

# WEAPONS OF MASS DESTRUCTION PARAMETERS



**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

**GENERAL CBRNE IDENTIFICATION OF AGENTS<sup>1</sup>**

- I. Management Information**
  - A. Chemical agents<sup>2</sup>**
  - B. Biological threats<sup>3</sup>**
  - C. Radiological threats<sup>4</sup>**
  - D. Nuclear threats<sup>5</sup>**
  - E. Explosive threats<sup>6</sup>**
  
- II. Signs and Symptoms of the Attack<sup>7</sup>**
  - A. CHEMICAL INCIDENT (HAZMAT or CBRNE)**
    - 1. Responders should be alert for the following signs that a chemical agent may have been dispersed:
      - a. Explosions that dispense liquids, vapors or gases
      - b. Explosions that seem only to destroy a package or bomb device
      - c. Unscheduled and unusual spray being disseminated
      - d. Abandoned spray devices
      - e. Numerous dead animals fish and birds
      - f. Lack of insect life
      - g. Mass casualties without obvious trauma
      - h. Definite pattern of casualties and common symptoms
      - i. Civilian panic in potential target areas (government buildings, public assemblies, etc.)
      - j. Any clustering of symptoms or unusual age distribution (e.g., chemical exposure in children).
  - B. BIOLOGICAL INCIDENT (Natural or CBRNE)**
    - 1. Responders should be alert for the following signs that a biological agent may have been dispersed:
      - a. An unusual increase in the number of individuals seeking care, especially with similar symptoms such as respiratory, neurological, gastrointestinal or dermatological symptoms.
      - b. Any clustering of patients in time or location (e.g., persons who attended the same public event).
  - D. RADIOLOGICAL INCIDENT (CBRNE)**
    - 1. Notification of the detonation of a nuclear device.  
Dirty bomb
  - E. NUCLEAR INCIDENT (Natural or CBRNE)**
    - 1. Explosion with mushroom cloud and devastation of a large geographical area (atypically large for an incendiary device)

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

- F. EXPLOSIVE INCIDENT** (Natural or CBRNE)
1. Responders should be aware of the possibility of secondary incendiary devices and release of a threatening agent.
    - a. Obvious trauma
    - b. Panic in potential target areas.

**III. Personal Protective Equipment**

- A. NIOSH/OSHA/EPA classification system:**
1. Level A<sup>8</sup>
  2. Level B<sup>9</sup>
  3. Level C<sup>10</sup>
  4. Level D<sup>11</sup>
- B. Universal Precautions<sup>12</sup>**

**FIRST RESPONDER/BASIC LIFE SUPPORT**

**IV. Management**

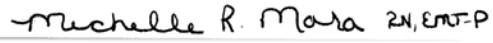
- A. First responding units must approach with caution
- B. Approach upwind, uphill and upstream, as appropriate.
- C. Utilize resource materials such as the Emergency Response Guidebook or Emergency Care for Hazardous Materials Exposure.
- D. Utilize appropriate PPE
- E. Be aware of contaminated terrain and contaminated objects.
- F. Hazmat response protocols must be initiated, as well as unified incident command.
- G. Maintain a safe distance.
- H. Attempt to identify the nature of the exposure by looking for placards, mode of dispersal (vehicle explosion, bomb, aerosolized gas, etc.)
- I. Victims and potential victims must be evacuated rapidly from the contaminated area and decontaminated as quickly as possible, if appropriate. In certain situations, treatment may be initiated within the hot and/or warm zones of an incident by properly trained, protected and equipped personnel.
- J. Be alert for secondary devices.

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

MDCIS/EMSCC Approved on: \_\_\_\_\_  
MCB/MCA Approved on: \_\_\_\_\_ 19OCT06  
Supersedes Version Dated: \_\_\_\_\_ NA  
Effective Date \_\_\_\_\_ 01MAR07  
Revised on: \_\_\_\_\_ NA

  
\_\_\_\_\_  
Medical Director

  
\_\_\_\_\_  
Michelle R. Mara RN, EMT-P  
EMS Manager

<sup>1</sup> This parameter is written to provide general pre-arrival information for suspected HAZMAT and CBRNE (chemical, biological, radiological, nuclear, and explosive) incidents.

- <sup>2</sup> a. Pose a threat during every phase of their existence: production, packaging, storage and delivery to the intended target. Many common hazardous materials used in industry pose the same threat to emergency responders as the chemicals classified as nerve, blister, blood, and choking agents.
- b. A chemical agent may be defined as a compound that, through its chemical properties, produces lethal or damaging effects in humans, animals, plants or materials. Chemical agents are usually man-made through the use of industrial chemical processes.
- c. Classified according to effects:
1. Lethal agents-
    - a. Designed to kill
    - b. Two Subcategories
      1. Nerve agents
        - a. Most deadly
        - b. Disrupt nerve transmission within organs
        - c. Quickly
      2. Blood agents(cyanides)
        - a. Interfere with the blood's ability to transport oxygen throughout the body
        - b. Often rapidly fatal
    3. Blister agents (vesicants)
      - a. Cause a blistering of the skin and mucous membranes, especially the lungs.
    4. Choking agents (pulmonary agents)
      - a. Irritate the lungs, causing them to fill with fluid
    5. Incapacitating agents
      - a. Cause an intense (but temporary) irritation of eyes and respiratory tract

d. Potential of the agent to do damage is measured by how readily it disperses. Wind and rain will increase the dispersion rate. Heavy rains act to dilute both persistent and non-persistent agents and facilitate penetration into the ground.

