Peoria Area EMS System

Prehospital Disaster Care Manual

Revised: January 1, 2016

PEORIA AREA EMS SYSTEM
PREHOSPITAL DISASTER PROTOCOLS

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PREHOSPITAL DISASTER PROTOCOLS

Notification of a Medical Disaster Policy

EMS agencies are expected to notify Medical Communications in the event of a potential or actual medical disaster.

1. During a medical disaster, it is imperative that the **first arriving EMS Agency on scene notifies OSF Medical Communications of the disaster** by calling (309)655-5714. In turn, medical communications will initiate communications among System hospitals for notification and bed status. In addition, medical communications will notify *Disaster Medical Services*.

2. A *medical disaster* is defined as:

   - A mass casualty incident involving more than 10 patients.
   - A prolonged rescue where the victim will be entrapped 60 minutes or more.
   - A Hazardous Materials release ***(a chemical that is a direct life-threat to a population)*** with multiple patients or incident of 1 or more contaminated patients being transported to a hospital.
   - A weapon of mass destruction (WMD) release.
   - Any natural or man-made event (*e.g.* tornado) with multiple patients (or the potential for multiple patients) that will have a prolonged EMS scene time of greater than 2 hours.

3. When contacting OSF Medical Communications, the following information will be needed:

   - Type of disaster (*i.e.* what caused it?)
   - Location of the disaster
   - Staging area or route of entry into the disaster
   - Operational frequency (*i.e.* what channel is incident command on?)
   - Number of injured
   - Name of agency making notification as well as a call-back number

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Crush Syndrome Protocol

A condition known as *crush syndrome* occurs in prolonged entrapments where the victim's body tissue is crushed and circulation to the tissue is restricted. Because the blood flow is reduced or absent, lactic acid builds up causing the affected tissue to become acidotic. When the crushed tissue is released and circulation restored, the acidotic blood dumping into the central circulation causes such problems as cardiac arrhythmias and electrolyte imbalances.

First Responder Care

First Responder Care should be focused on assessing the situation and initiating routine patient care to assure that the patient has a patent airway, is breathing and has a perfusing pulse as well as assuring personal safety.

1. **Responder safety is paramount**. If you are unsure on how to access the patient safely, wait until technical rescue teams arrive.

2. Render initial care in accordance with the *Routine Patient Care Protocol*.

3. Obtain core body temperature (or minimally – axillary temperature). Treat for hypothermia if indicated.

4. **Place tourniquets on the affected extremity (extremities)**. The tourniquet should be placed proximally, as close to the crushed tissue as possible.

BLS Care

BLS Care should be directed at conducting a thorough patient assessment, initiating routine patient care to assure that the patient has a patent airway, is breathing and has a perfusing pulse as well as assuring personal safety and preparing the patient for or providing transport.

1. **Responder safety is paramount**. If you are unsure on how to access the patient safely, wait until technical rescue teams arrive.

2. Render initial care in accordance with the *Routine Patient Care Protocol*.

Crush Syndrome Protocol

BLS Care (continued)

3. Obtain core body temperature (or minimally – axillary temperature). Treat for hypothermia if indicated.

4. **Place tourniquets on the affected extremity (extremities)**. The tourniquet should be placed proximally, as close to the crushed tissue as possible.

5. Initiate ALS intercept, transport as soon as possible.

ILS Care

ILS Care should be directed at continuing or establishing care, conducting a thorough patient assessment, ensuring personal safety and preparing for or providing patient transport. Care should also be given to preventing the flush of toxins back into the patient's core.

1. **Responder safety is paramount**. If you are unsure on how to access the patient safely, wait until technical rescue teams arrive.

2. Render initial care in accordance with the *Routine Patient Care Protocol*.

3. Obtain core body temperature (or minimally – axillary temperature). Treat for hypothermia if indicated.

4. **Place tourniquets on the affected extremity (extremities)**. The tourniquet should be placed proximally, as close to the crushed tissue as possible.

5. Initiate 2 large bore IVs.

6. **IV Fluid Therapy:** 500cc bolus of .9% Normal Saline to maintain a blood pressure of at least 90mmHg systolic.

7. Initiate ALS intercept as soon as possible.

8. **Contact Medical Control** as soon as possible.

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Crush Syndrome Protocol

ALS Care

ALS Care should be directed at continuing or establishing care, conducting a thorough patient assessment, ensuring personal safety and preparing for or providing patient transport. Care should also be given to preventing the flush of toxins back into the patient's core.

1. **Responder safety is paramount**. If you are unsure on how to access the patient safely, wait until technical rescue teams arrive.
2. Render initial care in accordance with the *Routine Patient Care Protocol*.
3. Obtain core body temperature (or minimally – axillary temperature). Treat for hypothermia if indicated.
4. **Place tourniquets on the affected extremity (extremities)**. The tourniquet should be placed proximally, as close to the crushed tissue as possible.
5. Initiate 2 large bore IVs.
6. **Sodium Bicarbonate**: Mix 50 mEq in 1000mL of .9% Normal Saline. Administer the entire 1000mL bolus at a wide open rate (using 10gtts tubing).
7. Listen to lung sounds, checking for pulmonary edema.
8. Closely monitor BP – administer additional .9% Normal Saline prn to maintain a systolic BP of at least 100mmHg.
9. Lift object slowly off of the patient.
10. **Contact Medical Control** as soon as possible.

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Crush Syndrome Protocol

Critical Thinking Elements

- Expect sudden shifts in BP and/or cardiac arrhythmias. Treat per the appropriate protocol.
- Patient's who are trapped under debris can appear hemodynamically stable until the debris is moved, at which point, toxins enter the core circulation. When the debris is lifted off of the patient, he/she can become very unstable.
- Monitor vitals every 5 minutes.
- Have airway equipment ready.

