### TAB 6 GUIDELINE 1
#### BITE AND ENVENOMATION

<table>
<thead>
<tr>
<th>HISTORY</th>
<th>SIGNS / SYMPTOMS</th>
<th>DIFFERENTIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Past medical history</td>
<td>- Cold, clammy</td>
<td>- Sepsis</td>
</tr>
<tr>
<td>- Medications</td>
<td>- Shivering</td>
<td>- Environmental exposure</td>
</tr>
<tr>
<td>- Exposure to environment even in normal temperatures</td>
<td>- Mental status changes</td>
<td>- Hypoglycemia</td>
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<td>- Exposure to extreme cold</td>
<td>- Extremity pain or sensory abnormality</td>
<td>- CNS dysfunction</td>
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<tr>
<td>- Extremes of age</td>
<td>- Bradycardia</td>
<td>- Stroke</td>
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<td>- Drug use: Alcohol, barbiturates</td>
<td>- Hypotension or shock</td>
<td>- Head injury</td>
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<tr>
<td>- Infections / Sepsis</td>
<td></td>
<td>- Spinal cord injury</td>
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<tr>
<td>- Length of exposure / wetness</td>
<td></td>
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</tr>
</tbody>
</table>

#### Universal Patient Care
- Consider ALS Backup

#### Animal bites:
Contact with Animal Control Officer / Dept.
- NO
  - EMS Transport
    - YES
      - Position patient supine
      - Immobilize area or limb

#### Allergic Reaction / Anaphylaxis Guideline
- YES
  - Allergic Reaction
    - NO
      - Contact Medical Control
        - Transport to appropriate facility

#### For bees/wasps:
- Remove stinger mechanism by scraping with a straight edge.
- Do not squeeze venom sac

#### For spiders:
- Bring in spider if captured or dead for identification

#### For Snakes:
- Remove patient from proximity to snake
- Remove all constricting items from bitten limb (e.g.: rings, jewelry, watch, etc.)
- Immobilize bitten part
- Do NOT use ice, refrigerants, tourniquets, scalpels or suction devices
- Mark margins of erythema and/or edema with pen or marker and include time measured

#### LEGEND
- EMR
- EMT
- A-EMT
- EMT-P
- MC Order

### HISTORY
- Past medical history
- Medications
- Exposure to environment even in normal temperatures
- Exposure to extreme cold
- Extremes of age
- Drug use: Alcohol, barbiturates
- Infections / Sepsis
- Length of exposure / wetness

### SIGNS / SYMPTOMS
- Cold, clammy
- Shivering
- Mental status changes
- Extremity pain or sensory abnormality
- Bradycardia
- Hypotension or shock

### DIFFERENTIAL
- Sepsis
- Environmental exposure
- Hypoglycemia
- CNS dysfunction
  - Stroke
  - Head injury
  - Spinal cord injury
SPECIAL CONSIDERATIONS:

1. Bees / wasps
   a. Remove stinger mechanism by scraping with a straight edge
   b. Do not squeeze venom sac

2. Spiders
   a. Only indigenous poisonous spider in Northwest Ohio is the black widow
   b. Bring in spider if captured or dead for identification

3. Snakes
   a. No indigenous poisonous snakes in Northwest Ohio
   b. Treatment
      i. Remove patient from proximity to snake
      ii. Remove all constricting items from bitten limb (e.g.: rings, jewelry, watch, etc.)
      iii. Immobilize bitten part
      iv. Do NOT use ice, refrigerants, tourniquets, scalpels or suction devices
      v. Mark margins of erythema and/or edema with pen or marker and include time measured

4. Ticks
   a. Tick-borne diseases
      i. Lyme Disease
      ii. Rocky Mountain Spotted Fever
      iii. Southern Tick Associated Rash Illness (STARI)
   b. Removal
      i. Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible
      ii. Pull upward with steady, even pressure. Don't twist or jerk the tick; this can cause the mouth-parts to break off and remain in the skin.
         1. If this happens, remove the mouth-parts with tweezers. If you are unable to remove the mouth easily with clean tweezers, leave it alone and seek medical assistance
      iii. After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol, an iodine scrub, or soap and water
      iv. Dispose of a live tick by submersing it in alcohol, placing it in a sealed bag/container, wrapping it tightly in tape, or flushing it down the toilet. Never crush a tick with your finger
# TAB 6 GUIDELINE 2

