

General Decon Guideline

Inclusion

Suspected contamination

Exclusion

Those with the triage category of black/dead may require decon.
However, this decon should not be performed emergently.

Pre-Decon

Tox-Medic™	<p>Initial Care</p> <ul style="list-style-type: none"> • Evaluate ABCs & perform the following, if indicated: <ul style="list-style-type: none"> • Massive Hemorrhage Control <ul style="list-style-type: none"> • Tourniquet • Compressive dressing • Open Airway <ul style="list-style-type: none"> • Head tilt/jaw thrust • Insert OPA or NPA • Supraglottic devices are usually preferred to endotracheal intubation • Tension Pneumothorax <ul style="list-style-type: none"> • Needle decompression • Antidote Autoinjectors • Spinal Motion Restriction
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Decon

Chemical Incidents	Biological Incidents	Radiation & Nuclear Incidents
<p>Skin Use Dry-Wet-Dry™ with soap & tepid water for 3 minutes. Acids & bases should be irrigated until would pH = 7.</p> <p>Eyes Irrigate for at least 20 minutes, ideally continue during transport, if resources allow. Acids & bases should be irrigated until eye pH = 7.</p>	<p>Skin Generally not necessary & may be done at home by patient</p> <p>Eyes Generally not indicated</p>	<p>Patient treatment takes priority over decon. Use a detector to locate contaminants.</p> <p>Medically Stable Patients: <u>Dry:</u> Remove contaminated clothing & roll contamination up within clothing. Remove powders with towels or lint-removing adhesive rollers. <u>Wet:</u> Identify skin contaminants, use moist gauze, gently wipe until detector reads ≤ 2x the background radiation level. Avoid skin irritation. <u>Dry:</u> Use non-abrasive material.</p>

Special Note:

Air medical transport is relatively contraindicated prior to decon.

Eye Decon Guideline

Inclusion

Suspected eye contamination
(Eye decon may start during general decon.)

Exclusion

Patients with no known eye contamination & no eye irritation

	Decon
BLS	<p>Initial Care</p> <ul style="list-style-type: none"> Irrigate eyes with water, normal saline, or lactated Ringer's. Remove contact lenses ASAP <p>Patient Care During Eye Decon</p> <ul style="list-style-type: none"> Eye decon should not delay other patient treatments.

	Decon
Tox-Medic™	<p>Initial Care</p> <ul style="list-style-type: none"> Put 2 drops of tetracaine into affected eye(s). Repeat every 5 to 10 minutes, as needed to relieve eye discomfort. If patient allows, place eye irrigation lens under eyelids. Irrigate eyes with water, normal saline, or lactated Ringer's until conjunctival sac pH is 7 after exposure to acids & bases. For non-acids and non-bases, discontinue irrigation after 20 minutes & when eyes are no longer irritated. <p>Patient Care During Eye Decon</p> <ul style="list-style-type: none"> Eye decon should not delay other patient treatments. If there are abnormal vital signs, insert peripheral IV, supply supplemental oxygen (O₂), & apply cardiac monitor. Evaluate for a toxidrome & if present, treat using the applicable guideline.

Simple Asphyxiants & Carbon Monoxide Guideline

Inclusion

Suspected carbon monoxide or simple asphyxiant exposure

Exclusion

Do not enter a confined space to rescue an unresponsive person without wearing an SCBA or testing to confirm there is a nontoxic atmosphere with sufficient oxygen.

BLS

Pre-Decon

Remove from source

Decon

Simple asphyxiants & carbon monoxide are gases. Removing the victim from the source will be the only decon required for these exposures.

ALS

Post-Decon

- Supportive care with high flow O₂ via non-rebreather reservoir mask
- Vital signs, primary & secondary surveys, cardiac monitor, insert peripheral IV/IO.
- Consider CPAP or airway management for patients with symptoms of severe CO toxicity.
- Dysrhythmias
 - Treat per ACLS guidelines
- If needed, contact medical direction or poison control for assistance.

Special Note:

- Severe effects: Dyspnea, respiratory failure, hypotension, dysrhythmia, chest pain, altered mental status, seizure, coma, etc.
- Carbon monoxide binds to the oxygen binding sites of hemoglobin, decreasing the ability for hemoglobin to carry & release oxygen (O₂).
- Simple asphyxiants decrease the concentration of inspired oxygen. Examples include carbon dioxide and nitrogen.

