

# Glucagon

McHenry Western Lake County  
EMS



# Objectives

- During this session we will discuss:
- Class
- Actions
- Indications
- Contraindications
- Dosing/Routes
- How supplied
- Side effects



# Class:

- Polypeptide hormone
- Identical to human glucagon that increases blood glucose and relaxes smooth muscle of the gastrointestinal tract



# Actions:

- Increases blood glucose by converting liver glycogen stores to glucose
- Stimulates the release of catecholamines causing increased heart rate and contractility.
- Peaks in <30 minutes



# Indications:

- Hypoglycemia w/o IV
- Anaphylaxis if a Hx of CVD, HTN, pregnant or on beta blockers and not responding to Epi. and Dopamine.
- Symptomatic bradycardia with a pulse if on beta/calcium and unresponsive to Atropine and pacing.
- Beta/Calcium blocker OD if  $P < 60$  and  $BP < 90$  and not responding to Atropine or pacing.



# Dosing/Routes:

- Anaphylaxis: 1mg IVP/IN/IO/IM.
- Symptomatic Bradycardia: 1mg IVP/IN/IO/IM.
- Beta/Calcium blocker OD: 1mg IVP/IN/IO/IM
- Hypoglycemia w/o IV: 1mg IM/IN
- Beta/Calcium blocker OD and *NOT* responding to Epi, atropine or pacing: 1 mg IVP/IM/IN/IO

# How supplied:

- 1 mg vial
- Must be mixed and remember....
- **DO NOT SHAKE!**
- Roll the medication back in forth in your hands.



# Contraindications:

- Chronic Hypoglycemia
- Adrenal insufficiency
- Adrenal tumor
- Will not be effective in treating hypoglycemia if no glycogen stores: peds, liver disease, starvation.
- Hypersensitivity





# Side effects/adverse reactions:

- Increased heart rate
  - Allergic reaction (protein)
  - Nausea and vomiting
  - Dyspnea
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- ref: MWLCEMS Protocol and 2000 Mosby's Nursing Drug Reference Book and RX list.com



# Case Study

- 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?



# Answer

- Yes...Glucagon is 1mg in 1ml and we can give a total of 1ml per nostril.