## BURN

### HISTORY
- Type of exposure (heat, gas, chemical)
- Inhalation injury
- Time of injury
- Past medical history
- Medications
- Other trauma
- Loss of consciousness
- Tetanus/Immunization status

### SIGNS / SYMPTOMS
- Burns, pain, swelling
- Dizziness
- Loss of consciousness
- Hypotension / shock
- Airway compromise / distress
- Singed facial or nasal hair
- Hoarseness / wheezing

### DIFFERENTIAL
- Superficial (1st degree)
- Partial thickness (2nd degree)
- Full thickness (3rd degree)
- Chemical
- Thermal
- Electrical
- Radiation

### Universal Patient Care
- Consider ALS Backup
- Airway Management
- Remove rings, bracelets, and other constricting items

#### Thermal / Inhalation
- Consider oxygen via NRB
- If burn < 20% body surface area (using rule of nines)
  - Cool the wound with Normal Saline
  - Cover wounds with DRY sterile dressing

#### Chemical
- Remove clothing or expose area
- Brush off any visible dry chemicals or powder
- Flush area with water or Normal Saline for 10 - 15 minutes
- Eye Involvement
  - Continuous saline flush in affected eye(s)

#### Electrical
- Spinal Immobilization
- Cardiac Arrest Guideline
- Perform procedure if able to transmit, do no delay care to obtain EKG
- Cover with Dry sterile dressing

### Contact Medical Control
- Transport to appropriate facility
- Consider transport directly to Burn Center if No airway involvement

### LEGEND
- EMR
- EMT
- A-EMT
- EMT-P
- MC Order
SPECIAL CONSIDERATIONS:

1. Critical Burns
   a. Transfer to recognized Burn Center
   
   | > 20% body surface area (BSA) with age > 10. | Electrical / Inhalation / Deep chemical burns |
   | > 10% BSA with age < 10. | Burns with extremes of age or chronic disease |
   | 3rd degree burns > 5% BSA | Burns associated with major traumatic injury. |
   | 2nd and 3rd degree burns to face, eyes, hands or feet. |

2. Thermal burns
   a. Leave blisters intact when possible.
   b. Suspect airway burns in any facial burns or burns received in closed / confined spaces. Edema may become severe, but not usually in the first hour. Avoid unnecessary trauma to the airway.
   c. Circumferential burns to extremities are dangerous due to potential vascular compromise secondary to soft tissue swelling.
   d. Assume carbon monoxide poisoning in all closed space burns.

3. Common chemicals that cause burns
   a. Phenol is a gelatinous caustic used as an industrial cleaner. It is difficult to remove because it is insoluble in water. Use alcohol, which may be found in areas where Phenol is regularly used, to dissolve the product. Follow removal with irrigation using large volumes of cool water.
   b. Dry Lime is a strong corrosive that reacts with water. It produces heat and subsequent chemical and thermal injuries. Brush dry lime off the patient gently, but as completely as possible. Then rinse the contaminated area with large volumes of cool to cold water.
   c. Sodium is an unstable metal that reacts destructively with many substances, including human tissue and water. Decontaminate the patient quickly with gentle brushing. Then, cover the wound with oil used to store the substance.
   d. Riot Control Agents (Mace, Pepper Spray, etc.) cause intense irritation of the eyes, mucous membranes, and respiratory tract. Treatment is supportive and most patients recover in 10 – 20 minutes of exposure to fresh air. If necessary, irrigate the patient’s eyes with Normal Saline if you suspect the agent remains in the eyes. (Additional treatment under Tab 7 Police Custody Guideline)
e. **Hydrofluoric Acid** is a common corrosive that reacts with water. It produces heat and subsequent chemical and thermal injuries resulting in extreme pain to the affected areas. Cover the wound and avoid contact with water.

