burns
5. Some acid and alkali agents may manifest systemic effects

Treatment and Interventions
1. If dry chemical contamination, carefully brush off solid chemical prior to flushing the site as the irrigating solution may activate a chemical reaction
2. If wet chemical contamination, flush the patient's skin (and eyes, if involved) with copious amounts of water or normal saline
3. Provide adequate analgesia per the Pain Management Guideline
4. Consider the use of topical anesthetic eye drops (e.g., tetracaine) for chemical burns of the eye
5. For eye exposure, administer continuous flushing of irrigation fluid to eye — Morgan lens may facilitate administration
6. Early airway intervention for airway compromise or bronchospasm associated with oropharyngeal burns
7. Take measures to minimize hypothermia
8. Initiate intravenous fluid resuscitation if necessary to obtain hemodynamic stability

Hydrofluoric Acid

Hydrofluoric acid (HF) is a highly corrosive substance that is primarily used for automotive cleaning products, rust removal, porcelain cleaners, etching glass, cleaning cement or brick, or as a pickling agent to remove impurities from various forms of steel. Hydrofluoric acid readily penetrates intact skin and there may be underlying tissue injury. It is unlikely that low concentration HF will cause an immediate acid-like burn however there may be delayed onset of pain to the exposed area. Higher concentration HF may cause immediate pain as well as more of a burn appearance that can range from mild erythema to an obvious burn. An oral or large dermal exposure can result in significant systemic hypocalcemia with possible QT prolongation and cardiovascular collapse

1. For all patients in whom a hydrofluoric acid exposure is confirmed or suspected:
    a. Vigorously irrigate all affected areas with water or normal saline for a minimum of 15 minutes
    b. Apply a cardiac monitor for oral or large dermal exposures significant HF exposures
    c. Apply calcium preparation:
        i. Calcium prevents tissue damage from hydrofluoric acid
        ii. Topical calcium preparations:
            1. Commercially manufactured calcium gluconate gel
            2. If commercially manufactured calcium gluconate gel is not available, a topical calcium gluconate gel preparation can be made by combining 150 mL (5 ounces) of a sterile water-soluble gel (e.g., Surgilube® or KY® jelly) with one of the following:
                a. 35 mL of calcium gluconate 10% solution
                b. 10 g of calcium gluconate tablets (e.g., Tums®)
                c. 3.5 g calcium gluconate powder or
            3. If calcium gluconate is not available, 10 mL of calcium chloride 10% solution in 150 mL in sterile water-soluble gel (e.g., Surgilube® or KY® jelly)
            4. Apply generous amounts of the calcium gluconate gel to the exposed skin sites to neutralize the pain of the hydrofluoric acid