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Simple Triage and Rapid Transport (START) Protocol

Prehospital and hospital personnel may find themselves in a situation where the number of injured patients exceeds the available healthcare providers and resources to care for the injured. In these situations, the patients must be triaged in order to do the most good for the greatest number of patients. Triage assessments are based on the severity of the injury, resources available and existence of any hazardous substance contamination to the patient. If everyone "speaks the same language" during a mass casualty event, confusion will decrease and more patients will be saved. Therefore, the START method of triage will be implemented.

1. Prioritize patients according to the START system.

2. Establish treatment areas for all four (4) categories of patients:

   - Immediate/Critical (**Red** treatment area)
   - Delayed (**Yellow** treatment area)
   - Minor/Walking Wounded (**Green** treatment area)
   - Deceased (**Black** treatment area)

3. Move through the entire scene, rapidly assessing each patient, stopping only to open an airway or to stop profuse bleeding. As you move through the scene, affix a triage tag to each patient according to their priority.

4. Treat and transport those patients who are viable and have life-threatening injuries first, according to the resources available. Any trauma patient who meets the *Minimum Trauma Field Triage Criteria* shall be transported to the highest level Trauma Center available, unless transport time is greater than 30 minutes to that hospital.

5. Treat and transport those patients who have impending or potential life-threats next. In some major incidents, these patients may even be transported by means other than an ambulance.

6. Walking wounded (*i.e.* those patients without life-threatening injuries) should be transported last. In some major incidents, these patients may even be transported by means other than an ambulance.

Simple Triage and Rapid Transport (START) Protocol

7. Non-viable patients (*i.e.* those in cardiac arrest or with obvious mortal wounds) should not be treated and transported unless adequate resources/personnel are available.

8. **Documentation:** The mass casualty tag is considered patient documentation and must be attached to the run report or submitted as the run report to the Resource Hospital. The mass casualty tag is considered to be confidential patient information.

START Triage System

Step 1: **Clear the scene of any walking wounded (These patients are considered to be in the *MINOR* category (Green).**

Step 2: **Assess ventilations in the remaining patients:**

- **No respiratory effort after opening airway:** **Deceased (Black)**
- **Respirations > 30:** **Immediate (Red)**
- **Respirations < 30:** **Delayed (Yellow)**

Step 3: **Assess perfusion:**

- **No radial pulse present:** **Immediate (Red)**
- **Radial pulse present:** **Delayed (Yellow)**

Step 4: **Assess neurological status:**

- **Unconscious:** **Immediate (Red)**
- **Cannot follow simple commands:** **Immediate (Red)**
- **Can follow simple commands:** **Delayed (Yellow)**

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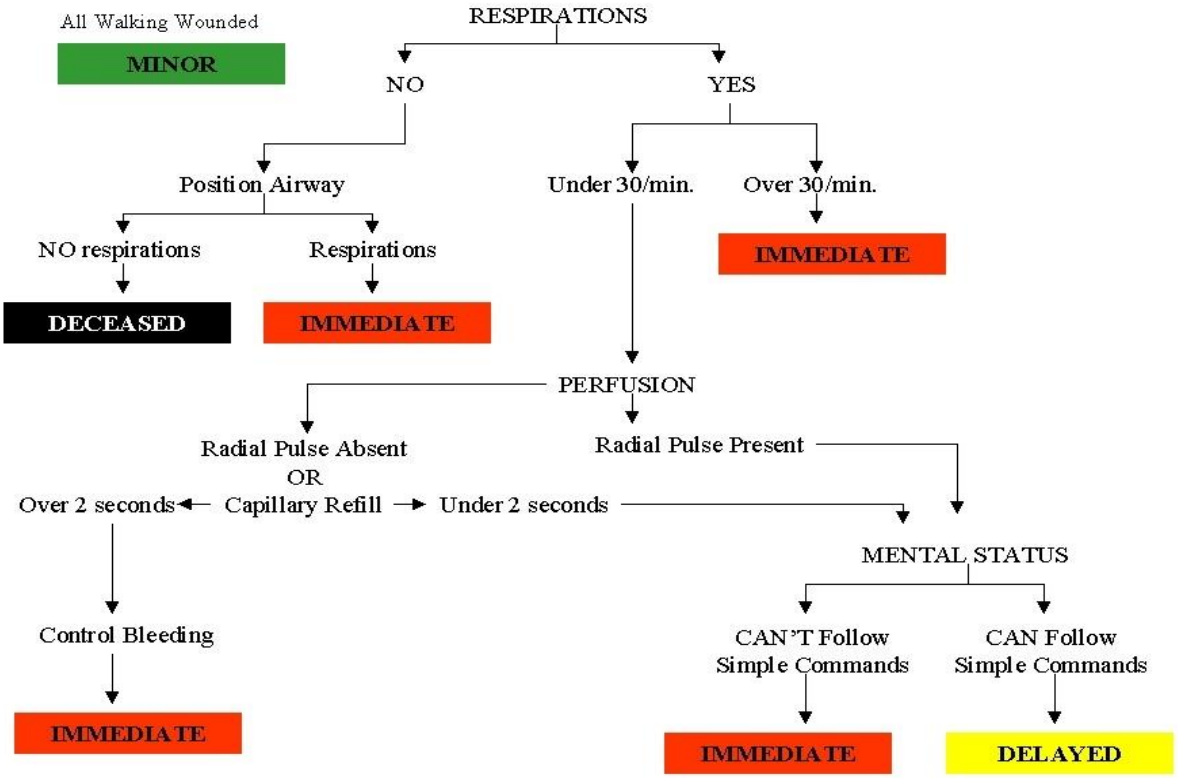
Simple Triage and Rapid Transport (START) Protocol

START Triage System



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Pediatric Triage (JumpSTART) Protocol

JumpSTART

Pediatric Multiple Casualty Incident Triage

A standardized triage system provides guidance for personnel making life and death decisions that otherwise may be influenced by emotional issues when triaging children.

