



# EMS System for Metropolitan Oklahoma City and Tulsa 2019 Medical Control Board Treatment Protocols



Approved 9/12/18, Effective 1/15/19, replaces all prior versions

## 16NN – CALCIUM GLUCONATE

EMERGENCY MEDICAL DISPATCHER
EMERGENCY MEDICAL RESPONDER
EMT
EMT-INTERMEDIATE 85
ADVANCED EMT
PARAMEDIC

Administration Phone Directive - 8H

**Class:** Elemental metabolite – calcium is the active component

**Actions/Pharmacodynamics:** In the setting of hydrofluoric acid burns, calcium gluconate topically applied to affected skin will allow for calcium to bind up the free fluoride ions, reducing pain caused by such ions. Binding the free fluoride ions reduces their impacts, specifically those associated with causing hyperkalemia, hypocalcemia, and hypomagnesemia.

**Indications:** Hydrofluoric Acid (8H)

**Contraindications:** Known hypercalcemia; effectively none in setting of hydrofluoric acid burn

**Pharmacokinetics:** Absorption transdermally, with onset of action within several minutes and duration of action up to several hours.

**Side Effects:** Typically none from EMS dosing.

**Dosage:** **Hydrofluoric Acid – Adult & Pediatric (8H)**  
Apply topically to exposed/affected burn on skin

**How Supplied:** 2.5% gel in 25 gram tube  
(Always check concentration and dose per container at time of patient medication administration)

**Special Comment:** To monitor pain relief from calcium gluconate gel absorption, paramedics should avoid concurrent administration of opiate/narcotic medications. When hand(s) are involved, a best practice is to place a liberal amount of the calcium gluconate gel in exam glove(s), placing the gel in the spaces for any affected fingers too, and then pulling the glove(s) onto the affected hand(s). Weaker concentrations of hydrofluoric acid may result in time lag of several hours from exposure to onset of burn pain. High concentrations of hydrofluoric acid will cause immediate burn pain.