



18. GLUCAGON

a) Pharmacology

- (1) Hormone synthesized by the pancreas
- (2) Increases blood glucose concentration
- (3) Inhibits gastric and pancreatic secretions
- (4) May increase heart rate and cardiac output
- (5) May decrease blood pressure
- (6) Increases metabolic rate

b) Pharmacokinetics

- (1) Destroyed by the GI tract and is not effective orally
- (2) Maximum hyperglycemic activity occurs within 30 minutes and disappears after 1–2 hours.
- (3) Relaxation of smooth muscle occurs within 8–10 minutes and persists for 12–27 minutes.
- (4) The half-life is 3–10 minutes.
- (5) Degraded in liver and kidneys

c) Indications

- (1) Patients with altered mental status who are suspected of being hypoglycemic where IV access is not obtainable
- (2) Beta blocker overdose

d) Contraindications

Known hypersensitivity




e) Adverse Effects

Nausea and vomiting

f) Precautions

Glucagon only works if liver has significant glycogen stores.

g) Dosage

- (1) For suspected hypoglycemia without IV access:
 - (a) Adult: Administer 1 mg IM/IN (Medical consult for additional dosing to a maximum of 3 mg IM)
 - (b) Pediatric:
 - (i) 1 mg IM/IN (5 years of age up to patient's 18th birthday)
 (Medical consult for additional dosing to a maximum of 3 mg IM/IN)
 - (ii) 0.5 mg IM/IN (28 days–4 years of age)
 (Medical consult for additional dosing to a maximum of 3 mg IM/IN)
- (2)  For suspected beta blocker overdose:
 - (a) Adult: Administer 1 mg IVP every 5 minutes
 - (b) Pediatric: Administer every 5 minutes
 - (i) 1 mg IVP (5 years of age up to patient's 18th birthday) every 5 minutes
 - (ii) 0.5 mg IVP (28 days–4 years of age) every 5 minutes