JumpSTART Pediatric Multiple Casualty Incident Triage is an objective triage system that addresses the needs of children and can be a resource tool when planning a triage process for pediatric patients. Although the JumpSTART system parallels the START system, it takes into consideration the developmental and physiological differences of children by using breathing as the cornerstone for triage decisions. Adding a respiratory component to the triage system may increase triage time by 15-25 seconds, however, since the number of patients requiring a ventilatory trial would most likely be small, it is not thought to significantly affect overall triage time for an incident.

Additionally, since the physiologic indicators specified for START are not generally applicable to the pediatric victim, different criteria are needed to assess young patients. For example, neurological status under START depends on the patient's ability to obey commands. This index is clearly not applicable to young children who lack the developmental ability to respond appropriately to commands.

The **JumpSTART** Pediatric MCI triage system is designed for triaging infants and young children. Determining the appropriate system to use in the pre-adolescent and young teen population can be sometimes challenging, so the current recommendation is: If a victim appears to be a child, use **JumpSTART**; if a victim appears to be a young adult, use ***START***.

In children, because of mechanical reasons such as weak intercostal muscles or mechanical airway obstruction, apnea may occur rapidly. **Thus circulatory failure usually *follows* respiratory failure**. There may be a period of time when the child is apneic but continues to maintain a pulse. It is during this time that airway clearance and a ventilatory trial may stimulate spontaneous breathing.

Pediatric Triage (JumpSTART) Protocol

If spontaneous breathing begins, the child is categorized as **RED** for further treatment. If spontaneous breathing does not follow the initial ventilatory trial, the child is categorized as **BLACK** or non-salvageable.

JumpSTART uses the same color-coding as **START**: **RED** (Immediate); **YELLOW** (Delayed); **GREEN** (Minor/Ambulatory); **BLACK** (Deceased/non-salvageable).

The triage steps of the JumpSTART Pediatric MCI triage system are as follows:

• **Step 1**:

All children who are able to walk are directed to an area designated for minor (**GREEN**) injuries where they will undergo a secondary and more involved triage. Infants carried to this area or other non-ambulatory children taken to this area must undergo a complete medical and primary evaluation using modifications for non-ambulatory children to ascertain triage status. (Please refer to the Modifications for Non-Ambulatory Children* section on the following page).

• **Step 2**:

a) All remaining non-ambulatory children are assessed for the presence/absence of spontaneous breathing. If spontaneous breathing is present, the rate is assessed and the triage officer moves on to step three.

b) If spontaneous breathing is not present and is not triggered by conventional positional techniques to open the airway, palpate for a pulse (peripheral preferred). If no pulse is present, patient is tagged **BLACK** and the triage officer moves on.

c) If there is a palpable pulse, the rescuer gives five breaths (approximately 15 sec.) using mouth to mask barrier technique. If the ventilatory trial fails to trigger spontaneous respirations, the patient is tagged **BLACK** and the triage officer moves on.

However, if respirations resume, the patient is tagged **RED** and the triage officer moves on **without** providing any further ventilation.

Pediatric Triage (JumpSTART) Protocol

• **Step 3**:

If the respiratory rate is 15-45/minute, proceed to check perfusion.

If the respiratory rate is less than 15 (less than 1/every 4 seconds) or faster than 45/minute or irregular, tag as **RED** and move on.

• **Step 4**:

Assess perfusion by palpating pulses on a (seemingly) uninjured limb. If pulses are palpable, proceed to Step 5.

If there are no palpable pulses, the patient is tagged **RED** and the triage officer moves on.

• **Step 5**:

At this point all patients have "adequate" ABCs. The triage officer performs a rapid APVU assessment of mental status. If the patient is Alert, responds to Voice, or responds appropriately to Pain (withdraws from stimulus or pushes away), the patient is tagged **YELLOW** and the triage officer moves on.

If the patient does not respond to voice and responds inappropriately to pain (moans or moves in a non-localizing fashion) or is Unresponsive, a **RED** tag is applied and the triage officer moves on to the next patient.

NOTE: All patients tagged **BLACK**, unless clearly suffering from injuries incompatible with life, should be reassessed once critical interventions for **RED** and **YELLOW** victims are completed.

Pediatric Triage (JumpSTART) Protocol

***Modifications for Non-Ambulatory Children**

Children in which this modification would be used include:

- Infants who normally can't walk yet
- Children with developmental delay
- Children with acute injuries which prevented them from walking ***before*** the incident occurred
- Children with chronic disabilities

Non-ambulatory children who meet the above criteria are evaluated using the **JumpSTART** algorithm beginning with Step 2. If the child meets any **RED** criteria, the child is tagged **RED**. A quick survey is then conducted to determine whether there are any significant external signs of injury (*i.e.* deep penetrating wounds, severe bleeding, severe burns, amputations, distended tender abdomen, or multiple bruises). If any significant external signs of injury are present, the child is tagged **YELLOW**. Non-ambulatory children without any significant external injury, with all other aspects of the **JumpSTART** algorithm normal, are tagged **GREEN**.