4. Estimation of Total Body Surface Burns
   a. Palmer Surface Method
      i. Using size of patient’s palm will estimate approximately 1%
   b. **RULE OF NINES**

   ![Rule of Nines Diagram]

   Note: Each arm totals 9 percent (front of arm 4 \(\frac{1}{2}\) percent, back of arm 4 \(\frac{1}{2}\) percent)
### TAB 6 GUIDELINE 3

**DROWNING AND NEAR DROWNING**

#### HISTORY
- Submersion in water regardless of depth
- Possible history of trauma (i.e., diving board)
- Duration of immersion
- Temperature of water
- Fresh / Salt water
- Degree of Contamination of water

#### SIGNS / SYMPTOMS
- Unresponsive
- Mental status changes
- Decreased or absent vital signs
- Vomiting
- Coughing

#### DIFFERENTIAL
- Trauma
- Pre-existing medical problem
- Pressure injury (diving)
- Barotrauma
- Decompression sickness

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**LEGEND**

- EMR
- EMT
- A-EMT
- EMT-P
- MC Order

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**Universal Patient Care**

**Consider ALS Backup**

**Spinal Immobilization**

**Airway Management**

**Assess mental status**

---

**Awake and Alert**

- Remove wet garments, dry and insulate patient
- Monitor ABC, VS, mental status
- Encourage transport and evaluation even if asymptomatic
- Asymptomatic near-drowning victims should be observed 4 – 6 hours for development of symptoms

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**Awake but altered LOC**

- Remove wet garments, dry and insulate patient
- Suction as needed
- Blood Glucose
- Consider other causes of Altered Mental Status
- Monitor ABC, VS (including Pulse Oximetry / EtCO₂), mental status

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**Unresponsive**

**Pulse Present**

**Cardiac Arrest Guideline**

- Avoid rough movement
- Remove patient from cold environment
- Remove wet clothing
- Protect against heat loss
- Cover with blankets

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**Pulse Oximetry / EtCO₂**

**Consider CPAP**

(Signs of Pulmonary Edema)

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**Contact Medical Control**

**Transport to appropriate facility**

**Transport, even if initial assessment normal**

**Consider transport or availability to a hyperbaric chamber**
SPECIAL CONSIDERATIONS:

1. Pulse and respirations may be very slow and difficult to detect if patient is severely hypothermic.
   a. If no definite pulse, and no signs of life, begin CPR.
   b. If not breathing, start rescue breathing.

2. Drowning / submersion commonly associated with hypothermia.
   a. Patients should not be pronounced dead until rewarmed in hospital.

3. Profound bradycardias may be evident in setting of severe hypothermia and decreased O₂.

4. Patients with drowning or near-drowning should be encouraged to go to the hospital for continued monitoring and evaluation for 4 – 6 hours after event.
### TAB 6 GUIDELINE 4
**HYPERTHERMIA**

#### HISTORY
- Age
- Exposure to increased temperatures and / or humidity
- Past medical history
- Extreme exertion
- Time and length of exposure
- Poor PO intake
- Fatigue and / or muscle cramping

#### SIGNS / SYMPTOMS
- Altered mental status or unconsciousness
- Hot, dry or sweaty skin
- Hypotension or shock
- Seizures
- Nausea

#### DIFFERENTIAL
- Fever (Infection)
- Dehydration
- Medications
- Hyperthyroidism (Storm)
- Delirium tremens (DTs)
- Heat cramps
- Heat exhaustion
- Heat stroke
- CNS lesions or tumors

---

#### Universal Patient Care
- Consider ALS Backup

- Remove from heat source
- Remove clothing
- Environmental Cooling

- Apply room temperature water to skin and increase air flow around patient

---

#### Heat Cramps
- Normal or slightly elevated body temperature
- Warm, moist skin
- Generalized weakness
- Diffuse muscle cramping

#### Heat Exhaustion
- Elevated body temperature
- Cool, diaphoretic skin
- Generalized weakness
- Headache
- Tachypnea / Possible syncope

#### Heat Stroke
- Very high core body temperature
- Hot, dry skin with cessation of sweating
- Hypotension
- Altered Mental Status / Seizure

---

#### Check Blood Glucose

- If Glucose ≤ 60

#### Active Seizure

- YES

#### Seizure Guideline

- Oral Glucose
  - 0.5 Gm / Kg PO
  - (Mental Status?)

#### Contact Medical Control

- Transport to appropriate facility

---

**Consider other causes of hyperthermia besides environment exposure**

- Neuroleptic malignant syndrome
  - patients taking antipsychotic medications
- Sympathomimetic overdose:
  - cocaine, methamphetamine
- Anticholinergic toxidrome:
  - Overdose on psych meds, Benadryl, Jimson Weed
  - (“Mad as a hatter, hot as a hare, blind as a bat, red as a beet”)
- Infection:
  - Fever (sepsis)
- Thyrotoxicosis:
  - Goiter (enlarged thyroid)
SPECIAL CONSIDERATIONS:

1. Heat stroke is a medical emergency. It is distinguished by altered level of consciousness. Sweating may still be present, especially in exercise-induced heat stroke. The other persons at risk for heat stroke are the elderly and person on medications, which impair the body’s ability to regulate heat.
   a. The bodies “sweating” mechanism generally disappears as body temperature rises above 104°F (40°C). Intense shivering may occur as the patient is cooled.

