


CHEMPACK
Activation and Response for
Emergency Medical Services



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Planning and Preparedness





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KEYS TO SUCCESSFUL CHEMPACK PLANNING

- Stakeholder Collaboration:** Emergency Management, Fire Department, Law Enforcement, Emergency Medical Services, 911 Centers, Public Health, Hospitals, etc.
- Plans:** Developing, maintaining, and updating plans with clearly defined roles and responsibilities.
- Exercises:** Regular exercises give all participants an opportunity to test the plan and ensure its effectiveness in a real-world event.





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WHAT SHOULD BE IN THE PLANS?

- What is a CHEMPACK
- When to request CHEMPACK
- How to request CHEMPACK
- Deployment and receipt of CHEMPACK
- Administration of CHEMPACK medications
- Demobilization



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TRAINING, TRAINING, TRAINING!

Conduct Agency Training

- Can request mock assets through OHEP-Plan Ahead
- Review the protocols
- Conduct a tabletop or functional exercise with partners

Annually Review Plans with Partners / Stakeholders


- New participants
- Staff turnover



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HISTORY – PROTOCOLS AND POLICY STATEMENTS



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BEMS POLICY STATEMENT 03-05 (FEB. 2003)



- Outlined the purchase and use of "Mark I Kits."
- Limited use to EMS Services that were part of a Metropolitan Medical Response System (MMRS) including New York City, Yonkers, Buffalo, Rochester and Syracuse.
- Provided guidelines for training and explains mechanism of action for antidotes [Atropine & Pralidoxime Chloride (2-PAM)].
- Focused on chemical terrorism and not organophosphate exposure from other sources (such as an agricultural or industrial accident).



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BEMS POLICY STATEMENT 03-05 (FEB. 2003)

- Included a "Chemical Terrorism Preparedness and Response" Card which could be carried on board an ambulance or other EMS Response vehicle.
 - Outlined signs, symptoms and treatment of various chemical agents;
 - Appropriate, minimum personal protective equipment to prevent inhalation, dermal, and intra-ocular exposure;
 - Proper decontamination guidelines.
- Provided a model protocol for regions to follow.
 - Note: At that time, the 18 Regional EMS Councils each had their own set of treatment protocols.



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NEW YORK STATE COLLABORATIVE PROTOCOLS

- Introduced in 2017.
- Established protocols for all provider levels (from Certified First Responder through Paramedic).
- Initial participation was limited to certain regions.
- Was accompanied by an online training module, quality improvement guidelines, and a collaborative formulary.
- Protocol "2-28 : Suspected Nerve Agent" specified use in a disaster setting and used the term "Chempack" for the first time.
- Request for Chempack assets had to be made through an on-line medical control physician.



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CURRENT POLICIES AND PROTOCOLS




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NEW YORK STATE COLLABORATIVE PROTOCOLS

- As of 2023, adopted by 17 of 18 Regions in New York State.
- Comprised of a Protocol and Resource.
 - "Organophosphate Exposure" (Protocol).
 - Treatment limited to atropine and seizure control (via adult or pediatric seizure protocol).
 - "Suspected Nerve Agent" (Resource).
 - Still specifies use in a disaster/weapons of mass destruction setting.
 - Identifies on-line medical control as the resource for requesting assets.



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PROTOCOL: ORGANOPHOSPHATE EXPOSURE

EMT

- Decontamination is critical
- ABCs and vital signs
- Airway management and appropriate oxygen therapy
- Determine what and how much was taken, along with the time, if possible
- Check blood glucose level, if equipped
 - Refer to the "General: Hypoglycemia - Adult" or "General: Hypoglycemia - Pediatric" protocol as indicated

CPA AND EMT STOP

EMERGENCY

- Variable routes

ADVANCED STOP

CC STOP

PARAMEDIC


- For symptomatic patients with organophosphate poisoning:
 - Atropine: 2mg per dose IV every 5-10 minutes until secretions dry in adults
 - For the pediatric patient:
 - Atropine: 1mg IV every 5-10 minutes, until secretions dry
 - For adult patients use "General: Seizure - Adult" protocol
 - For pediatric patients use "General: Seizure - Pediatric" protocol

PARAMEDIC STOP

Key Public Considerations

- If suspected NMD, refer to the "Suspected Nerve Agent - Suspended" protocol
- For access to patient or multiple patients, the appropriate agency may quickly be contacted.
- Diligent airway management, including suctioning and/or patient positioning, is imperative.