Chlorine Gas Guideline

Inclusion

Suspected chlorine gas exposure with respiratory tract, eye, and/or skin irritation

Exclusion

- Suspected chlorine gas exposure with no signs & symptoms
- Do not enter a confined space to rescue an unresponsive person without wearing an SCBA or testing to confirm there is a nontoxic atmosphere with sufficient oxygen.

Pre-Decon

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| BLS | <ul style="list-style-type: none"> Perform primary survey Provide supplemental O₂ and/or assist ventilation with BVM, if needed. Avoid supraglottic airways for upper airway, chemical burns |
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Decon

- Dry-Wet-Dry™ skin decon, if patient has skin symptoms.
- Eye decon, if the patient has eye symptoms.
- The specific decon required should be determined by the Incident Commander (IC) or their designee.
- Medical guidance for decon is as follows:

General Decon Guideline

Eye Decon Guideline

Post-Decon

- | | |
|-----|---|
| ALS | <p>Supportive Care</p> <ul style="list-style-type: none"> Cardiac monitor, insert peripheral IV, supplemental O₂, BVM, if indicated. If in severe respiratory distress, support ventilation with BVM, or airway management protocol, as needed. For bronchospasm, administer albuterol 2.5 mg via nebulizer. Repeat 2x for continued bronchospasm. |
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Special Note:

- Properties:** Chlorine is an intermediately water-soluble, irritant gas that dissolves in water to produce hydrochloric acid and hypochlorous acid. These acids cause irritation of mucous membranes & sweaty skin.
- Signs & Symptoms:** Coughing, choking, dyspnea, wheezing, lacrimation, burning sensation in eyes/armpits, etc. Severe cases may progress to ARDS & respiratory failure.

AHLS for Tox-Medics™ Methemoglobinemia Guideline

Inclusion

Suspected methemoglobinemia

Exclusion

Patients with known glucose-6-phosphate dehydrogenase (G6PD) deficiency or those taking drugs, such as, SSRIs, SNRIs, fentanyl, etc.

Pre-Decon

BLS

- High flow O₂ via non-rebreather, reservoir mask
- BVM ventilation, if necessary

Decon

General

- Decon is only necessary if liquid or solid methemoglobin-forming compounds are on clothes or skin.
- The specific decon required should be determined by the IC or their designee. Medical guidance for decon is as follows:

General Decon Guideline

Eye Decon Guideline

Post-Decon

Tox-Medic™

Supportive Care

- Cardiac monitor, supplemental O₂
- If severe respiratory distress, support ventilation with BVM or airway management.

Antidote

- Methylene blue for **severe*** methemoglobinemia: 1 mg/kg, IV/IO, over 5 minutes

Special Notes:

- **Severe* methemoglobinemia:** Cyanosis with altered mental status, chest pain, or dyspnea
- **Mild or moderate methemoglobinemia:** Cyanosis without altered mental status, chest pain, or dyspnea.
- **Causes of methemoglobinemia:** Amyl nitrite, isobutyl nitrite, sodium nitrite, topical anesthetics, aniline, nitrobenzene, etc.

Hydrocarbons & Substituted Hydrocarbons Guideline

Inclusion

Suspected hydrocarbon exposure with signs or symptoms

Exclusion

- Patient with no signs & symptoms
- Do not enter a confined space to rescue an unresponsive person without wearing an SCBA or testing to confirm there is a nontoxic atmosphere with sufficient oxygen.

BLS

Pre-Decon

- High flow O₂ via non-rebreather, reservoir mask
- Assist ventilation with BVM or supraglottic airway, if needed.

Decon

- Dry-Wet-Dry™ skin decon, if patient has skin symptoms.
- Eye decon, if the patient has eye symptoms.
- The specific decon required should be determined by the Incident Commander (IC) or their designee.
- Medical guidance for decon is as follows:

General Decon Guideline

Eye Decon Guideline

ALS

Post-Decon

Supportive Care

- High flow O₂ via non-rebreather, reservoir mask
- Consider airway management

Tox-Medic™

- Symptomatic PVCs: propranolol 1 mg or metoprolol 5 mg IV/IO over 2 minutes
- Other Dysrhythmias: Treat per ACLS guidelines
- Avoid epinephrine & albuterol because catecholamines lower the threshold for ventricular fibrillation in the setting of hydrocarbon & substituted hydrocarbon exposures.