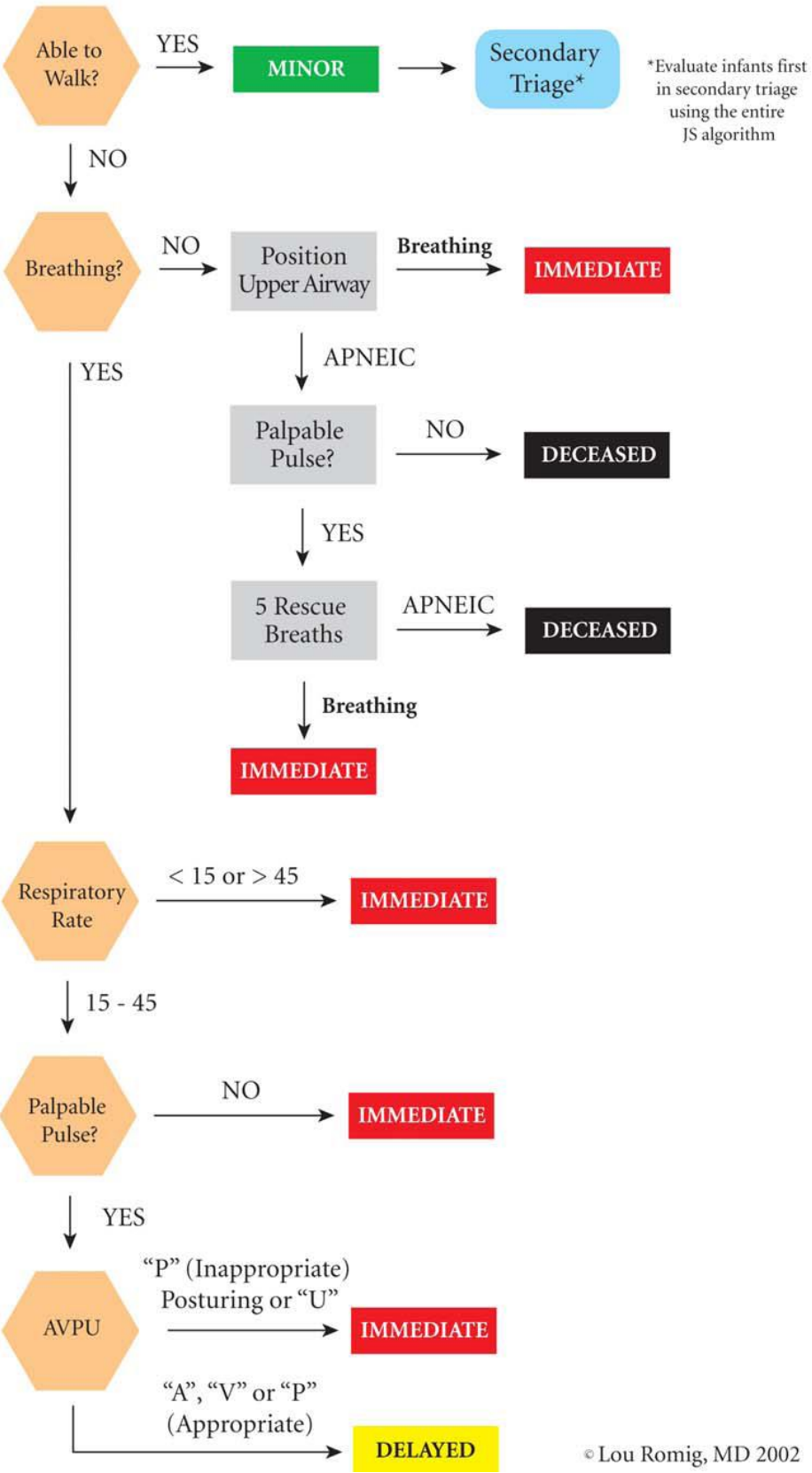
NOTE: Final disposition (transport destination) depends on local and regional resources.

This information was obtained from the JumpSTART Pediatric MCI Triage Tool website.

The **JumpSTART** pediatric MCI field triage tool was developed by Lou Romig, M.D. Pediatric Emergency Medicine at Miami Children's Hospital in Miami, FL in 1995 and modified in 2002.

For additional information go to**:** www.jumpstarttriage.com.

JumpSTART Pediatric MCI Triage©



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Patient Isolation Protocol

Rapid identification of possible infectious patients is very important in limiting the spread of infection. EMS providers play a key role in the mitigation of infection. Patient assessment and background information should key an EMS provider in on the possibility that the patient is either infectious or had a possible infectious exposure. Early notification to the receiving hospital will allow the hospital to prepare to place the patient in isolation.

Care should focus on personal protective equipment for all responders (to include an N-95 respirator). The *Routine Patient Care Protocol* should be followed and actual treatment of the patient should not deviate from protocol. The patient should receive the same type of medical care and respect as a non-infectious patient.

First Responder Care, BLS Care, ILS Care, ALS Care

1. Assess for possible ***Sudden Acute Respiratory Syndrome*** **(SARS):**

   - Travel (including transit in an airport) within 10 days of onset of symptoms to an area with current or previously documented or suspected community transmission of *SARS*.

   OR

   - Close contact within 10 days of onset of symptoms with a person known or suspected to have *SARS*.

   - Temperature of >100.4ºF or one or more clinical findings of cough, shortness of breath, difficulty breathing or hypoxia.

2. Assess for possible **infectious biological agent**:

   - Unidentifiable rash or large amounts of bruised/necrotic skin tissue.

   - Temperature of >100.4ºF or one or more clinical findings of cough, shortness of breath, difficulty breathing or hypoxia.

Patient Isolation Protocol

First Responder Care, BLS Care, ILS Care, ALS Care (continued)

3. Isolate the patient. Only a minimum number of EMS providers should take care of the patient:

- Place the patient in a *Tyvek* or hospital gown.
- If possible, have the patient wash their hands with anti-microbial soap. The soap is to kill any infectious organisms on the patient's hands (***Note***: waterless soap / alcohol gel is acceptable).
- If possible, place a surgical mask on the patient. The surgical mask prohibits the respiratory spread of the infectious organism. **Do not place an N-95 on the patient and do not withhold oxygen therapy if needed**.

4. EMS providers should follow their agency's SOP for personal protection equipment. The SOP should include at least:

- N-95 HEPA mask for the EMS provider
- Double gloves
- Eye protection
- *Tyvek* protection gown

5. Notification to OSF Medical Communications should be made as soon as possible:

- Notify Medical Communications of a possible infectious patient, what facility the patient is being transported to and an ETA to the facility.
- Notify the receiving medical facility by MERCI radio when the transporting ambulance is at the emergency department entrance.