    1. Persistent agents have low volatility, evaporate slowly and are particularly hazardous in liquid form. They stay around for long periods of time (24 hours or longer) and contaminate not only the air but objects and terrain as well. Mustard and the nerve agent VX are examples of persistent agents.
    2. Non-persistent agents are volatile and evaporate quickly, within several hours. Gases, aerosols, and highly volatile liquids tend to disperse rapidly after release. Phosgene, cyanide and the G series of nerve agents (with the exception of GD-Soman) are non-persistent agents. Because of their volatility, they pose an immediate respiratory hazard but are not particularly hazardous in liquid form.

<sup>3</sup> a. May be intentional or natural.

b. Either may affect large segments of the population and will not necessarily present immediately.

c. Micro-organisms and toxins, generally, of microbial, plant or animal origin to produce disease and/or death in humans, livestock and crops

    1. Biological Agents- Anthrax, Cholera, Plague, Tularemia and Q-Fever
    2. Viral Agents- Smallpox, Venezuelan Equine Encephalitis and Viral Hemorrhagic Fevers
    3. Biological Toxins- Botulinum Toxins, Staphylococcal Enterotoxin B, Ricin and Trichothecene Mycotoxins (T2)

d. Biological agents utilized as a CBRNE may not become evident until hours, days or weeks after the exposure due to the various incubation periods for each pathogen

<sup>4</sup> a. Affecting a significant portion of the population will most likely be associated with the explosion of a nuclear device or with the intentional release of radioactive material, including associated with an explosion as in a "dirty bomb".

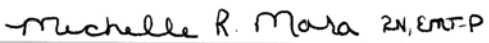
**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

- b. Isotope exposure with typically no immediate effect. The sooner the victim has symptoms the worse the exposure
- <sup>5</sup> a. May be intentional or accidental. Either may affect large segments of the population. Immediate threat is results of explosion followed by devastation of radioactive isotopes.
- b. Primary risk is massive trauma and devastation as the result of a large-scale blast. Supportive care and treatment based upon exposure
- <sup>6</sup> a. May be intentional or accidental. Either may affect large segments of the population and will present immediately. Those not affected by initial device may risk threat from agents released. Awareness should be heightened for secondary incendiary devices in the event of an intentional explosive.
- b. Threats with explosive devices may be large or small scale. Trauma and mass casualty care will be primary.
- <sup>7</sup> a. Unlike an attack with explosives, the fact that a terrorist has attacked with a chemical or biological agent may not always be obvious at first. The patient's clinical presentation will offer clues about the type of toxic substance used.
- b. Many of the early signs and symptoms produced by chemical warfare agents may resemble those of a variety of disorders, including stress, psychological withdrawal, palpitations, gastrointestinal distress, headaches, dizziness, and inattentiveness.
- <sup>8</sup> Fully encapsulating, chemical resistant suit, gloves and boots, and a pressure demand, self-contained breathing apparatus (SCBA) or a pressure-demand supplied air respirator (air hose) and escape SCBA. (Maximum protection against vapor and liquids)
- <sup>9</sup> Non-encapsulating, splash-protective, chemical-resistant suit that provides Level A protection against liquids but is not airtight. (Full respiratory protection is required but danger to skin from vapor is less)
- <sup>10</sup> Utilizes a splash suit along with a full-faced positive or negative pressure respirator (a filter type air purifying respirator or PAPR) rather than an SCBA or air line
- <sup>11</sup> Limited to coveralls or other work clothing, boots and gloves
- <sup>12</sup> a. Assume that all patients are potentially contagious and use appropriate barriers to prevent the transmission of pathogenic organisms.
- b. Include gloves, gown, HEPA respirators, face shields and appropriate handwashing
- c. If a chemical exposure is suspected, coated Tyvex suits, and respirators with Organic Vapor/HEPA cartridges are recommended

MDCIS/EMSCC Approved on: _____
MCB/MCA Approved on: <u>19OCT06</u>
Supersedes Version Dated: <u>NA</u>
Effective Date _____
Revised on: _____

  
\_\_\_\_\_  
Medical Director

  
\_\_\_\_\_  
EMS Manager

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

**CHEMICAL EXPOSURE<sup>1</sup>**

- I. Assessment/Management Information**
  - A. Nerve Agents & Cyanide Compounds
    - 1. Refer to appropriate parameter
  - B. Choking Agents
    - 1. Examples
      - a. Phosgene
      - b. Chlorine
      - c. Chloropicrin
    - 2. Mode of Transmission: Inhalation
    - 3. Signs and Symptoms
      - a. Cough
      - b. Dyspnea
      - c. Irritation of mucous membranes
      - d. Pulmonary Edema
  - C. Vesicant Agents
    - 1. Examples
      - a. Sulfur Mustard (HD)
      - b. Nitrogen Mustard (HN)
      - c. Lewisite
      - d. Phosgene Osime (CX)
    - 2. Named for their tendency to cause blisters
  - D. Lacrimator Agents (Tear Gas)
    - 1. Widely used by law enforcement and the military
    - 2. Widely available to the public
    - 3. Mode of transmission
      - a. Physical Contact
    - 4. Signs and Symptoms
      - a. Nasal and Ocular discharges
      - b. Photophobia
      - c. Burning sensations in the mucous membranes