2. Extremes of age are more prone to heat emergencies (i.e., young and old). Predisposed by use of Tricyclic Antidepressants, Phenothiazines, Anticholinergic medications, and alcohol. Cocaine, Amphetamines, and Salicylates may elevate body temperature.

3. Initial cooling measures for heat exhaustion / stroke can be accomplished by applying cold packs (neck, axilla, and groin) or water-soaked sheets. Ensure adequate airflow over patient for evaporative loss. Definitive cooling requires ice water baths and careful monitoring. **DO NOT LET COOLING IN THE FIELD DELAY YOUR TRANSPORT.** Cool patient as much as possible while transporting to the hospital. Care should be taken not to make the patient become hypothermic.

4. Hyperthermia differential:
   a. **Heat Cramps** – consists of benign muscle cramping secondary to dehydration and is not associated with an elevated temperature.
   b. **Heat Exhaustion** – consists of dehydration, salt depletion, dizziness, fever, weakness, mental status changes, headache, cramping, nausea and vomiting. Vital signs usually consist of tachycardia, hypotension, and an elevated temperature.
   c. **Heat Stroke** – consists of dehydration, tachycardia, hypotension, temperature > 104°F (40°C), and an altered mental status.
TAB 6 GUIDELINE 5
HYPOTHERMIA | FROSTBITE

HISTORY
- Past medical history
- Medications
- Exposure to environment even in normal temperatures
- Exposure to extreme cold
- Extremes of age
- Drug use: Alcohol, barbiturates
- Infections / Sepsis
- Length of exposure / wetness

SIGN/SYMPOTMS
- Cold, clammy
- Shivering
- Mental status changes
- Extremity pain or sensory abnormality
- Bradycardia
- Hypotension or shock

DIFFERENTIAL
- Sepsis
- Environmental exposure
- Hypoglycemia
- CNS dysfunction
- Stroke
- Head injury
- Spinal cord injury

LEGEND
- EMR
- EMT
- A-EMT
- EMT-P
- MC Order

Universal Patient Care
Consider ALS Backup

Systemic Hypothermia

Cardiac Arrest - Hypothermic Guidelines

Patient have a pulse

YES

Remove wet garments, dry and insulate patient

Temperature < 95 F (35 C)

NO

NO

Handle very gently

Blankets / Warm Vehicle

Hyptension

YES

Place Supine Position Contact ALS Backup

Appropriate Guideline Based on patient’s symptoms

Prevent refreezing
Cover wound with DRY / sterile dressing

Contact Medical Control
Transport to appropriate facility

Localization Cold Injury Frostnip / Frostbite

Remove wet garments, dry and insulate patient

HISTORY

• Past medical history
• Medications
• Exposure to environment even in normal temperatures
• Exposure to extreme cold
• Extremes of age
• Drug use: Alcohol, barbiturates
• Infections / Sepsis
• Length of exposure / wetness

SIGN/SYMPOTMS

• Cold, clammy
• Shivering
• Mental status changes
• Extremity pain or sensory abnormality
• Bradycardia
• Hypotension or shock

DIFFERENTIAL

• Sepsis
• Environmental exposure
• Hypoglycemia
• CNS dysfunction
• Stroke
• Head injury
• Spinal cord injury

LEGEND

- EMR
- EMT
- A-EMT
- EMT-P
- MC Order
SPECIAL CONSIDERATIONS:

1. Hypothermia
   a. Core body temperature < 35°C (95°F).
   b. Shivering does not occur below 90 ºF (patient temperature). Below this the patient may not even feel cold.
   c. The heart is most likely to fibrillate below 85 – 88 ºF (30 ºC). Defibrillation should be attempted, but prolonged CPR may be necessary until the temperature is above this level.
      i. Any handling and airway manipulation may induce ventricular fibrillation in the hypothermic patient. Delay intubation if airway can be managed by less invasive means.
   d. If not shivering don’t ambulate patient and / or avoid unnecessary external stimuli (jarring of stretcher, loud noise). This activity can cause fibrillation.
   e. If patient has even a faint pulse, organized monitor rhythm and occasional respirations, CPR is currently felt to be unnecessary. In general, even very slow rates are probably sufficient for metabolic demands. CPR is indicated for Asystole and Ventricular fibrillation, though the compression rate can be slower than usual (40 bpm).
   f. Patients who appear dead after prolonged exposure to cold air or water should not be pronounced “dead” until they have been rewarmed.