Patient Isolation Protocol

First Responder Care, BLS Care, ILS Care, ALS Care (continued)

6. **Do not take the patient into the emergency department (or into the hospital at all)**:

   - Wait for an emergency physician to examine the patient in the back of the ambulance and determine if isolation precautions should be continued.

   - When transporting the patient into the hospital, ensure that the patient is wearing a surgical mask. Or, if the patient is being manually ventilated, have a BVM with an attached HEPA filter (if available).

7. Follow the EMS agency's policy on decontamination of the ambulance and equipment.

8. Complete a *Peoria Hospitals Communicable Disease Incident Form*.

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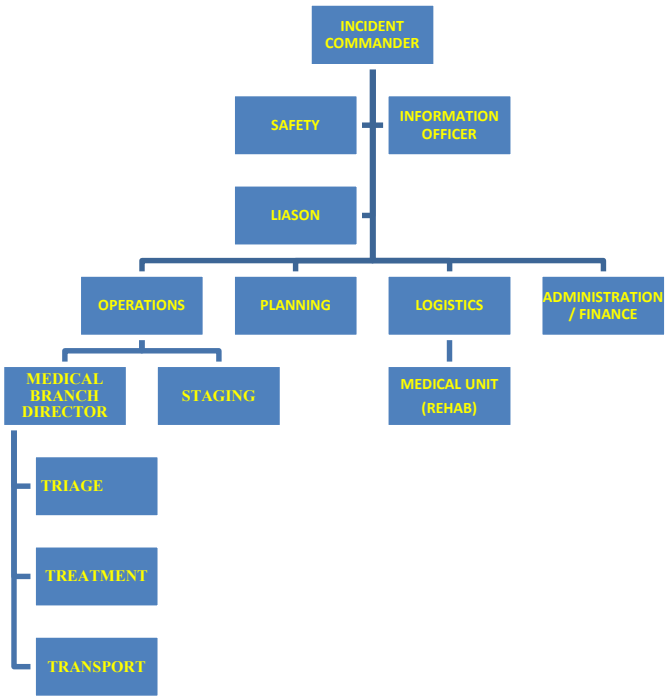
Command and Control of the EMS Branch Policy

With the advent of the ***National Incident Management System (*NIMS*)*** under Presidential Directive #5, all critical response agencies must follow the Incident Command System (ICS). EMS has a defined role within the ICS – the medical branch. The medical branch needs to be run effectively to establish proper care and save lives during a medical disaster.

1. Have pre-established job functions. One person cannot manage a Mass Casualty Incident (MCI) alone. Pre-defined roles and responsibilities will help reduce the stress and confusion of a mass casualty event. EMS has very specific roles during an MCI. The roles and responsibilities of EMS will be scalable – not all roles will be needed at all times. The Incident Commander (IC) and the Medical Branch Director during the MCI will determine what is needed.

2. During a declared medical disaster or MCI, the Peoria Area EMS Office/Disaster Medical Services staff may be used as a resource and can assist in moving patients to local or regional hospitals.

3. Following is a brief description of roles and responsibilities of EMS during an MCI as well as an organizational chart:



Command and Control of the EMS Branch Policy

Medical Branch Director – This person is responsible for the implementation of the Incident Action Plan within the Medical Branch. He/she reports to the Operations Section Chief and supervises the Medical Group(s) and Patient Transportation.

Triage – This branch is responsible for the identification and triage of all victims and reports to the Medical Branch Director. At times, a patient transport team will be assigned to this area to help move patients from the scene into treatment areas.

Treatment – This branch reports to the Medical Branch Director and is responsible for treatment (usually sub-divided into the corresponding triage categories), preparation for transport and directs movement of patients to loading locations. On-scene treatment is usually limited to the stabilization of patients.

Transport – This branch reports to the Medical Branch Director and is responsible for the coordination of patient transportation and maintenance of records relating to the patient's identification, condition and destination. The transport branch has the responsibility of not overloading one specific hospital. As soon as possible, the Transportation Unit Leader should coordinate with the POD Hospital (OSF Saint Francis Medical Center)/EMS Office staff regarding patient destination.

Staging – This branch reports to the Operations Section Chief and is responsible for organizing incoming EMS resources into one central location. This could include vehicles, personnel or equipment. The Staging Director will deploy the resources as needed via the request of the Medical Branch Director.

Medical Unit (Rehabilitation) – This branch reports to the Logistics Section Chief and is responsible for establishing an area for on-scene providers to rest and receive medical care if needed. In addition, the Rehabilitation Branch will identify those individuals too fatigued to continue with the mission. This is a very important role in any prolonged or high-risk MCI operation.

Requesting the EMS ChemPack Policy

A special cache of pharmaceuticals has been stockpiled in order to deal with an organophosphate (nerve agent) poisoning. This stockpile is designed for rapid deployment to the scene of the incident. The ChemPack is designed to treat up to one thousand (1,000) people using MARK I auto-injectors and Benzodiazepines.

If the EMS provider on scene determines an organophosphate (nerve agent) release affecting more than two (2) people:

1. Call Medical Communications at (309)655-5714.
2. **Request the ChemPack**.
3. Give the Medical Communication Dispatcher:
   - Location where the ChemPack is to be delivered
   - Signs & symptoms patients are exhibiting
   - Total number of patients involved
   - Contact phone number
   - Contact frequency

Note: The ChemPack will take approximately 30-45 minutes plus drive time to arrive on scene.

Critical Thinking Elements

- Agencies who already have Mark I kits should utilize those auto-injectors. The ChemPack can still be requested if needed (*i.e.* for large-scale events).

