

Seminole Community College
Paramedic II
Medication Handout #15
Glucagon / Nifedipine

Name / Classification- Glucagon (Glucagen) Hormone / Antihypoglycemic

Description- Glucagon is a natural polypeptide (protein) hormone produced by alpha cells of the Islets of Langerhans in the pancreas. When released it causes a breakdown of stored glycogen into glucose and inhibits the synthesis of glycogen from glucose. Given via the IM route, it is successful at increasing the glucose levels in hypoglycemic patients where IV access is unavailable. It also increases heart rate and myocardial contractility. It also improves AV conduction similar to that of catecholamines. Its actions are independent of beta blockade.

Indications- Hypoglycemia without IV access and to reverse beta-blocker overdose.

Contraindications- Hypersensitivity to glucagons or protein compounds.

Precautions- Cardiovascular or Renal Impairment. Effective only if there is sufficient stores of glycogen in the liver.

Dosage / Route-

Hypoglycemia:

Adult and Children over 20 kg- 1 mg IM/SC
May repeat at 5 to 20 minutes

Pediatric- 0.1 mg/kg IM/SC/IV for child < 10 kg
1.0 mg/kg IM/SC/IV for child > 10 kg
May repeat at 20 to 30 min.

The above pediatric dose for greater than 10kg appears to be high. It is contradicted in several medical texts. I will attempt to verify this with the PALS National Faculty (Neonatologist). In the duration please use the dosage below.

Pediatric (under 20 kg) - 0.5 mg or (20-30mcg/kg)

Beta Blocker Overdose:

Adult- 50 to 150 mg/kg IV over 1 minute

Pediatric: 50 to 150 mg/kg IV over 1 minute

Name / Classification: Nifedipine (Procardia, Adalat) Calcium Channel Blocker

Description: Nifedipine is a calcium channel blocker that reduces coronary artery spasm in angina. It also decreases peripheral vascular resistance, blood pressure, and cardiac workload by relaxing blood vessels. It is administered in hypertension and Prinzmetal's Angina.

Indications: Severe hypertension and Prinzmetals Angina (Vasospastic).

Contraindications: Hypersensitivity or hypotension.

Precautions: Monitor blood pressure carefully, since it can drop significantly with Nifedipine use.

Dosage: One 10 to 20 mg capsule SL/PO