Examples of Hydrocarbons:

- Aliphatic Hydrocarbons: Methane, ethane, propane, butane, hexane, cyclohexane, etc.
 - Aliphatics from pine include turpentine, pine oil, pine tar, etc.
- Aromatic & Substituted Aromatic Hydrocarbons: Benzene, aniline, phenols, etc.
- Other substituted hydrocarbons include halogenated hydrocarbons, etc.

Hydrogen Cyanide Inhalation Hydroxocobalamin Treatment Guideline

Inclusion

Suspected hydrogen cyanide inhalation with severe* signs & symptoms

Exclusion

- Suspected hydrogen cyanide inhalation with mild** signs & symptoms
- Do not enter a confined space to rescue an unresponsive person without wearing an SCBA or testing to confirm there is a nontoxic atmosphere with sufficient oxygen.

BLS

Pre-Decon

- High flow O₂ via non-rebreather, reservoir mask
- BVM ventilation, if needed.

Decon

- Hydrogen cyanide is a gas above 78°F (26°C).
- Removing the victim from the source will usually be the only decon required.

ALS

Post-Decon

Supportive Care

- High flow O₂ via non-rebreather reservoir mask, consider airway management
- Vital signs, primary & secondary survey, cardiac monitor, insert peripheral IV/IO
- Dysrhythmias: Treat per ACLS guidelines

Age ≥ 10 Years	
Tox-Medic™	Hydroxocobalamin Antidote
	<ul style="list-style-type: none"> • Reconstitute with normal saline • Administer 5 g, using IV tubing included • Repeat 1x, if initial response is inadequate

Age < 10 Years	
Tox-Medic™	Hydroxocobalamin Antidote
	<ul style="list-style-type: none"> • Reconstitute with normal saline • Administer 70 mg/kg, using IV tubing included • Repeat 1x, if initial response is inadequate

Special Notes:

- Severe* signs & symptoms: Dyspnea, respiratory failure, hypotension, dysrhythmias, chest pain, altered mental status, seizure, coma, etc.
- Mild** signs & symptoms: Headache, nausea, tachypnea, etc.
- Hydroxocobalamin must be infused in a dedicated IV/IO line using the supplied tubing.
- Obtain lab blood samples when placing IV because hydroxocobalamin interferes with many diagnostic tests.

AHLS for Tox-Medics™ Hydrogen Cyanide Inhalation Nitrites & Sodium Thiosulfate Treatment Guideline

Inclusion

Suspected hydrogen cyanide inhalation with **severe*** signs & symptoms

Exclusion

Suspected hydrogen cyanide inhalation with **mild*** signs & symptoms.
Do not enter a confined space to rescue an unresponsive person without air testing or SCBA.

Pre-Decon

Tox-Medic™

Supportive Care

- High flow O₂ via non-rebreather, reservoir mask
- BVM ventilation, if necessary

Antidote

- Amyl nitrite ampule: break & inhale 1 ampule for 15 seconds, alternating with O₂ for 15 seconds, until IV/IO is placed

Decon

Hydrogen cyanide is a gas above 78°F (26°C).
Removing the victim from the source will usually be the only decon required.

Post-Decon

- Supportive care with high flow O₂ via non-rebreather reservoir mask, consider airway management
- Vital signs, primary & secondary surveys, cardiac monitor, insert peripheral IV/IO
- Dysrhythmias: Treat per ACLS guidelines.

ALS

Age ≥ 10 years

Tox-Medic™

Antidotes

- Sodium nitrite, 300 mg, IV/IO, over 5 minutes
- Sodium thiosulfate, 12.5 g, IV/IO, over 10 minutes

Age < 10 years

Tox-Medic™

Antidotes

- Sodium nitrite, 6 mg/kg to max of 300 mg, IV/IO, over 5 minutes
- Sodium thiosulfate, 250 mg/kg to a max of 12.5 g, IV/IO, over 10 minutes

Special Notes:

- Amyl nitrite & sodium nitrite convert hemoglobin to methemoglobin. Because this significantly impairs O₂ transport to tissue, avoid these antidotes in patients likely to have high level of carboxyhemoglobin, such as house fire victims. Amyl & sodium nitrite can cause life-threatening hypotension due to vasodilation.
- **Severe*** signs & symptoms: dyspnea, respiratory failure, hypotension, dysrhythmias, chest pain, altered mental status, seizure, coma, etc.
- **Mild*** signs & symptoms: headache, nausea, tachypnea, etc.