Requesting the Region 2 Medical Response Team Policy

The Region 2 Medical Response Team is a deployable 20-bed (critical) and 100-bed+ (non-critical) emergency treatment facility. The team consists of doctors, nurses and paramedics and can be used for any type of medical disaster.

1. Determine if a medical disaster has occurred. Criteria for activation of the medical response team includes, but is not limited to:

   - Man-made disasters (*e.g.* terrorism-related events, Hazardous Materials spills, building collapse, urban search & rescue, mass casualties, etc.)
   - Natural disasters (*e.g.* tornadoes, floods, forest fires, public health emergencies, etc.)

2. Contact OSF Medical Communications (309)655-5714.

3. Give the Medical Communications Dispatcher the following information:

   - Type of event
   - **Exact location** of where the team should set up (minimum: 100x100 area)
     - **Provide GPS coordinates if available**
   - Number of casualties
   - Name and phone number of the contact person

Note: In most cases, the Region 2 Medical Response Team can be deployed within an hour. This will be a tiered response and drive time must be taken into consideration.

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Preparedness to a System-Wide Crisis Policy

Natural and technological crises may place an intense demand for EMS and emergency department resources on one or more the EMS systems in Illinois. The potential exists for these crises to occur or evolve without adequate warning or notification.

Such crises may include:

- Environmental emergencies
- Communicable diseases
- Influenza epidemic
- Terrorist acts (involving chemical, biological or nuclear agents)

As a result, EMS and emergency department personnel must be cognizant of evolving trends of the influx of patients with similar signs & symptoms. Recognition of an impending or active system-wide crisis will better prepare hospitals and local ambulance providers to handle any type of situation.

The following outlines how and when recognition / notification may occur:

1. **Recognition**

   a) ED physician, emergency communicator, registered nurse or other MERCI/telemetry personnel may be notified of a system-wide crisis by:

   - Communication from the local ambulance provider (*e.g.* mass casualty incident)
   - Increase in ED census due to patients complaining of similar signs & symptoms
   - Noted increase in the number of emergency departments requesting bypass

   The MERCI/telemetry personnel should report these occurrences to the attending physician or charge nurse and the POD Coordinator.

   b) When ambulance providers of their personnel notice that they have an increased number of calls/transports with patients complaining of similar signs & symptoms, this information should be reported to OSF Medical Communications at (309)655-5714 who will notify the POD Coordinator.

Preparedness to a System-Wide Crisis Policy

2. Notification of Personnel

a) Notification of a system-wide crisis can be made to OSF Saint Francis Medical Center Medical Communications at **(309)655-5714**. Do not call directly to the ED.

b) The reporting medical provider will tell the medical communicator in which **county** the crisis is occurring.

c) OSF Saint Francis Medical Communications personnel will activate that county's System-Wide Crisis call personnel.

d) System-Wide Crisis call personnel will include:

- POD Coordinator
- Local Public Health Infectious Disease (or Emergency) Coordinator
- EMS System Coordinator

e) The reporting hospital or EMS agency will fill out the *Region 2 System-Wide Crisis Form*. This form will be faxed to minimally the above mentioned personnel.

f) If there appears to be a trend (either prehospital or hospital) of an increase in frequency of similar signs & symptoms, the POD Coordinator shall contact the IEMA (Illinois Emergency Management Agency) Command Center at **1-800-782-7860**.

Preparedness to a System-Wide Crisis Policy

3. Plan of Action

a) The EMS Coordinator of the affected system and POD Coordinator will contact the involved hospitals and local ambulance providers within the EMS System to inform them of the crisis.

The EMS Coordinator will request that each involved hospital take steps to avoid ambulance diversion and alert them to the possible need of having to mobilize additional staff and resources or activate their emergency management plans.

b) Hospitals needing to go on bypass will follow the Region 2 Bypass Policy.

c) The EMS Coordinator and POD Coordinator will assist local public health departments in their needs during the system-wide crisis.

4. ALL CLEAR

The POD Coordinator or designee will contact all hospitals, EMS Systems and ambulance providers with an "all clear" when the system-wide crisis is over.

Region 2 EMS System Policy
1a System-Wide Crisis Form

Date:_____ Time: _____

_____
Name of Resource Hospital

_____
Name of person filling in report / Title

_____ _____
Name of EMS Agency or Hospital Telephone Number

Name(s) of hospital(s) requesting bypass or who have seen an increase in ED visits:

Hospital	Contact Name	Contact Number	Contact Fax

EMS provider(s) who have seen an increase in ambulance calls:

Name	Agency	Contact Number	Contact Fax

Time OSF Saint Francis Medical Center was notified: _____

_____
Name of medical communicator Date/Time

Region 2 EMS System Policy
6.1b System-Wide Crisis Form

Hospitals Only

Number of patients with the same or similar symptoms seen in the last 6 hours: _____

Number of patients with the same or similar symptoms seen in 6+ hours: _____

EMS Providers Only

Number of patients with the same or similar symptoms transported to the ED by ambulance: _____

Number of patients with the same or similar symptoms **not** transported to the ED by ambulance: _____

Any increase in response time?: **YES NO**

If yes, how much of an increase has occurred?: _____ minutes

Hospitals and EMS Providers

Common / similar complaints by patients: _____

_____

_____

_____

Any other pertinent information: _____

_____

_____

_____

Names / Organizations and/or Titles of other persons contacted: _____

_____

_____

PEORIA AREA EMS SYSTEM
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DuoDote Nerve Agent Antidote Protocol

The Illinois Department of Public Health requires that every EMS system adopts the *DuoDote Nerve Agent Antidote Protocol*. This protocol is for all levels of EMS providers. In addition, this protocol is to be used if any agency carries DuoDote kits, or if the DuoDote kits arrive on scene to be used.