**FIRST RESPONDER**

**II. Management**

**A. Chemical Agents**

- 1. PPE
  - a. Respiratory or as determined by unified command, for patient management.
- 2. Decontamination
  - a. Patients should be immediately removed from the area to a clean atmosphere.<sup>2</sup>

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

**B. Vesicant Agents (Blister agents)**

1. PPE
  - a. As determined by unified command, for patient management.
2. Decontamination
  - a. Remove clothing
  - b. **DO NOT USE LATEX OR RUBBER** for Mustard Exposure.<sup>3</sup>
  - c. Blot and cleanse with soap (if available) and water. Avoid scrubbing and the use of hot water.
  - d. **Time is critical for effective decontamination of Mustard Exposure.**<sup>4</sup>

**C. Lacrimator Agents (Tear Gas)**

1. PPE
  - a. Protective masks and clothing.<sup>5</sup>
2. Decontamination
  - a. Remove clothing
  - b. Blot and cleanse with soap and water.

**D. Emesis-Inducing Agents**

1. PPE
  - a. Chemical insert masks and standard gloves.
2. Decontamination
  - a. None

**III. Treatment**

- A. Establish and maintain airway, provide oxygenation and support ventilation, as necessary.<sup>6</sup>
- B. Obtain vital signs (blood pressure, pulse and respiratory rate).
- C. If exposure to eyes
  1. Remove contact lenses, if applicable
  2. Flush with 1000cc of NS each eye
  3. Flush from nose-side outward.<sup>7</sup>
- D. Arrange for ALS intercept, if not already accomplished by MedCom.

**BASIC LIFE SUPPORT**

- E. Initiate transport toward ALS intercept, if transporting unit.

# SAGINAW VALLEY MEDICAL CONTROL AUTHORITY PRACTICE PARAMETER

## NOTIFY RECEIVING FACILITY

### ADVANCED LIFE SUPPORT

- F. **Choking and Vesicant Agents (Severe Exposure)** <sup>8</sup>
  - 1. Consider early intubation and aggressive ventilatory support.
  - 2. MONITOR EKG
  - 3. IV NORMAL SALINE @ TKO
  - 4. Administer **ALBUTEROL 2.5mg pre-diluted in 3cc SOLUTION VIA NEBULIZER.** <sup>9</sup>
    - a. Maybe repeated above dose if no improvement

## CONTACT MEDICAL CONTROL

- G. Possible orders post radio contact
  - 1. If available, consider administering **TETRACAINE HYDORCHLORIDE** 1-2 drops in each eye following eye irrigation. <sup>10</sup>

<sup>1</sup> This Practice Parameter may be used in conjunction with the General CBRNE/Identification of Agent Practice Parameter.

<sup>2</sup> Pulmonary agents are generally a gas in normal atmospheric conditions, therefore patients will only be exposed and not contaminated. In these situations, no decontamination is needed.

<sup>3</sup> Latex and Rubber absorb Mustard.

<sup>4</sup> Blister agents become "fixed" to tissue components within two minutes after deposition.

<sup>5</sup> Lacrimator agents are transmitted by physical contact.

<sup>6</sup> High Flow O2 for all symptomatic patients.


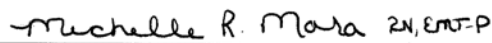
<sup>7</sup> Rationale-To avoid flushing contaminate into other eye.

<sup>8</sup> Patient may show signs and symptoms indicating non-cardiogenic pulmonary edema.

<sup>9</sup> Nebulizer treatment may be initiated prior to vascular access. Do not delay nebulizer treatment.

<sup>10</sup> Ensure that patient does not rub eyes after administration of Tetracaine as injury may result

MDCIS/EMSCC Approved on: _____
MCB/MCA Approved on: <u>19OCT06</u>
Supersedes Version Dated: <u>NA</u>
Effective Date <u>01MAR07</u>
Revised on: <u>NA</u>

  
 \_\_\_\_\_  
 Medical Director  
  
  
 \_\_\_\_\_  
 EMS Manager

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

**NERVE AGENT/ORGANOPHOSPHATE PESTICIDE  
EXPOSURE TREATMENT PARAMETER<sup>1</sup>**

**I. Assessment Information**

**A. Chemical Agents**

1. Agents of concern
  - a. Military Nerve Agents
    1. Sarin (GB)
    2. Soman (GD)
    3. Tabun (GA)
    4. VX
  - b. Organophosphate Pesticides (OPP)
    1. Glutathione
    2. Malathion
    3. Parathion
2. Detection
  - a. The presence of these agents can be detected through a variety of monitoring devices available to most hazardous materials response teams and other public safety agencies.

