MULTIPLE PATIENT INCIDENTS

MPIs in Region IX are governed by MABAS Divisions and County or System Multiple Patient Management (MPM) Plans. Roles may vary. Allows for scalable response. It is recommended that at least the following are designated for EMS purposes: Triage, Treatment, & Transportation groups.

<table>
<thead>
<tr>
<th>Small scale incident</th>
<th>Medium to large scale incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition/trigger</td>
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<tr>
<td>Scale incident based on resources</td>
<td># of pts, nature of injuries, and resources that can arrive at scene w/in 15 minutes (secondary response time) make normal level of EMS care achievable for most seriously injured All time-sensitive patients can be transported within a 10 min scene time. “Business as usual” w/in scope of normal operation</td>
</tr>
<tr>
<td>Triage required</td>
<td>YES – all persons on scene; using START/JUMPstart</td>
</tr>
<tr>
<td>Triage tags</td>
<td>Optional</td>
</tr>
<tr>
<td>PCR/EHRs</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Pt distribution; usual transport patterns</td>
<td>Mandatory</td>
</tr>
<tr>
<td>OLMC when transporting</td>
<td>Optional; may use triage tag only</td>
</tr>
<tr>
<td># in pt compartment + EMS responder</td>
<td>1 ALS + 1 BLS or 2 BLS if no HIPAA violation 1 stretcher pt; 3 seated or 2 stretcher pts - all occupants must be safely secured</td>
</tr>
<tr>
<td>Refusal process</td>
<td>Applies</td>
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<tr>
<td></td>
<td>Attempt- may not be possible</td>
</tr>
</tbody>
</table>

1. **Scene size up**: Determine if additional help is needed
   **EMS Responder #1**: Notify dispatch. Call for an officer; describe incident: nature, location, presence of debris, hazards, traffic, entrapments, estimated # patients, ask dispatch to alert Resource Hospital if possible med-lg scale incident; help with triage/treatment when initial communication is complete.
   **EMS Responder #2**: Begin triaging all patients using Start/JUMPstart

2. First arriving EMS personnel/officer/acting officer becomes initial IC and establishes scene command. Determines scale of incident (small, medium-large), builds resources, makes assignments; deploys ID vests if escalates/mutual aid involved to ID key personnel.

   **Medical group appointed**: informs IC re needed resources (additional amb., helicopter, personnel, equipment)

TRIAGE
- Primary triage (START or JumpStart); control bleeding w/ hemostatic gauze/tourniquets as you triage; manually open airway
- Notify & update IC regarding # of pts & triage categories (R-Y-G-deceased)
- Assure pts are moved to treatment area (if established), when triage done report to MED for reassignment

TREATMENT
- Establish/manage (R-Y-G) treatment areas; ensure ongoing secondary triage (w/ revised trauma scoring); provide Rx as able per SOP
- Prioritize pts for transport (most serious based on RTS go first); coordinate departures w/ transportation

TRANSPORTATION
- Transport up to 2 of the most critical pts to each hospital that can be reached in 30 min to help clear scene.
- If small-scale incident: Contact hospital (per local policy/procedure) to distribute remaining patients.
- If med-large scale incident: Contact Resource Hospital (RH) ASAP: Relay nature of incident; # pts; categories; age groups, functional needs; need for decontamination. Let them know which hospitals are already getting their first 2 pts. RH shall assess receiving hospital capabilities, triage locations, & relay info to scene. Exchange call back numbers.
- Establish loading area accessible to treatment area, that allows safe/coordinated access & egress
- Request ambulances from staging. Assign pts to ambulances; ensure appropriate loading (prioritizing pts based on triage/trauma score). Notify amb crew of destination and location of hospital triage intake/decon; provide maps prn
- Determine hospital destinations based on traffic patterns, hospital resources available from OLMC, and acuity. Attempt to evenly distribute pts – do not overburden one facility. Preferable (not mandatory) to keep families together.
- Log/scan triage tag #, destination, agency/vehicle & departure time
- Update IC and RH as info becomes available. Notify RH when scene clear or if more hospitals are needed.

Depending on nature and magnitude of incident, EMS MD (designee) or State Medical Director may suspend normal EMS operations and direct that all care be conducted by SOP and/or using personnel and resources as available.
START TRIAGE: For Primary triage only

Red - Priority 1
- Respirations >30
- Resp resume after head tilt
- Delayed capillary refill (> 2 sec)
- Pulse: radial refill (> 2 sec)
- AMS; cannot follow commands
- Uncontrolled bleeding

Yellow - Priority 2
Non-ambulatory; all others:
RR <30; + radial pulse; can follow commands

Green - Priority 3
Can walk; Direct to a specific location

Deceased - Priority 0
No respirations after opening airway

Secondary Triage: Uses the Revised Trauma Score (RTS) to determine triage priority: GCS, RR, & SBP. See p. 40
Scores range from 0-12
12: Priority 3 (green)
11: Priority 2 (yellow)
10 or less: Priority 1 (red)