DuoDote

The DuoDote kit consists of one autoinjector containing:

- Atropine Sulfate (Atropine) 2mg in .7cc's
- Pralidoxime Chloride (2PAM) 600mg in 2cc's

DuoDote Use

DuoDote kits are not to be used for prophylaxis. The injectors are antidotes, not a preventative device. The auto-injectors are to be used only if patient presents with signs and symptoms consistent with exposure to nerve or organophosphate agents.

Mnemonic got Nerve Agent Exposure
Defecation (uncontrolled bowel movements)
Urination (uncontrolled urine production)
Myosis (pinpoint pupils)
Breathing Difficulty
Emesis (excessive vomiting)
Lacrimation (excessive tearing)
Salivation (excessive production of saliva)

Procedure

Prior to rendering medical care, follow routine procedures for:

1. **Scene safety**
2. Having an appropriately trained HazMat team present for decontamination, if necessary.
3. Routine medical/trauma care, as indicated.

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DuoDote Nerve Agent Antidote Protocol

Dosage

	No signs/ Symptoms	Mild Exposure	Moderate Exposure	Severe Exposure
Clinical Signs	**None**	**Visual disturbances, miosis, rhinorrhea, shortness of breath, wheezing**	**Worsening of symptoms: Visual disturbances, miosis, rhinorrhea vomiting/diarrhea**	**Above symptoms plus unconsciousness, flaccid paralysis, respiratory distress, cyanosis, apnea, seizures; severe effects in two or more organ systems**
Age	**Antidotes**			
Infant (0-6 months) <7 kg	Observe for **1 hour** for vapor exposure or **18 hours** for liquid exposure	Atropine 0.25 mg IM (2.5cc) 2-PAM Cl: 15mg/kg IM	Atropine 0.25 mg IM (2.5cc) 2-PAM Cl: 15mg/kg IM	Atropine 0.5 mg IM (5cc) 2-PAM Cl: 25mg/kg IM
Infant (7mths-2yrs) 7-13 kg		Atropine 0.5 mg IM (5cc) 2-PAM Cl: 15mg/kg IM	Atropine 0.5 mg IM (5cc) 2-PAM Cl: 15mg/kg IM	Atropine 1 mg IM 2-PAM Cl: 300 mg IM
Child (3-7 yrs) 14-25 kg		Atropine 1 mg IM 2-PAM Cl: 300 mg IM	Atropine 1 mg IM 2-PAM Cl: 300 mg IM	Atropine 2 mg IM 2-PAM Cl: 600 mg IM
Child (8-14 yrs) 26-50 kg		Atropine 2 mg IM 2-PAM Cl: 600 mg IM	Atropine 2 mg IM 2-PAM Cl: 600 mg IM	Atropine 4 mg IM 2-PAM Cl: 1200 mg IM
Adolescent (>14 yrs) >51 kg		**1 DuoDote Kit <u>or</u>** Atropine 2 mg IM 2-PAM Cl: 600 mg IM	**2 DuoDote Kits <u>or</u>** Atropine 4 mg IM 2-PAM Cl: 1200 mg IM	**3 DuoDote Kits <u>or</u>** Atropine 6 mg IM 2-PAM Cl: 1800 mg IM
Adult		**1 DuoDote Kit <u>or</u>** Atropine 2 mg IM 2-PAM Cl: 600 mg IM	**2 DuoDote Kits <u>or</u>** Atropine 4 mg IM 2-PAM Cl: 1200 mg IM	**3 DuoDote Kits <u>or</u>** Atropine 6 mg IM 2-PAM Cl: 1800 mg IM
Elderly (frail)		Atropine 1 mg IM 2-PAM Cl: 10mg/kg IM	Atropine 1 mg IM 2-PAM Cl: 10mg/kg IM	Atropine 2 mg IM 2-PAM Cl: 25mg/kg IM

** Repeat Atropine at 5-10 min. intervals until secretions diminished, breathing comfortable or airway resistance near normal

** 2-PAM Cl solution needs to be prepared from the ampule containing 1 gram of desiccated 2-PAM Cl: Inject 3ml of saline, 5% distilled or sterile water into ampule and shake well. Resulting solution is 3.3 ml of 300 mg/ml.

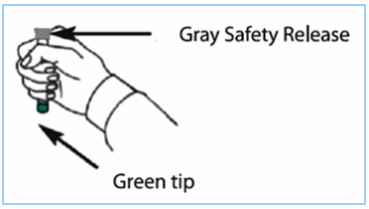
** Assisted ventilations should be started after administration of antidotes for severe exposure.

PEORIA AREA EMS SYSTEM
PREHOSPITAL DISASTER PROTOCOLS

DuoDote Nerve Agent Antidote Protocol

Administration

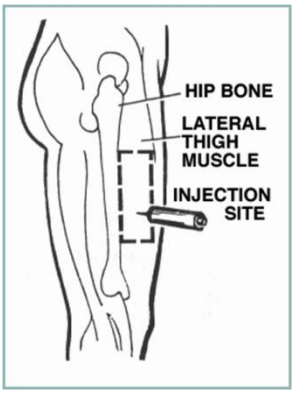
1. Place the DuoDote Auto-Injector in your dominant hand. Firmly grasp the injector with the Green Tip (needle center of the pointing down.



end)

2. With your other hand, pull off the Gray Safety release. The DuoDote Auto-Injector is now ready to be administered.

3. The injection site is the mid-outer thigh area.
   - The DuoDote Auto-Injector can be injected through clothing; however, make sure pockets at the injection site are empty.



4. Swing and firmly push the Green Tip straight down (a 90˚ angle) against the mid-outer thigh.
   - Continue to firmly push until you feel the DuoDote Auto-Injector trigger.
   - **IMPORTANT:** After the auto-injector triggers, hold the DuoDote firmly in place against the injection sit for ~ 10 seconds.

5. Remove the DuoDote injector from the thigh and look at the 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 above steps beginning with Step #3, but push harder in step #4.

6. After the drug has been administered, push the needle against a hard surface to bend the needle back against the DuoDote Auto-Injector.