Organophosphates, Carbamates, & Nerve Agents Guideline

Inclusion

Suspected organophosphate, carbamates, or nerve agents exposure with mild, moderate, or severe toxicity

Exclusion

Suspected organophosphate, carbamates, or nerve agents exposure with no evidence of toxicity

Pre-Decon		Pre-Decon	
Tox-Medics™	Age ≥ 10 Years	Tox-Medics™	Age < 10 Years
	<ul style="list-style-type: none"> Mild: No autoinjectors Moderate: 2 autoinjectors Severe: 3 autoinjectors <p>Adult Autoinjectors: Mark I & Duodote™</p>		<ul style="list-style-type: none"> Mild: No Atropen™ Moderate: Age-appropriate Atropen™ Severe: Age-appropriate Atropen™ <p>Pediatric Autoinjectors:</p> <ul style="list-style-type: none"> 4 – 10 years: 1 mg Atropen™ 6 months – 4 years: 0.5 mg Atropen™ < 6 months: 0.25 mg Atropen™

Decon

- The specific decon required should be determined by the Incident Commander (IC) or their designee.
- Medical guidance for decon is as follows:

General Decon Guideline

Use RSDL for wet decon, if available

Eye Decon Guideline

Post-Decon

Tox-Medics™	Supportive Care
	<ul style="list-style-type: none"> Cardiac monitor, IV, supplemental O₂, BVM or airway management protocol, as needed <p>Continued Antidote Therapy: Atropine every 5 minutes to control moderate/severe symptoms</p> <ul style="list-style-type: none"> Age ≥ 10 years: Atropine 2 mg, IV/IO Age < 10 years: Atropine 0.02 mg/kg, IV/IO or 0.04 mg/kg, IM <p>Benzodiazepines for severe symptoms, including seizures:</p> <ul style="list-style-type: none"> Age ≥ 10 years: midazolam, 10 mg, IM or CANA 10 mg diazepam autoinjector Ages 2 – 10 years: midazolam, 5 mg, IM Age < 2 years: midazolam, 0.1 mg/kg IM

Special Note:

- Mild symptoms: Eye signs & symptoms only
- Moderate symptoms: Systemic symptoms with ability to protect airway
- Severe symptoms: Systemic symptoms without the ability to protect airway, including seizures.

Vesicants Guideline

Inclusion

Suspected vesicant exposure

Exclusion

None

Pre-Decon

BLS	<p>Supportive Care</p> <ul style="list-style-type: none"> High flow O₂ via non-rebreather, reservoir mask BVM ventilation, if necessary Avoid supraglottic airways for upper airway, chemical burns.
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Decon

- Dry-Wet-Dry™ skin decon, if patient has skin symptoms.
- Eye decon, if the patient has eye symptoms.
- The specific decon required should be determined by the Incident Commander (IC) or their designee.
- Medical guidance for decon is as follows:

General Decon Guideline

Use RSDL for wet decon, if available

Eye Decon Guideline

Post-Decon

ALS	<p>Supportive Care</p> <ul style="list-style-type: none"> If severe respiratory distress or apnea, provide ventilation using BVM or airway management protocol. Cardiac monitor, insert peripheral IV, and provide supplemental O₂, if indicated.
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Special Note:

- Specific therapy exists but is not given immediately or in the prehospital setting.

Opioid Toxicity Guideline

Inclusion

Suspected opioid toxicity with altered mental status & respiratory depression or apnea

Exclusion

Suspected opioid ingestion with normal respirations

Pre-Decon

BLS

Supportive Care

- High flow O₂ via non-rebreather, reservoir mask
- BVM ventilation or supraglottic airway, if necessary

Antidote

- Naloxone 0.1 mg/kg, IN (up to 4 mg)
- May repeat 1x, if not effective after 3 – 4 minutes

Decon

- Decon is rarely indicated in opioid toxicity with the exception of skin or mucous membrane contamination with a powdered substance, which should be removed with Use Dry-Wet-Dry™ decon.
- Do not use alcohol-based skin cleansers as they increase the absorption of fentanyl contaminants on the skin.
- The specific decon required should be determined by the Incident Commander (IC) or their designee.

Post-Decon

ALS

Supportive Care

- High flow O₂ via non-rebreather, reservoir mask, consider airway management.
- Vital signs, primary & secondary survey, cardiac monitor, insert peripheral IV
- Dysrhythmias: Treat per ACLS guidelines

Antidote Therapy

- Repeat naloxone 0.1 mg/kg (up to 4 mg), as needed to prevent apnea.