JUMP START

Red - Priority 1
- Respirations < 15 or >45
- Apneic & breathes after opening airway
- Breathes after 5 rescue breaths
- No pulse w/ RR 15-45
- Unresponsive / Inap. pain response
- Uncontrolled bleeding

Yellow - Priority 2
Can’t walk; RR 15-45; + pulse; “A”, “V” or appropriate “P” pain response

Green - Priority 3
Can walk
Infants may appear to have no major injuries
Direct to a specific location for secondary triage

Deceased - Priority 0
No breathing after airway opened and 5 rescue breaths given
No respiration & no palpable pulse

ALL patients MUST be re-evaluated for the acuity of their injuries using Secondary triage.
HAZARDOUS MATERIALS INCIDENTS

1. Scene safety:
   - If hazard is suspected, approach site with extreme caution, position personnel, vehicles, and command post at a safe distance (200-300 ft) upwind of the site.
   - Protect emergency responders: PPE including respiratory protection. Standard bunker gear with SCBA provides 3-30 min of protection from nerve agents. Chemical protective clothing should be worn when local and systemic effects of possible agents are unknown. [www.atdrcdc.gov/MHM/mmg170.html](http://www.atdrcdc.gov/MHM/mmg170.html)
   - Identify all potentially exposed victims and do not allow them to leave the scene.

2. Scene size up:
   - Consider dispatch information (multiple persons seizing or having difficulty breathing)
   - Does scene look routine? Anything unusual? Vapor clouds or mists? Look for obvious area impacted.
   - Establish hot & warm zones & perimeters. Isolate/secure area by establishing boundary of the contaminated area and a non-contaminated buffer area. Consider need for immediate evacuation of downwind populations.
   - Identify the agent; gather information about the incident if possible.

3. Send info
   - Relay size up information to appropriate agencies and personnel ASAP.
   - Consider need for assistance: notify Haz Mat teams ASAP. State & Local governmental agencies - may need water control, natural resources and public utilities for full response.
   - Notify receiving hospital(s) ASAP. Notify Resource Hospital if mass casualty incident.
   - Activate Regional EMS Disaster plan.

4. Use National Incident Management System (NIMS): Set up the medical group
   - Initiate command-based decisions regarding the need for additional EMS personnel and patient triage.

5. Initiate Start (JumpSTART) triage
   - Prepare personnel and equipment for entry into the contaminated area
   - If possible radiation: Enter contamination zone using a radiation detector (alpha, beta gamma), survey meter, and pencil or thermo luminescent dosimeters if immediately available to measure radiation levels.
   - Triage as soon as feasible, knowing that decon may need to be in place first.

6. Treatment
   - Rescue victims if possible; provide life-saving care in the hot zone and move pts to the warm zone for further treatment and monitoring. Treat all patients as contaminated until proven otherwise.
   - ITC: Counter poisons w/antidotes & supportive care; follow appropriate SOP if time and personnel allows.
   - If possible nerve gas incident: See CHEMICAL AGENTS SOP.
   - If dermal chemical exposure: Determine decontamination needs: establish decon area; avoid cross-contamination; decontaminate pts/rescuers
   - Cover open wounds with dressings and roller bandage. Do not use tape.

7. Contact OLMC
   - Location of incident and number of victims
   - Medical status of victims if known
   - Source and nature of contamination/exposure
   - Route of contamination: external or internal (ingestion/inhalation)
   - Need for decontamination at hospitals
   - Request directions from receiving hospital for victim decontamination entry point.

8. Confine contamination for transport:
   - Confine radiologic contamination. Transport contaminated victims by positioning a clean stretcher on the clean side of the control line with a clean sheet to receive and cover the victim. Tuck the clean sheet around the patient to reduce risk of contaminating the ambulance.
   - Rescuers should remove outer protective clothing/gloves and don clean gloves for handling patient enroute.
   - Cover floor of ambulance with a securely taped sheet or paper to prevent possibility of contaminating ambulance.

9. Decontamination at hospital: If radioactive exposure: Rescue personnel should be thoroughly surveyed for contamination. Victims' clothing and rescuers' contaminated protective outer clothing should be bagged, labeled "Radioactive - DO NOT DISCARD", and left at the control area. Shower as appropriate under the direction of the radiation safety officer. Lock the ambulance until it can be monitored for contamination.

If assistance is needed, 24 hour hot line numbers for radiologic exposures:
- Radiation Emergency Assistance Center/Training Site (REACT/TS) in Oak Ridge, TN (615) 576-3131 or
- Illinois Dept. of Nuclear Safety: (217) 785-0600
Chemical agents are released into the air as a vapor or a liquid form. Onset of action or toxicity can occur within minutes up to a few hours depending on concentration of the gas. Upon arrival, may see many people “down” in need of immediate attention. This may be the only indication/sign that there has been a chemical release. Scene safety is paramount. Routes of exposure: Inhalation, absorption, ingestion.