2. Frostbite
   a. Thawing is extremely painful and should be done under controlled conditions, preferably in the hospital. Careful monitoring, pain medication, prolonged rewarming and sterile handling are required.
   b. It is clear that partial rewarming, or rewarming followed by refreezing, is far more injurious to tissues than delay in rewarming or walking on a frozen extremity to reach help. Do not rewarm prematurely. Indications for field rewarming are almost nonexistent.
   c. Do not allow patient to smoke or have caffeine.
TAB 6 GUIDELINE 6
EMERGENCY MEDICAL ATTENTION TO DOG OR CAT

Purpose:
In the course of an emergency medical response, fire response, or response to aid law enforcement, Ohio Revised Code 4765.52 allows a first responder, emergency medical technician-basic, emergency medical technician-intermediate, or emergency medical technician-paramedic may provide any of the following emergency medical services to a dog or cat prior to the dog or cat being transferred to a veterinarian for further treatment:

1. Opening and manually maintaining an airway
2. Giving mouth to snout or mouth to barrier ventilation
3. Administering oxygen
4. Managing ventilation by mask
5. Controlling hemorrhage with direct pressure
6. Immobilizing fractures
7. Bandaging
8. Administering naloxone hydrochloride

Procedure:
1. Fire and EMS agencies must have an individual SOP / SOG in place with a veterinarian as a consultant for the agency.
2. EMS and Fire personnel will follow individual guidelines when pertaining to airway management, hemorrhage control including bandaging and fracture immobilization
3. Law enforcement K-9 animals with suspected opiate overdose
   a. Initiate airway management including oxygen
   b. Administer naloxone 0.04 mg / kg IN
TAB 6 GUIDELINE 7
HAZARDOUS MATERIAL (HAZMAT) | DECONTAMINATION

1. This guideline and our current training, resources and equipment are directed toward the chemical HAZMAT incident. Biological and nuclear / radiation events require an entirely different level of training, resources and equipment. A great difficulty with such events is simply the identification / recognition of such an event. Unfortunately, these patients may have already passed through the pre-hospital care services and into the hospital before recognition of an event has occurred. Subsequently, large amounts of resources, personnel and equipment may already be contaminated.

2. Priorities at Hazmat incident
   a. Recognition – Recognizing the incident, dangers of the substance and need for isolation
   b. Scene safe – Back up to 1000 ft upwind from incident
   c. Identification – Begin identifying substances involved
   d. Communication – Initiation of ICS and / or coordinated Hazmat response (per local FD guideline)
   e. Isolation of area / event – Initiate / assist with isolation of area. This is to prevent further contamination of personnel and equipment, communicate with safety officers
   f. Medical treatment – Knowledge and ability to reference treatment modalities for identified agent

3. Zones
   a. HAZMAT incidents should have zones established by the HAZMAT teams. Listed below are these zones and their restrictions
      i. Hot Zone (restricted area): This zone is only for personnel with appropriate protective clothing and appropriate training, typically EMS personnel do not enter this zone.
      ii. Warm Zone: This zone is where decontamination occurs and also is a limited access area. This may be a large zone dependent on what material is involved.
      iii. Cold Zone: This zone is also known as the clean zone. Transport lines would form in this zone. Incident command personnel and the rescue vehicles will be in this location
   b. EMS units / personnel are NOT to enter incident beyond the cold zone.