Special Note:

- Examples of long-acting or extended release opioids:
 - Oxycodone (OxyContin)
 - Methadone (Dolophine)
 - MS Contin
 - Oxymorphone
 - Etc.

Riot Control Agents Guideline

Inclusion

Suspected riot control agent exposure with respiratory or ocular symptoms

Exclusion

Suspected riot control agent exposure with no signs or symptoms

Pre-Decon

BLS

- Supportive Care**
- High flow O₂ via non-rebreather, reservoir mask
 - BVM ventilation, if needed
 - Avoid supraglottic airways for upper airway, chemical burns.

Decon

- Dry-Wet-Dry™ skin decon, if patient has skin symptoms.
- Eye decon, if the patient has eye symptoms.
- The specific decon required should be determined by the Incident Commander (IC) or their designee.
- Medical guidance for decon is as follows:

[General Decon Guideline](#)

[Eye Decon Guideline](#)

Post-Decon

ALS

- Supportive Care**
- If severe respiratory distress or apnea, provide ventilation using BVM or airway management protocol.
 - Cardiac monitor, insert peripheral IV and provide supplemental O₂, if indicated

Tox-Medic™

- If bronchospasm, administer albuterol 2.5 mg via nebulizer. Repeat 2x for continued bronchospasm.

Special Note:

- Aerosolized tear gas is heavier than air, rescuers should move incapacitated victims off the ground as expeditiously as possible.

Hydrofluoric Acid Guideline

Inclusion

Known or suspected exposure to hydrofluoric acid (HF)

Exclusion

Exposure to other acids or bases

Pre-Decon

BLS

Supportive Care

- High flow O₂ via non-rebreather, reservoir mask
- BVM ventilation, if needed

Decon

- The specific decon required should be determined by the Incident Commander (IC) or their designee.
- Medical guidance for decon is as follows:

General Decon Guideline

Eye Decon Guideline

Post-Decon

ALS

- Administer calcium gluconate topical gel to the affected skin.
 - If calcium gluconate gel is not available, mix 10 mL of calcium gluconate solution with 1 oz. package of water-soluble lubricant. Apply to affected skin.
 - If lubricant is not available, apply calcium gluconate solution directly to affected skin.
 - Do not apply calcium gluconate or calcium chloride to the eyes.
- In the event of cardiac arrest, calcium chloride may be given. Calcium chloride can cause severe peripheral venous irritation & tissue damage. Therefore, administration via a peripheral IV should be limited to managing cardiac arrest.

Supportive Care

- High flow O₂ via non-rebreather reservoir mask, consider airway management protocol.
- Vital signs, primary & secondary survey, cardiac monitor, insert peripheral IV/IO
- Dysrhythmias: Treat per ACLS guidelines
- If in pain, use pain management orders
- If needed, contact medical direction or poison control for assistance.

Tox-Medic™

Age ≥ 10 Years

Initial Care

- If unstable (cardiac dysrhythmia or arrest), insert peripheral IV/IO & give IV/IO calcium gluconate 30 mL (3 g)

Tox-Medic™

Age < 10 Years

Initial Care

- If unstable (cardiac dysrhythmia or arrest), insert peripheral IV/IO & give IV/IO calcium gluconate 0.6 mL/kg

Radiation & Nuclear Guideline

Inclusion

Suspected radiation exposure & life-threatening injury

Exclusion

Suspected radiation exposure & non-life-threatening injury

BLS	Pre-Decon
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|------------|---|
| BLS | <ul style="list-style-type: none"> Treat life-threatening injuries prior to decon Treatment & transport of critically-injured patients takes priority over decon. |
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Decon

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| <ul style="list-style-type: none"> Use detector to locate contaminants. Identification of contamination & focused removal of contamination may be sufficient. Protect yourself! <ul style="list-style-type: none"> Limit exposure time Maximize distance from source Use appropriate shielding |
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BLS/ALS	Post-Decon
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| BLS/ALS | <ul style="list-style-type: none"> Continue supportive care Patients with apparently minor injuries should be transported for evaluation to identify occult trauma. |
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Special Note:

- Although exposure to radiation can be life-threatening, the effects of radiation exposure are delayed in onset, making treatment of traumatic injuries the priority.