7. Put the used DuoDote Auto-Injector back into the plastic pouch, if available.

8. Leave the DuoDote Injector(s) with the patient to allow other medical personnel to see the number of injectors administered.

Notes:

MEDICATION INFORMATION

Cyanokit®

Pronunciation: (hye droks oh koe BAL a min)

Brand Names: U.S.: Cyanokit®

Pharmacologic Category: Antidote; Vitamin, Water Soluble

Dosing: Adult

Labeled Indications Cyanokit®: Treatment of cyanide poisoning (known or suspected)

Administration: I.V.
Cyanokit®: Administer by I.V. infusion over 15 minutes; if repeat dose needed, administer second dose over 15 minutes to 2 hours

IV. Infusion (Cyanokit®): Prior to reconstitution, store at 25°C (77°F): excursions permitted to 15°C to 30°C (59°F to 86°F).

Temperature variation exposure allowed for transport of lyophilized form:
Usual transport: ≤15 days at 5°C to 40°C (41°F to 104°F)
Desert transport: ≤4 days at 5°C to 60°C (41°F to 140°F)
Freezing/defrosting cycles: ≤15 days at -20°C to 40°C (-4°F to 104°F)
Following reconstitution, store up to 6 hours at ≤40°C (104°F); do not freeze. Discard any remaining solution after 6 hours.

Reconstitution: I.V. infusion (Cyanokit®): Reconstitute each 2.5 g vial with 100 mL of NS or 5 g vial with 200 mL of NS using provided sterile transfer spike. If NS is unavailable, may use LR or D5W. Invert or rock each 2.5 g vial for at least 30 seconds or 5 g vial for 60 seconds prior to infusion; do not shake. Do not use if solution is not dark red.

Compatibility Stable in NS (preferred), LR, D5W

Incompatible with: diazepam, dopamine, dobutamine, fentanyl, nitroglycerin, pentobarbital, propofol, thiopental.

Contraindications:
Hypersensitivity to hydroxocobalamin, cyanocobalamin, cobalt, or any component of the formulation.

Warnings/Precautions:

Concerns related to adverse effects:
• Hypertension: Cyanide poisoning: Increased blood pressure (≥180 mm Hg systolic or ≥110 mm Hg diastolic) is associated with infusion; elevations usually noted at beginning of infusion, peak toward the end of infusion and return to baseline within 4 hours of infusion.
• Photosensitivity: May cause photosensitivity; avoid direct sunlight while skin remains discolored.

Cyanokit®

Disease-related concerns:
• Anemia: Appropriate use: Neurologic manifestations of vitamin B12 deficiency will not be prevented with folic acid unless vitamin B12 is also given; spinal cord degeneration might also occur when folic acid is used as a substitute for vitamin B12 in anemia prevention.
• Polycythemia vera: Vitamin B12 deficiency masks signs of polycythemia vera; vitamin B12 administration may unmask this condition.

Dosage form specific concerns:
• Cyanokit®: Use caution or consider alternatives in patients with known allergic reactions, including anaphylaxis to hydroxocobalamin or cyanocobalamin. Collection of pretreatment blood cyanide concentrations does not preclude administration and should not delay administration in the emergency management of highly suspected or confirmed cyanide toxicity. Pretreatment levels may be useful as post infusion levels may be inaccurate. Treatment of cyanide poisoning should include decontamination and supportive therapy. Use caution with concurrent use of other cyanide antidotes; safety has not been established.

Pregnancy Risk Factor: C

Lactation: Excretion in breast milk unknown/use caution

IV. infusion (Cyanokit®):
>10%: Cardiovascular: Blood pressure increased (18% to 28%; systolic ≥180 mm Hg or diastolic ≥110 mm Hg)
Central nervous system: Headache (6% to 33%)
Dermatologic: Erythema (94% to 100%; may last up to 2 weeks), rash (predominantly acneiform; 20% to 44%; can appear 7-28 days after administration and usually resolves within a few weeks)
Gastrointestinal: Nausea (6% to 11%)
Genitourinary: Chromaturia (100%; may last up to 5 weeks after administration)
Hematologic: Lymphocytes decreased (8% to 17%)
Local: Infusion site reaction (6% to 39%)
Frequency not defined:
Cardiovascular: Chest discomfort, hot flashes, peripheral edema
Central nervous system: Dizziness, memory impairment, restlessness
Dermatologic: Pruritus, urticaria
Gastrointestinal: Abdominal discomfort, diarrhea, dyspepsia, dysphagia, hematochezia, vomiting
Ocular: Irritation, redness, swelling
Respiratory: Dry throat, dyspnea, throat tightness
Miscellaneous: Allergic reaction (including anaphylaxis)
Postmarketing and/or case reports: Angioneurotic edema

Dosage Forms:
Excipient information presented when available (limited, particularly for generics); consult specific product labeling. [DSC] = Discontinued product
Injection, powder for reconstitution: Cyanokit®: 2.5 g [DSC], 5 g

Cyanokit®

Pharmacodynamics/Kinetics :
Following I.V. administration of Cyanokit®:
Protein binding: Significant; forms various cobalamin-(III) complexes
Half-life elimination: 26-31 hours
Excretion: Urine (50% to 60% within initial 72 hours)

Pharmacotherapy Pearls:
Expert advice from a regional poison control center for appropriate use may be obtained (1-800-222-1222). Cyanide is a clear colorless gas or liquid with a faint bitter almond odor. Cyanide reacts with trivalent ions in cytochrome oxidase in the mitochondria leading to histotoxic hypoxia and lactic acidosis. Signs and symptoms of cyanide toxicity include headache, altered mental status, dyspnea, mydriasis, chest tightness, nausea, vomiting, tachycardia/hypertension (initially), bradycardia/hypotension (later), seizures, cardiovascular collapse, or coma.