**II. Management**

**A. Patient Assessment**

1. SLUDGEM Syndrome
  - a. **S** Salivation/Sweating/Seizures
  - b. **L** Lacrimation
  - c. **U** Urination
  - d. **D** Defecation/Diarrhea
  - e. **G** Gastric Emptying (Vomiting)/GI Upset (Cramps)
  - f. **E** Emesis
  - g. **M** Muscle Twitching or Spasm
2. **Threshold Symptoms:** These are symptoms that may allow rescuers to recognize that they may have been exposed to one of these agents and include:<sup>2</sup>
  - a. Dim vision
  - b. Increased tearing/drooling
  - c. Runny nose
  - d. Nausea/vomiting
  - e. Abdominal cramps
  - f. Shortness of breath
3. **Mild Symptoms and Signs:**
  - a. Threshold Symptoms *plus:*
    1. Constricted Pupils<sup>3</sup>
    2. Muscle Twitching
    3. Increased Tearing
    4. Increased Drooling

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

5. Runny Nose
6. Diaphoresis
4. **Moderate Symptoms and Signs:**
  - a. Any or All of the above *plus*:
    1. Constricted Pupils
    2. Urinary Incontinence
    3. Respiratory Distress with Wheezing
    4. Severe Vomiting
5. **Severe Signs**
  - a. Any or All of the above *plus*:
    1. Constricted Pupils
    2. Unconsciousness
    3. Seizures
    4. Severe Respiratory Distress

**FIRST RESPONDER/BASIC LIFE SUPPORT**

- A. Be Alert for secondary devices in potential terrorist incident.
- B. Don appropriate PPE as directed by Incident Commander.<sup>4</sup>
- C. Assure EMS personnel are operating outside of **Hot Zone**.
- D. Avoid contact with vomit if ingestion suspected.<sup>5</sup>
- E. Assure patients are adequately decontaminated **prior** to transport.<sup>6</sup>

**NOTIFY RECEIVING FACILITY ASAP**

- F. Evaluate and maintain the airway, provide oxygenation and support ventilation as needed.
- G. Antidote administration per **Mark I Kit Dosing Directive (See Attachment A)**.

**ADVANCED LIFE SUPPORT**

- H. **IV NORMAL SALINE @ TKO.**
- I. Monitor EKG.
- J. If Mark I Kit is not available, Administer **Atropine 2-6 mg IV/IM per Mark I Kit Dosing Directive**.
- K. Treat Seizure per Seizure Practice Parameter:
  1. **Adult:**

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

- a. **If IV is successful:**
    1. Administer **DIAZEPAM 2-10mg IVP**  
**OR**
    2. Administer **MIDAZOLAM 0.05mg/kg to max 5mg IVP, if seizure uncontrolled.**
  - b. **If IV is unsuccessful or delayed:**
    1. Administer **MIDAZOLAM 0.1mg/kg to max 10mg IM.**
2. **Pediatric**
- a. **If IV is successful:**
    1. Administer **DIAZEPAM 0.2mg/kg IV or IO, over a 1 minute period (maximum dosage of 10mg).**
  - b. **If IV is unsuccessful or delayed:**
    1. Administer **DIAZEPAM 0.5mg/kg via rectal route (maximum dosage of 10mg).<sup>7</sup>**
    2. Administer **MIDAZOLAM 0.15mg/kg via IV or IO (maximum dosage of 5mg).**

**CONTACT MEDICAL CONTROL**

- K. Possible order post radio contact:
1. **Adult**
    - a. Additional **Atropine 2mg IV/IM** for continued secretions
  2. **Pediatric**
    - a. Additional **0.05mg/kg IV/IM** for continued secretions
  3. Seizure Prophylaxis per Seizure Parameter for patients with severe signs.

<sup>1</sup> This Practice Parameter is intended for EMS personnel at all levels to assess and treat patients exposed to nerve agents and organophosphate pesticides. The parameter includes the use of Mark I Antidote Kits and the Atropen autoinjector for per personnel trained in the use of these devices and authorized by SVMCA.

<sup>2</sup> Many of the above may also be associated with heat related illness.

<sup>3</sup> Pupil constriction is a relatively unique finding, occurs early and persists after antidote treatment. The presence of constricted pupils with SLUDGEM findings indicates nerve agent/OPP toxicity.

<sup>4</sup> Minimum PPE for Non-Hot Zone (i.e. DECON Zone) includes the following:

- a. Powered Air Purifying Respirator or Air Purifying Respiratory with proper filter
- b. Chemical resistant suit with boots
- c. Double chemical resistant gloves (butyl or nitrile)
- d. Duct tape glove suit interface and other vulnerable areas

<sup>5</sup> Off gassing is possible

<sup>6</sup> Removal of outer clothing provides significant decontamination. Clothing should be removed before transport. DO NOT transport clothing with patient.

<sup>7</sup> Use syringe and IV catheter to administer rectal dose.

