ADULT PROTOCOL

TOXIC EXPOSURE
HYDROGEN FLUORIDE EXPOSURE

PATHOPHYSIOLOGY AND ROUTES	SIGNS AND SYMPTOMS	SOURCES AND USES
Gas or liquid can cause corrosive burns to skin and deep underlying tissue. Also binds to calcium and magnesium of nerve pathways, bone and blood stream resulting in symptoms of depolarization producing excruciating pain and cardiac dysthymias **Inhalation** **Skin Absorption** **Ingestion**	• Corrosive burns • Erythema • Excruciating pain • Respiratory burns • Pulmonary Edema • Cardiac Dysthymia due to hypocalcemia • Hypomagnesemia • Seizures • ST segment abnormalities • Symptoms may take hours to present	• Hydrogen Fluoride • Hydrofluoric acid • Industrial ceramic production • Glass etching **SPECIAL PRECAUTIONS** • Hydrofluoric acid can cause serious, painful burns of the skin. Specialized medical treatment is required. • Burns larger than 25 square inches may result in serious systemic toxicity. • Hydrofluoric acid is a highly corrosive acid which can severely burn skin, eyes and mucous membranes. Vapors can also burn other tissues

Potential exposure with signs/symptoms consistent with exposure

Remove patient from continued exposure – ***CALL FOR HAZ-MAT RESPONSE***

Assure proper decon has been performed prior to patient contact

Assure adequate airway, ventilation and oxygenation. Secure airway against secretions

Establish 2 large bore IV's in non-exposed areas if possible
20 ml / kg Normal Saline if Hypotensive

Skin Burns

- Soak in Iced BENZALKONIUM CHLORIDE (ZEPHIRAN) 0.13% or wrap in soaked towels which are frequently re-wetted
- If hemodynamically Stable, consider pain relief with narcotics
- CALCIUM GLUCONATE 2.5% gel topically over burned area

Eye Injury

- Saline flush for 3 minutes
- Apply topical TETRACAINE 1 -2 drops for pain relief
- Flush with 1% CALCIUM GLUCONATE irrigation solution Consider use of Morgan Lens if available and trained

Inhalation Injury

- Administer 100% Oxygen by NRB
- Administer 2.5% CALCIUM GLUCONATE continuously by nebulizer

Ingestion

- Do NOT induce Vomiting
- Dilute with water
- Administer Milk of Magnesia

In cases of suspected <u>systemic</u> toxicity

Administer 10% CALCIUM GLUCONATE 0.1 to 0.2 ml / kg - Up to 10 ml IV

DIAGNOSTIC EKG PROCEDURE

⚠ Assure that receiving facility has access to 10% CALCIUM GLUCONATE

Administer MAGNESIUM SULFATE 1 - 2 grams IV

TRANSPORT to appropriate facility CONTACT receiving facility NOTIFY of HAZ-MAT Situation
CONSULT Medical Direction where indicated APPROPRIATE transfer of care

EMT Intervention | AEMT Intervention | PARAMEDIC Intervention | Online Medical Control