**Nerve agents:** Highly poisonous chemicals that disrupt the nervous system. Can be dispersed in liquid and aerosolized forms. G series: sarin, soman, & tabun. Act like a vapor and disperse quickly. V series: VX (more viscous).

**Cholinergic S&S:** Salivation/sweating, lacrimation, incontinence, defecation, gastrointestinal distress, emesis, breathing difficulty with bronchospasm and copious secretions, arrhythmias, miosis (pinpoint pupils) resulting in blurred vision, headache, unexplained runny nose, chest tightness, jerking, twitching, staggering, seizures, coma, apnea, death

**S&S vesicants (blistering agents),** e.g., mustard gas: Garlic odor, erythema (reddened skin), blistering w/in 2 hrs of vapor exposure, exposure, tearing, itching, CNS effects (lethargy, sluggishness, and apathy), respiratory failure.


### CHEMICAL AGENTS

**PPE:** All those entering a hot zone or working a decon station must wear full protection: body & respiratory

- Suction, O₂ 15 L/NRM; support ventilations with BVM pn. As soon as adequate equipment and personnel allow: monitor quantitative waveform capnography (if available), SpO₂ & ECG, & obtain vascular access as able.

#### Counter poison: Give antidotes for NERVE AGENT exposures

- Each Mark I kit consists of 2 autoinjectors and the DuoDote kit consists of 1 autoinjector containing
  - Atropine sulfate (Atropine) 2 mg in 0.7 mL + Pralidoxime chloride (2 PAM) 600 mg in 2 mL
  - All IM injections to be given in the vastus lateralis muscle (outer middle thigh)
  - DuoDote: Do NOT remove Gray safety release until ready to use. NEVER touch green tip (needle end)

#### Indications:

**S&S of nerve agent or organophosphate exposure or when treating victims of a severe exposure in the hot zone.** May be given by any EMS personnel with appropriate training. May be self-administered.

#### Contraindications:

**Do not use Auto-Injectors** for prophylaxis or on children < 88 lbs (40 kg)

- When a nerve agent has been ingested, exposure may continue for some time due to slow absorption from the lower bowel and fatal relapses have been reported after initial improvement. Continue monitoring and transport.

- **If dermal exposure:** Decontamination is critical using standard decon procedures. Avoid cross-contamination.

- **Contact Resource Hospital to alert them of incident and to request Chem Pac supplies.** RH alert receiving hospitals

### Hot zone - severe exposures

#### Rx in WARM zone: based on patient size & severity of S&S (IDPH protocol)

<table>
<thead>
<tr>
<th>Patient age/size</th>
<th>Mild: Unexplained runny nose, tightness in chest, SOB, bronchospasm w/ wheezing</th>
<th>Severe symptoms</th>
<th>Coma, paralysis, cyanosis, apnea, seizures***</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infant (&lt; 7 kg)</strong></td>
<td>Atropine 0.25 mg IM</td>
<td>2 PAM 15 mg/kg IM</td>
<td>Atropine 0.5 mg IM</td>
</tr>
<tr>
<td><strong>Infant (7-13 kg)</strong></td>
<td>0.5 mg IM &amp;</td>
<td>15 mg/kg IM</td>
<td>1 mg IM</td>
</tr>
<tr>
<td><strong>Child (14-25 kg)</strong></td>
<td>1 mg IM</td>
<td>300 mg IM</td>
<td>2 mg IM</td>
</tr>
<tr>
<td><strong>Child (26-40 kg)</strong></td>
<td>2 mg IM</td>
<td>600 mg IM</td>
<td>4 mg IM</td>
</tr>
<tr>
<td><strong>Adult/Child ≥ 88 lbs (40 kg)</strong></td>
<td>1-2 Mark I kits or DuoDote injector 2 doses OR Atropine 2-4 mg IM (X 2) and <strong>2-PAM: 600-1200 mg IM</strong></td>
<td>3 Mark I kits or DuoDote injectors in rapid succession OR **Atropine 6 mg IM and **2-PAM: 1800 mg IM</td>
<td></td>
</tr>
<tr>
<td><strong>Elderly/frail</strong></td>
<td>Atropine 1 mg IM + *2 PAM 10 mg/kg IM</td>
<td>Atropine 2-4 mg IM +*2 PAM 25 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

### Notes on drug use

- **Prepare 2-PAM solution** from ampule containing 2-PAM 1 Gm desiccated (powder). Inject 3 mL NS, 5% distilled or sterile water into ampule; mix w/o shaking. Resulting solution = 3.3 mL of 300 mg/mL.
- **Repeat atropine (2 mg IM) at 3-5min intervals until secretions have diminished and breathing is comfortable or airway resistance has returned to near normal or drug supply is depleted.
- **If seizures are not stopped w/ atropine/2-PAM:** MIDAZOLAM standard dosing for seizures