- Treatment is limited by the amount of atropine and benzodiazepines carried on an EMS unit.
- A single patient, exhibiting severe symptoms, could quickly overwhelm the medication capacity of a single, or even several EMS units.
- This is of particular concern in the rural setting, where an organophosphate exposure could occur from an industrial or agricultural accident.



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RESOURCE: NERVE AGENT – SUSPECTED

THIS RESOURCE IS SPECIFIC TO A DISASTER SETTING

Overview

- This resource is for those adult patients who are suspected of being exposed to an organophosphate or a chemical nerve agent, and are experiencing some or all of following signs/symptoms:
 - ACUTE: SLUDGEY** – Salivation–Emetion–Stimulation/Diarrhea/GI
 - MODERATE: SLUDGEY** – Vomiting–Diarrhea–Piloerection–Miosis
 - SEVERE: SLUDGEY** – Apnoea/Coma/Seizures/Convulsions – Respiratory Distress
- This is a reference to assist with the implementation of BEMH policy statement 63-65 (“Mark 1 kit”) for the optimal version in a WMD incident.

EMT ADVANCED, CG, AND PARAMEDIC STOP

- EMTs/Paramedics should be trained in the WMD Awareness level but not the protocol.
- The safe exposure or other indications found in the CHERMPACK Program Antidote Kit are NOT to be used for prophylaxis.

Key Points/Contraindications

- Children should be decontaminated and have expiratory transport off scene, especially if they are demonstrating ANY signs or symptoms of exposure.
- Consult medical control before administering medication to patients younger than 18 years of age.
- CHERMPACK Program Antidote Kit medications may be used regardless of the expiration date.**

Mark 1 Kit Dosing Chart

Exposure	Antidote Dosing Schedule	Expiratory Transport	Priority
SLUDGEY	2 Mark 1 Kits (2x 2ml)	3-4 hr	1 - 4 hr
MODERATE	2 Mark 1 Kits (2x 2ml)	3-4 hr	2 - 4 hr
SEVERE	2 Mark 1 Kits (2x 2ml)	3-4 hr	3 - 4 hr

Note: Mark 1 Kit should be administered to patients exhibiting SLUDGEY and MODERATE symptoms. It should not be administered to patients exhibiting SEVERE symptoms.

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NEW YORK CITY UNIFIED PROTOCOLS

- “Weapons of Mass Destruction: Nerve Agent Exposure.”
- Class Order issued by Fire Department of New York (FDNY) Office of Medical Affairs (OMA) is required for use.
- Specifies what providers can enter and operate in what zones.
 - Example: Hot Zone – FDNY Certified First Responder, FDNY Hazardous Materials Emergency Medical Technicians and Paramedics, FDNY Rescue Paramedics.
- Also found in FDNY Hazardous Materials Medical Technicians Protocols, for exclusive use by special trained FDNY EMS Providers.
 - These protocols are unique to New York City.

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FDNY HAZ-TAC PROTOCOLS (EXCERPTS)

Training

- All Haz-Tac Officers, EMTs, and AEMT-Ps must possess a valid New York State DOH Bureau of Emergency Medical Services EMT or EMT Paramedic certification. NYS certified paramedics must also possess a valid Regional Emergency Medical Services Committee of New York City (REMAC) certification. In addition all members must successfully complete an 120-hour basic hazardous materials medical technician course and participate in scheduled stair training throughout the year. Training programs will be based in accordance with OSHA 1910.120 (HAZOPPER) and relevant best practices and recommendations as specified in NFPA standards 472 and 473.

