GLUCAGON

EMSAC FEBRUARY 2026

ACTION: Hormone/Antihypoglycemic

- Glucagon is a hormone secreted by the pancreas that causes a breakdown of stored glycogen into glucose and stops glucose conversion into glycogen resulting in increased circulating blood glucose
- ~~Glucagon is only effective if there are sufficient stores of glycogen in the liver~~
- When used in treatment of beta blocker overdose, likely mechanism of action is the increase of cAMP in the myocardium

INDICATIONS:

- Hypoglycemia, when an IV cannot be established to administer dextrose ~~$D_{50}W$~~
- ~~Patients given Glucagon usually take from 5 to 20 min. to return to consciousness.~~
- Beta blocker overdose with bradycardia and hypotension ~~secondary to~~ (with ~~Base Hospital Contact or~~ Poison Control Consultation including route and dose)

CONTRAINDICATIONS:

- Hypersensitivity to glucagon

POTENTIAL SIDE EFFECTS:

- Hypotension
- Dizziness and headache
- Nausea and vomiting

ADULT DOSE/ROUTE:

➔ **Hypoglycemia ~~Beta Blocker Overdose~~:** 1 mg IM~~/IV~~

➔ **Beta Blocker Overdose:** per poison control

PEDIATRIC DOSE/ROUTE:

➔ **Hypoglycemia/ ~~Beta Blocker Overdose~~:**
Less than 20kg: 0.5 mg IM~~/IV~~
Greater than 20kg: 1 mg IM~~/IV~~

➔ **Beta Blocker Overdose:** per poison control

NOTES:

- Glucagon is less effective in patients with depleted glycogen stores (e.g. chronic malnutrition)
- Glucagon begins to raise blood glucose within 10 minutes of administration
- ~~Vomiting is very common following glucagon administration~~
- Once patient has responded to treatment and is able to swallow, provide oral carbohydrates ~~is awake, give carbohydrates~~ such as orange juice or a meal