand a slight delay in treatment and transportation.

**IMMINENT: (GRAY TAGGED)**

- Not dead but not expected to survive given the injuries and current circumstances.
- Traumatic Brain Injury with exposed brain.
- 90% total body surface area burns.

**MINOR: (GREEN TAGGED)**

- Non-life-threatening injuries.
- Patients who require a minimum of care with minimal risk of deterioration.
- These patients may be later re-triaged and re-classified if resources change.

**DECEASED: (BLACK TAGGED)**

- Expired en route to or in the treatment area.
- Unresponsive with no circulation; cardiac arrest.