SPECIALIZED EQUIPMENT AND MEDICATIONS

Equipment	Medications
<ul style="list-style-type: none"> Multi-Gas meter SCOTT PAPR with CBRN and P100 canister Radiological dosimetry Self-contained breathing apparatus Chemical protective clothing Emergency decontamination kit 	<ul style="list-style-type: none"> Calcium Gluconate (solution and gel) Potassium Iodide (KI) tablets Methylene Blue Pyridoxine (Vitamin B6) Ketamine Prussian Blue Tetracaine

SUB-PROTOCOLS


- A: CHLORINE/CHLORAMINE AND RELATED COMPOUNDS
- B: HYDROGEN FLUORIDE (HF)/ HYDROFLUORIC ACID (HF)
- C: HYDROGEN SULFIDE
- D: METHEMOGLOBINEMIA
- E: HYDRAZINE POISONING WITH SEIZURES
- F: HYDROCARBON PRODUCTS/SOLVENTS
- G: CYANIDE TOXICITY
- H: ORGANOPHOSPHATES
- I: RADIATION TREATMENT

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RESPONSE TO CHEMICAL RELEASE / SURGE

- Can vary wildly and dependent on factors such as:
 - County Concept of Operations (CONOPS) and Regional Response Plans;
 - Distance to a CHEMPACK site.
- Outside of FDNY Hazardous Materials Medical Technician, a limited number of EMS response teams can operate in a "hot" or "warm" zone and is often limited to EMS agencies/ providers within municipal fire departments.
- Decontamination of patients would be performed by local fire department/hazardous materials team(s) and often prior to EMS contact





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PERSONAL PROTECTIVE EQUIPMENT (PPE)


- PPE requirements are limited to what is included in New York State Emergency Medical Services Code (Part 800) and Occupational Health and Safety (OSHA) 29 Code of Federal Regulations (CFR) 1910.
- Part 800.24 (Certified Ambulances)
 - Two sets of masks and goggles
 - Two pairs of disposable gloves
- Part 800.26 (Other Certified EMS Vehicles)
 - No requirements
- OSHA requires EMS agencies to have a Respiratory Protection Plan (29 CFR 1910.134) and a Bloodborne Pathogens Plan (29 CFR 1910.1030)
 - PPE is still limited, at most, to N-95 (or PAPR) and fluid resistant gowns.
- No federal or state requirement for EMS Providers to have self contained breathing apparatus or CPC - Limited number of specialized units

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FUTURE CHANGES AND UPDATES




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NEW YORK STATE COLLABORATIVE PROTOCOLS

- Revisions to both the Organophosphate Protocol and Suspected Nerve Agent Resource are completed and were approved at the February 2024 meeting of the State Emergency Medical Services Council (SEMSCO).
 - Revisions were designed to shift the focus from mass casualty incidents and/or weapons of mass destruction to any organophosphate exposure where supplies can be quickly exhausted and / or any life can be saved with a CHEMPACK activation.
 - Activation of CHEMPACK does not require medical control approval / authorization.
- Revision of Policy Statement 03-05 is in progress.
 - Update and shift focus to regular and ongoing training & collaboration.
 - Best practices from New York State CHEMPACK guidelines.



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LINKS

New York State CHEMPACK Guidelines


- Health Commerce System, My Content>Documents by Group>NYSDOH>Preparedness>Chempack

Patient Treatment Protocols

- New York State Collaborative Protocols
https://www.health.ny.gov/professionals/ems/pdf/ny_collaborative_protocols_v23.1.pdf
- New York City Unified Protocols
<https://nycremsco.org/wp-content/uploads/2021/01/2022-REMAC-Protocols-FINAL-PDF.pdf>
- FDNY Haz-Tac Protocols
<https://nycremsco.org/wp-content/uploads/2022/06/2022-HazTac-Protocols-Update.pdf>

Bureau of EMS Policy Statements


- Policy Statement 03-04: "Chemical Terrorism Preparedness and Response Card"
<https://www.health.ny.gov/professionals/ems/pdf/03-04.pdf>
- Policy Statement 03-05: "Mark I Kits"
<https://www.health.ny.gov/professionals/ems/pdf/03-05.pdf>



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QUESTIONS?



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