GLUCAGON
McHenry Western Lake County Emergency Medical Services
During this session we will discuss:

- Class
- Actions
- Indications
- Contraindications
- Dosing/Routes
- How supplied
- Side effects
Polypeptide hormone
Identical to human glucagon that increases blood glucose and relaxes smooth muscle of the gastrointestinal tract
Increases blood glucose by converting liver glycogen stores to glucose
Stimulates the release of catecholemines causing increased heart rate and contractility.
Relaxes smooth muscle of stomach, duodenum, small intestine, & colon
Peaks in <20 minutes
- Hypoglycemia w/o IV/IO - - Anaphylaxis if a Hx of CVD, HTN, pregnant or on β blockers or
- β blocker OD if HR < 60 & not responding to Epi. & dopamine
- Symptomatic bradycardia w/ pulse if on β blockers & unresponsive to atropine, pacing, & dopamine.
- Calcium Channel blockers have been removed from protocol as an indication for use.
- **Hypoglycemia**
  - ≥ 20 kg: 1 mg IVP/IN/IO/IM
  - < 20 kg: 0.03 mg/kg (0.5 mg) IM/IN/IO up to 1 mg

- **Anaphylaxis/bradycardia on β blockers & refractory to usual Rx:** May repeat q. 1 min to total dose of 3 mg.

- **β blocker OD** may need initial dose of 3 mg up to 10 mg
Contraindications & Precautions

- Hypersensitivity
- Adrenal insufficiency
- Adrenal tumor

Precautions:
- Not as effective in treating hypoglycemia if no glycogen stores: pediatrics, starvation or malnourished states, uremic or those with liver disease
- Give supplemental carbohydrate ASAP
- When reconstituting: Roll (don't shake) vial
1 mg vial
Must be mixed and remember…. 
DO NOT SHAKE!
Roll the medication back in forth in your hands.
Side effects

- GI: Vomiting common (protect airway before glucagon administration)
- ↑ HR
- Dyspnea

ref: MWLCEMS Protocol and 2000 Mosby’s Nursing Drug Reference Book and RX list.com
You are treating a hypoglycemic 52 male who you are unable to gain IV access on. What would be the dose and route of Glucagon for this patient.
Answer

- 1mg IM/IN/IO
Question?

- If you are to give 1mg of Glucagon IN, can you give the entire 1 mg into just one nostril?
Yes...Glucagon is 1mg in 1ml and we can give a total of 1ml per nostril.