MDCIS/EMSCC Approved on: \_\_\_\_\_  
 MCB/MCA Approved on: 19OCT06  
 Supersedes Version Dated: NA  
 Effective Date 01MAR07  
 Revised on: NA

  
 \_\_\_\_\_  
 Medical Director

Michelle R. Mara RN, EMT-P  
 \_\_\_\_\_  
 EMS Manager

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

**COMMUNICABLE DISEASE PARAMETER<sup>1</sup>**

**I. Assessment/Management Information**

- A.** The EMS provider must recognize that any patient that presents with one of the following may be potentially infectious, and must take the necessary precautions to avoid secondary exposure. These precautions include following this parameter.
1. a skin rash
  2. open wounds
  3. blood or other body fluids
  4. a respiratory illness that produces cough and/or sputum
- B.** Definition of Exposure
1. An exposure is determined to be any breach of the skin by cut, needle stick, absorption or open wound, splash to the eyes, nose or mouth, inhaled, and any other parenteral route.
- C.** Reporting Exposures
1. Police, Fire or EMS personnel who, in the performance of their duty, sustain a needle stick, mucous membrane or open wound exposure to blood or other potentially infectious material (OPIM) may request, under Public Act 368 or 419, that the patient be tested for HIV/Hepatitis B and C surface antigen. The exposed individual shall make the request on a Michigan Department of Community Health Form J427 (**MDCII Form J427**). The exposed individual should also report the exposure in accordance with their employer's policies and procedures.
- D.** Patients should be treated according to this parameter who present with the following symptom complexes:
1. Fever >100.5  
**And**  
Headache or Malaise or Myalgia  
**And**  
Cough or Shortness of breath or Difficulty breathing
  2. Pustular, papular or vesicular rash distributed over the body in the same stage of development (trunk, face, arms or legs) preceded by fever  
**And**  
Rash progressing over days (not weeks or months)  
**And**  
Patient appears ill
- E.** Crews will don the following PPE:<sup>2</sup>
1. N95 or higher protective mask/respiratory protection
  2. Gloves
  3. Goggles or face shield

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

- E. DO NOT REMOVE protective equipment during patient transport.**
- F.** Hand hygiene is of primary importance for all personnel working with patients. Hands must be washed or disinfected with a waterless hand sanitizer immediately after removal of gloves.
- G.** Vehicles that have separate driver and patient compartments and can provide separate ventilation to these areas are preferred for patient transportation. If a vehicle without separate compartments and ventilation must be used, the outside air vents in the driver compartment should be turned on at the highest setting during transport of patient to provide relative negative pressure in the patient care compartment.
- H.** Unless critical, do not allow additional passengers to travel with the patient in the ambulance.
- I.** All PPE and linens will be placed in an impervious biohazard plastic bag upon arrival at destination and disposed of in accordance with the direction from the hospital personnel.
- J. CLEANING AND DISINFECTION**
  - 1. Cleaning and Disinfection after transporting a potentially contagious patient must be done immediately and prior to transporting additional patients.
  - 2. Contaminated non-reusable equipment should be placed in biohazard bags and disposed of at hospital.
  - 3. Contaminated reusable patient care equipment should be placed in biohazard bags and labeled for cleaning and disinfection according to manufacture's instruction.

**II. Interfacility Transports**

- A.** Precautions should be based on treatment for emergent patient.
- B.** Prior to transporting the patient, the receiving facility should be notified and given an ETA for patient arrival allowing them time to prepare to receive this patient.
- B.** Clarify with receiving facility the appropriate entrance and route inside the hospital to be used once crew has arrived at the receiving facility.
- C.** All unnecessary equipment items should be removed from the vehicle to avoid contamination.
- D.** All transport personnel will wear the following PPE:
  - 1. Gloves
  - 2. Gown
  - 3. Shoe Covers
  - 4. N-95 (or higher) protective mask
- E.** Drape/cover interior of patient compartment and stretcher (utilizing plastic or disposable sheets with plastic backing)
- F.** Isolate the patient:
  - 1. Place disposable surgical mask on patient

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

- 2. Cover patient with linen sheet to reduce chance of contaminating objects in area.
- G. All PPE and linens will be placed in an impervious biohazard plastic bag upon arrival the receiving destination and disposed of in accordance with the direction from the hospital personnel.
- H. The ambulance(s)/transport vehicle will not be used to transport other patients (or for any other use) until it is decontaminated using the CDC guidelines for decontamination.
  - 1. Patient cohorting may occur if resources are exhausted and patients are grouped with same disease. Cohorting should only be utilized as a last resort.
- I. **All non-vaccinated EMS personnel should be vaccinated (when applicable) within 24 hours following potential exposure**

**FIRST RESPONDER**

**III. Management**

- A. Establish and maintain airway, provide oxygenation and support ventilation as needed.<sup>3</sup>
  - 1. If positive pressure ventilation is necessary, perform using a resuscitation bag-valve mask. If available, one equipped to provide HEPA or equivalent filtration of expired air should be used.
- B. Patient should wear a paper surgical mask, if tolerated.<sup>4</sup>
- C. Patients should also be encouraged to use hand sanitizers.

**BASIC LIFE SUPPORT**

- D. Initiate transport toward ALS intercept, if transporting unit.
- E. Receiving facility should be notified of the patient's condition prior to transport to facilitate preparation of the facility and institution of appropriate infection control procedures.

**NOTIFY RECEIVING FACILITY**

**ADVANCED LIFE SUPPORT**

- F. **MECHANICALLY VENTILATED PATIENTS**
  - 1. Mechanical ventilators for potentially contagious patient transports must provide HEPA filtration of airflow exhaust.

