**Boulder County Hazardous Materials Team**

Hydrofluoric Acid Exposure

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| Guideline Number | 4003 |
| Approved By | Advisory Committee |
| Date | 4/13/22; 7-15-2022 |

**Scope:** This information applies to all Boulder County Hazardous Materials Team personnel trained as HAZMAT Tox-Medics.

**Purpose:** This Standard Operating Procedure provides guidance to Boulder County Hazardous Materials Team HAZMAT Tox-Medic personnel on how to manage incidents where hydrofluoric acid (HF) exposure is suspected.

**Guideline:**

* Primary survey and resuscitation:
	+ Airway- Ensure open airway as the irritant action of hydrofluoric acid can restrict the upper airway
	+ Breathing- Ventilate with 100% FiO2, may administer albuterol for wheezing per protocol
	+ Circulation- Place on monitor and watch for dysrhythmias from hypocalcemia
	+ Disability- Prepare for seizure activity, treat with a benzodiazepine if necessary
	+ Exposure- Removed clothes and decontaminate with copious water. Chemical burn blisters should be broken as opposed to thermal burn blisters. Topical calcium gluconate liquid or gel can be applied to skin after decontamination with water

**Procedure:**

* Administer antidote:
	+ Calcium Gluconate: Topical (for localized symptoms): 2.5% commercial gel or 10% liquid can be placed in a glove for finger/hand exposures. Topical gel can be placed over exposed areas elsewhere.
		- IV/IO (for systemic symptoms):
		- Adult: 30ml of 10% Calcium Gluconate slow push
		- Pediatric: 0.6ml/kg of 10% Calcium Gluconate up to 30 ml slow push
	+ Calcium Chloride IV (for systemic symptom. Do not give IO. Infiltration/extravasation of IV Calcium Chloride can cause severe tissue necrosis):
		- Adult: 10ml of 10% Calcium Chloride slow push
		- Pediatric: 0.2ml/kg of 10% Calcium Gluconate up to 10 ml slow push
	+ Basics- Continue to reassess ABCs
	+ Change Catabolism- N/A
	+ Distribute Differently- Calcium as discussed above
	+ Enhance Elimination- N/A

**Reference**

AHLS Provider Manual, 5th Edition

Boulder County EMS Protocols

Denver Metro EMS Protocols https://www.dmemsmd.org