4. Roles of the EMS provider
a. These roles may vary from department to department as training levels may vary (ie a paramedic who is a hazmat technician)
b. To transport grossly decontaminated patients from the cold zone to an appropriate emergency facility
c. To provide medical care to patients / safety personnel in the cold zone including but not limited to triage
d. To monitor members of the HAZMAT team (rehab)

5. Equipment protection
   a. Whenever possible a front-line vehicle should not transport patients to a medical facility due to the risk of contamination of the vehicle, its equipment and the medical facility receiving the patient
   b. The EMS provider should use their portable supplies on the patient and not supplies from the front-line vehicle. Do not use the equipment (i.e. BP cuff) from the vehicle on a patient and then return it to the front-line vehicle, as potential for cross contamination exists.
      i. Portable equipment should remain in the zone it is used in until properly decontaminated.
      ii. Patients transported should be wrapped in cotton sheets, to further reduce the risk of cross contamination to the vehicle and EMS providers

6. Decontamination
   a. Clinical Indications:
      i. Any patient who may have been exposed to significant hazardous materials, including chemical, biological, or radiological weapons
   b. Procedure:
      i. In coordination with HazMAT and other Emergency Management personnel, establish hot, warm and cold zones of operation and ensure that personnel assigned to operate within each zone have proper personal protective equipment
      ii. In coordination with other public safety personnel, assure each patient from the hot zone undergoes appropriate initial decontamination. This is specific to each incident; such decontamination may include:
         1. Removal of patients from Hot Zone
         2. Simple removal of clothing
         3. Irrigation of eyes
4. Passage through high-volume water bath (e.g., between two fire apparatus) for patients contaminated with liquids or certain solids.
   a. Patients exposed to gases, vapors, and powders often will not require this step as it may unnecessarily delay treatment and/or increase dermal absorption of the agent(s)

iii. Initial triage of patients should occur after step #3. Immediate life threats should be addressed prior to technical decontamination

iv. Assist patients with technical decontamination (unless contraindicated based on #3 above).
   1. This may include removal of all clothing and gentle cleansing with soap and water
   2. All body areas should be thoroughly cleansed, although overly harsh scrubbing which could break the skin should be avoided
   3. Flush the area as soon as possible with the cleanest readily available water or saline solution using copious amounts of fluids

v. Place triage identification on each patient. Match triage information with each patient’s personal belongings which were removed during technical decontamination. Preserve these personnel affects for law enforcement.

vi. Monitor all patients for environmental illness

vii. Transport patients per local guideline

7. Hospitals
   a. Medical facilities should expect that the patients transported to their facility will have had gross decontamination performed by the on-scene Hazardous Materials Team. Gross decontamination means an attempt has been made to remove the majority of the agent the patient was exposed to by washing with soap and water. No assumption should be made that the entire agent has been removed

8. Agents
   a. If a scene is a suspected Weapons of Mass Destruction chemical event, the rescue vehicle paramedics will not approach patients until they are decontaminated
   b. Treatment shall be based on history and physical exam and does not require confirmation of the agent. Treat the patient’s symptoms

9. Patients contaminated with chemical / biological agent should not be placed into the EMS vehicle until proper gross and fine decontamination has occurred
### 6 GUIDELINE 8
### NERVE | BIOLOGIC INCIDENT

#### HISTORY
- Exposure to chemical, biologic, radiologic, or nuclear hazard
- Potential exposure to unknown substance/hazard
- Farmer with exposure to pesticide

#### SIGNS / SYMPTOMS
- Salivation
- Laceration
- Urination; increased, loss of control
- Defecation / Diarrhea
- GI Upset; Abdominal pain / cramping
- Emesis
- Muscle Twitching
- Seizure Activity
- Bradycardia / Bronchorrhrea / Bronchospasm

#### DIFFERENTIAL
- Nerve agent exposure (e.g., VX, Sarin, Soman, etc.)
- Organophosphate exposure (pesticide)
- Vesicant exposure (e.g., Mustard Gas, etc.)
- Respiratory Irritant Exposure (e.g., Hydrogen Sulfide, Ammonia, Chlorine, etc.)

#### Universal Patient Care
- Scene Safe / Appropriate PPE
- Obtain history of exposure / Type of Agent
- Observe for specific toxidromes
- Initiate triage and / or decontamination as indicated
- Nerve Agent

#### LEGEND
- EMT
- A-EMT
- EMT-P
- MC Order

#### Biological Agent
- Patient should be placed in isolation
- Contact Medical Control
- Transport to Appropriate Facility

#### Asymptomatic
- Monitor and Reassess Every 15 minutes for symptoms
- Initiate Treatment per appropriate guideline

#### Minor Symptoms: Respiratory Distress + SLUDGEM
- Adult Patients Administer Nerve Agent Kit IM
  - 2 Doses Rapidly
  - Adult Patients Administer Nerve Agent Kit IM
  - 3 Doses Rapidly