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

2. EMS providers should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive pressure ventilation.
3. BIPAP, CPAP and nebulizers should be avoided if possible because of increased spread of disease when used.

---

<sup>1</sup> This parameter is written to provide general guidelines for the treatment and transport of a patient with a known or suspected communicable disease.

<sup>2</sup> Consider the patient to be both airborne and contact contagious.

<sup>3</sup> Oxygen delivery with non-rebreather facemasks may be used for patient; however, nebulizer use should be avoided because of increase spread of disease.

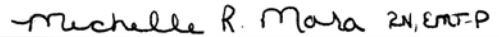
<sup>4</sup> To reduce droplet production.

MDCIS/EMSCC Approved on: _____
MCB/MCA Approved on: <u>19OCT06</u>
Supersedes Version Dated: <u>NA</u>
Effective Date <u>01MAR07</u>
Revised on: <u>NA</u>



---

Medical Director



---

EMS Manager

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

**MEDRUN ACTIVATION**

**Purpose:** The Michigan Emergency Drug Delivery and Resource Utilization Network (MEDDRUN) established standardized caches of medications and supplies strategically located throughout the State of Michigan. In the event of a terrorist incident or other catastrophic event resulting in mass casualties, MEDDRUN is intended to rapidly deliver medications and medical supplies, when local supplies are not adequate or become exhausted. The goal is to deploy MedPack within 15 minutes of the request.

**AUTHORIZATION**

- I. Only authorized agencies and officials can request MEDDRUN. These agencies include any Michigan Hospital, local public health agency, or emergency management program. Authorized officials include designated representatives from the Office of Public Health Preparedness (OPHP), the Michigan State Police (MSP) and the Regional Bioterrorism Preparedness projects.

**ACTIVATION**

- I. There are two modes for activating MEDDRUN, depending on the location and who is making the request. The first may be any EMS personal that identifies the need; the second may be a hospital, public health, EOC or Emergency Management that identifies a need for activation.
- II. EMS
  - A. Identifies need
  - B. Contact Central Dispatch, a hospital or MCA
  - C. Central Dispatch contacts MEDDRUN Communications Agency
    1. Primary: Survival Flight 877-633-7786 (877 MEDSRUN)
    2. Secondary: Aero Med: 616-391-5330
- III. Hospital, Public Health, EOC or Emergency Management
  - A. Identifies need
  - B. Contact MEDDRUN Communications Agency
    1. Primary: Survival Flight 877-633-7786 (877 MEDSRUN)
    2. Secondary: Aero Med: 616-391-5330

Page 2 of 3

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

**RESPONSIBILITIES**

I. MEDDRUN Communications Agency

- A. Contact MEDDRUN Agency Dispatch who then dispatches the closest MEDDRUN MedPack to the requesting location.

*\*Dispatch and response should not be delayed while waiting for confirmation from OPHP.*

- B. Contacts OPHP Point of Contact 517-232-7297 (beeper)  
C. Will notify/alert the next closest MEDDRUN Agency for possible deployment.  
D. Contact dispatched MEDDRUN Agency to either confirm/recall deployment after OPHP Point of Contact (POC) has confirmed the request with the affected agency.  
E. Communicate updates with requesting agency.  
F. OPHP POC will contact the requesting agency to authenticate the request.

II. OPHP POC

- A. Contact the MEDDRUN Communications Agency to provide confirmation and determine the need for any additional MedPacks or/ to recall the dispatch.  
B. Contact the Michigan State Police East Lansing Operations Center (ELOP).  
C. Contact the Regional Medical Coordination Center.  
D. Will coordinate a MI-HAN alert.  
E. Once MedPack reaches its destination the MEDDRUN response vehicle and crew will have completed their primary mission. They will either return to service or assume other operational responsibilities as requested by incident management officials and coordinate with their dispatch center.  
1. The person in charge of the scene will receive the MedPack. The MEDDRUN Controlled Substance Transfer Form must be completed. (See attachment) The Controlled Substance Form must be issued, Submitted, and received by the Regional Bioterrorism Preparedness Medical Director, within 24 hours.

**POST MEDDRUN DEPLOYMENT**

- I. Within 72 hours of a MedPack deployment, the MEDDRUN Agencies, OPHP and MEDDRUN Communications will prepare a Preliminary after Action Report (AAR) using the format prescribed by OPHP. (See AAR attachment) OPHP will review each AAR with the intent of improving future MEDDRUN responses.

# SAGINAW VALLEY MEDICAL CONTROL AUTHORITY PRACTICE PARAMETER

---


## Re-STOCKING MEDPACKS

- I. It is important that a MedPack be restocked and placed back in service as quickly as possible. The MEDDRUN Agency may be returned to service on a limited basis with a partially depleted MedPack. Depending on the availability of federal funds, the Regional Preparedness Bioterrorism Coordinator, in Collaboration with OPHP will be responsible for ordering the supplies to re-stock the MedPack(s) used.
  
- II. OPHP and MEDDRUN Communications will be notified upon the MedPack being returned to FULL SERVICE.

***\*MEDDRUN may also be pre-deployed for special events, designated by the State and Regional Leadership.***

**\*Should non-authorized agencies, officials or another state request MEDDRUN an authorized OPHP official must approve this request.**

MDCIS/EMSCC Approved on: _____
MCB/MCA Approved on: <u>19OCT06</u>
Supersedes Version Dated: <u>NA</u>
Effective Date <u>01MAR07</u>
Revised on: <u>NA</u>

  
\_\_\_\_\_  
Medical Director

*Michelle R. Mara* RN, EMT-P  
\_\_\_\_\_  
EMS Manager

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

---

**CHEMPACK ACTIVATION**

**Purpose:** The CHEMPACK Project provided the State of Michigan, in collaboration with the Center for Disease Control (CDC) and the U.S. Department of Homeland Security, with a sustainable, supplemental source of pre-positioned nerve agent/organophosphate antidotes and associated pharmaceuticals that will be readily available for use when local supplies become depleted. A large-scale event would rapidly overwhelm both the pre-hospital and hospital healthcare systems.

The CHEMPACK project is one component of the Michigan Emergency Preparedness Pharmaceutical Plan (MEPPP), a comprehensive statewide plan for coordinating timely application of pharmaceutical resources in the event of an act of terrorism or large-scale technological emergency/disaster.

**ACTIVATION**

- I. EMS Identifies a need for Nerve Agent (NA) antidote support.
  - A. Notify Central Dispatch (911) or the Medical Control Authority/hospital (MCA) and provide the Essential Elements of Information (EEI).
  - B. Central Dispatch or MCA/Hospital
    1. Submits EEI Report to the MEDDRUN/CHEMPACK Communications Agency.
      - a. *Primary: SURVIVAL FLIGHT: 877-633-7786 (877 MEDSRUN)*
      - b. *Secondary: Aero Med: 616-391-5330*
    2. Informs Emergency Management that Nerve Agent Antidote Supplies have been requested.
  - C. CHEMPACK Communications Agency:
    1. Conducts analysis & issues deployment orders to selected CHEMPACK storage sight, (CSS) Point of Contact (POC).
    2. Contacts the state agency (OPHP) Point of Contact: *BEEPER: 517-232-7297*
  - D. CHEMPACK Storage site notifies the transport unit and moves cashe to designated loading area.
    1. If confirmed, the Agency loads CHEMPACK supplies onto transport.
    2. If deployed, MA Dispatch notifies the MCA regarding dispatching transport vehicle.

**RESPONSIBILITIES**

- I. OPHP/POC follow-up will include:
  - A. Contacting the requesting agency to authenticate the request.
  - B. Contacting CHEMPACK Communications Agency to provide confirmation or initiate recall. If confirmed, advise if Alert Orders should be initiated.
  - C. Contacts Michigan State Police (MSP) East Lansing Operations Center (ELOP)
  - D. Coordinates potential Inter-Hospital Formulary Distribution.
  - E. Coordinates a MI-HAN Alert.


**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

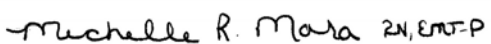
- 
- II. CHEMPACK Communications:
    - A. Provides Certificate Order/Recall Order.
    - B. Notifies CHEMPACK storage site Point of Contact of either a Certification Order or Recall Order.
    - C. If OPHP issues an alert, MEDDRUN/CHEMPACK Communications Agency issues an Alert Order to appropriate CHEMPACK storage site(s) for possible deployment.
  
  - III. CHEMPACK Storage Site:
    - A. Once confirmed, the Agency loads the CHEMPACK Supplies into the transportation vehicle and transports to the specific location.
  
  - IV: Designated Transportation Agency:
    - A. Ensure adequate security of the cache materials while being transported to the delivery point.
    - B. Maintain communications with the ChemPack Storage site's Point of Contact while en route to the delivery point, providing periodic updates regarding present location/circumstances that may impact time of delivery.
    - C. Follow the routes specified by the CSS POC and advise upon arrival to the delivery point.

**DELIVERY OF CACHE**

- I. When the cache arrives at the delivery point the Incident Command (IC) will take receipt of the cache as the person in charge by completing the Transfer of Custody form that will accompany the cache. The IC will ensure accurate accounting of the antidote supplies in coordination with the senior medical/EMT at the scene.
  - A. If additional antidotes are required the IC will Inform Central Dispatch/911.
  - B. If it appears that the amount of antidote needed will be less than anticipated, the transport vehicle will remain in the area to take custody of the unused antidotes to return them to the CSS POC.
  - C. Advise the CSS POC when the mission is completed.