#### Major Symptoms
- AMS, Seizure, Respiratory Distress / Arrest
SPECIAL CONSIDERATIONS:

1. Biological agents
   a. Patient should be placed in isolation
   b. Respiratory issues treat per airway guideline

2. Nerve agents
   a. A first responder, EMT, advanced EMT, or Paramedic, may administer drugs or dangerous drugs contained within a nerve agent antidote auto-injector kit, including a Duodote or MARK I kit, in response to suspected or known exposure to a nerve or organophosphate agent provided the first responder or EMT is under physician medical direction and has received appropriate training
   b. If cyanide suspected, follow Poisoning | Overdose | Toxic Ingestion Guideline
   c. There are no specific antidotes for blister agents
# TAB 6 GUIDELINE 9
## RADIATION INCIDENT

### HISTORY
- Type of exposure (heat, gas, chemical)
- Inhalation injury
- Time of Injury
- Past medical history / Medications
- Other trauma
- Loss of Consciousness
- Tetanus / Immunization status

### SIGNS / SYMPTOMS
- Burns, pain, swelling
- Dizziness
- Loss of consciousness
- Hypotension / shock
- Airway compromise / distress could be indicated by hoarseness / wheezing / Hypotension

### DIFFERENTIAL
- Superficial (1st Degree) red - painful (Don’t include in TBSA)
- Partial Thickness (2nd Degree) blistering
- Full Thickness (3rd Degree) painless / charred or leathery skin
- Thermal injury
- Chemical – Electrical injury
- Radiation injury
- Blast injury

### LEGEND
- EMT
- EMT-P
- A-EMT
- EMR
- MC Order

### Universal Patient Care
- Consider Poisoning / Overdose Guideline
- Consider Appropriate Trauma Guideline
- Scene Safe / Appropriate PPE
- Initiate triage and / or decontamination as indicated
- Assess Burn / Concomitant Injury Severity

### Minor Burn
- < 5 % TBSA 2nd / 3rd Degree Burn
  - No inhalation injury, Not Intubated, Normotensive. GCS ≥ 14
  - Flush Contacted Area with Normal Saline for 15 minutes
  - Monitor and Reassess Every 15 minutes for symptoms
  - Initiate Treatment per appropriate guideline

### Serious Burn
- 5 – 15 % TBSA 2nd / 3rd Degree Burn
  - Suspected inhalation injury or requiring intubation for airway stabilization
  - Hypotension or GCS ≤ 13
  - (When reasonably accessible, transport to a Burn Center)
  - Flush Contacted Area with Normal Saline for 15 minutes
  - Vital Signs / Perfusion
  - Cardiac Monitor / 12-Lead ECG
  - Perform procedure if able to transmit, do not delay care to obtain EKG

### Critical Burn
- > 15 % TBSA 2nd / 3rd Degree Burn
  - Burns with Multiple Trauma
  - Burns with definitive airway compromise
  - (When reasonably accessible, transport to a Burn Center)
  - Flush Contacted Area with Normal Saline for 15 minutes
  - Contact Medical Control
  - Transport to Appropriate Facility

## Critical Burn

- Burns with Multiple Trauma
- Burns with definitive airway compromise
- (When reasonably accessible, transport to a Burn Center)
- Flush Contacted Area with Normal Saline for 15 minutes

## Contact Medical Control

- Transport to Appropriate Facility
SPECIAL CONSIDERATIONS:

- **Three methods of exposure:**
  - External irradiation
  - External contamination
  - Internal contamination

- **Two classes of radiation:**
  - Ionizing radiation (greater energy) is the most dangerous and is generally in one of three states: Alpha Particles, Beta Particles and Gamma Rays
  - Non-ionizing (lower energy) examples include microwaves, radios, lasers and visible light.

- Radiation burns with early presentation are unlikely, it is more likely this is a combination event with either thermal or chemical burn being presented as well as a radiation exposure. Where the burn is from a radiation source, it indicates the patient has been exposed to a significant source, (> 250 rem)

- Patients experiencing radiation poisoning are not contagious. Cross contamination is only a threat with external and internal contamination

- **The three primary methods of protection from radiation sources:**
  - Limiting time of exposure
  - Distance from
  - Shielding from the source

- If there is a time lag between the time of exposure and the encounter with EMS, key clinical symptom evaluation includes Nausea / Vomiting, hypothermia/hyperthermia, diarrhea, neurological / cognitive deficits, headache and hypotension

- References:
  - https://www.remm.nlm.gov/burns.htm