MDCIS/EMSCC Approved on: _____
MCB/MCA Approved on: <u>19OCT06</u>
Supersedes Version Dated: <u>NA</u>
Effective Date <u>01MAR07</u>
Revised on: <u>NA</u>

  
\_\_\_\_\_  
Medical Director

  
\_\_\_\_\_  
Michelle R. Mora RN, EMT-P  
EMS Manager

**SAGINAW VALLEY  
MEDICAL CONTROL AUTHORITY  
PRACTICE PARAMETER**

**Essential Elements of Information (EEI) Report  
To Request CHEMPACK Deployments**


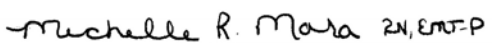
Essential Elements of Information Report													
1. Name, Position, and Contact Information for the Individual Requesting Deployment of the CHEMPACK Cache?	Name: _____ Position/Title: _____ Telephone/Other: _____ _____												
2. Name of Physician / Officer in Charge of Medical Management at the Scene (if different from "1." above.)	Name: _____ Position/Title: _____ Employer: _____ Telephone/Other: _____												
3. Location of Incident	Jurisdiction Name _____ Closest Intersection _____ (or) Name of Site _____												
4. Estimated Number of Casualties	<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">None</td> <td style="width: 25%;">5-10</td> <td style="width: 25%;">100-300</td> </tr> <tr> <td>1</td> <td>10-20</td> <td>300-500</td> </tr> <tr> <td>2-3</td> <td>20-40</td> <td>500-1000</td> </tr> <tr> <td>4-5</td> <td>40-100</td> <td>1000+</td> </tr> </table>	None	5-10	100-300	1	10-20	300-500	2-3	20-40	500-1000	4-5	40-100	1000+
None	5-10	100-300											
1	10-20	300-500											
2-3	20-40	500-1000											
4-5	40-100	1000+											
5. Symptoms of Casualties	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Pin Pointed Pupils</td> <td style="width: 50%;">Twitching</td> </tr> <tr> <td>Dimness of Vision</td> <td>Seizures</td> </tr> <tr> <td>Slurred Speech</td> <td>Chest Tightness</td> </tr> <tr> <td>Difficulty in Breathing</td> <td>Unconsciousness</td> </tr> </table>	Pin Pointed Pupils	Twitching	Dimness of Vision	Seizures	Slurred Speech	Chest Tightness	Difficulty in Breathing	Unconsciousness				
Pin Pointed Pupils	Twitching												
Dimness of Vision	Seizures												
Slurred Speech	Chest Tightness												
Difficulty in Breathing	Unconsciousness												
6. Local Supplies of Antidotes and Pharmaceuticals are Exhausted, multiple lives remain at risk, and CHEMPACK supplies are needed to save lives?	Yes _____ No _____												

**SAGINAW VALLEY MEDICAL  
CONTROL AUTHORITY**

**(Attachment A)**

<b>Mark I Kit Dosing Directive</b>				
	<b>Clinical Findings</b>	<b>Signs/Symptoms</b>	<b>Required Conditions</b>	<b>Mark I Kits To Be Delivered</b>
<b>SELF-RESCUE</b>	<b>Threshold Symptoms</b>	<ul style="list-style-type: none"> <li>• Dim vision</li> <li>• Increased tearing</li> <li>• Runny nose</li> <li>• Nausea/vomiting</li> <li>• Abdominal cramps</li> <li>• Shortness of breath</li> </ul>	<p align="center">Threshold Symptoms -and- Positive evidence of nerve agent or OPP on site</p>	1 Mark I Kit (self-rescue)
<b>ADULT PATIENT</b>	<b>Mild Symptoms and Signs</b>	<ul style="list-style-type: none"> <li>• Increased tearing</li> <li>• Increased salivation</li> <li>• Dim Vision</li> <li>• Runny nose</li> <li>• Sweating</li> <li>• Nausea/vomiting</li> <li>• Abdominal cramps</li> <li>• Diarrhea</li> </ul>	Medical Control Order	1 Mark I Kit
	<b>Moderate Symptoms and Signs</b>	<ul style="list-style-type: none"> <li>• Constricted pupils</li> <li>• Difficulty breathing</li> <li>• Severe vomiting</li> </ul>	Constricted Pupils	2 Mark I Kits
	<b>Severe Signs</b>	<ul style="list-style-type: none"> <li>• Constricted pupils</li> <li>• Unconsciousness</li> <li>• Seizures</li> <li>• Severe difficulty breathing</li> </ul>	Constricted Pupils	3 Mark I Kits (If 3 Mark I Kits are used, administer 1 <sup>st</sup> dose of available benzodiazepine)
<b>PEDIATRIC</b>	<b>Pediatric Patient with Non-Severe Signs/Symptoms</b>	<i>Mild or moderate symptoms as above</i>	Positive evidence of nerve agent or OPP on site	Age ≥ 8 years old: <ul style="list-style-type: none"> <li>• As Above</li> </ul> Age < 8 years old <ul style="list-style-type: none"> <li>• Per Medical Control</li> </ul>
	<b>Pediatric Patient with Severe Signs/Symptoms</b>	<ul style="list-style-type: none"> <li>• Constricted pupils</li> <li>• Unconsciousness</li> <li>• Seizures</li> <li>• Severe difficulty breathing</li> </ul>	Severe breathing difficulty  Weakness	Age ≥ 8 years old: <ul style="list-style-type: none"> <li>• 3 Mark I Kits</li> </ul> Age < 8 years old: <ul style="list-style-type: none"> <li>• 1 Mark I Kit</li> </ul> Contact Medical Control as needed

MDCIS/EMSCC Approved on: \_\_\_\_\_  
 MCB/MCA Approved on: 19OCT06  
 Supersedes Version Dated: NA  
 Effective Date 01MAR07  
 Revised on: NA

  
 \_\_\_\_\_  
 Medical Director  
  
  
 \_\_\_\_\_  
 EMS Manager