GENERIC NAME: GLUCAGON 112.14
BRAND NAME: Glucagon
CLASS: pancreatic hormone, polypeptide, hyperglycemic agent

Mechanism of Action:

Pharmacologic: Acts only on liver glycogen, converting it to glucose. Counteracts the effect of insulin. Relaxes GI smooth muscle causing dilation and decreased motility. Cardiac inotrope.
Clinical effects: May reverse hypoglycemia (if patient has glycogen stored in liver) within 4-8 minutes (could be as long as 15 or more).

Indications and Field Use:

Symptomatic hypoglycemia when IV access is delayed.

Contraindications:

Known hypersensitivity
Pheochromocytoma
Insulinoma
Should not be routinely used to replace dextrose when IV access has been obtained

Adverse Reactions:

Rare side effects
Nausea and vomiting
Generalized allergic reactions including urticaria, respiratory distress and hypotension (made from beef/pork pancreas)
Palpitations, hypertension, tachycardia

NOTES ON ADMINISTRATION

Incompatibilities/Drug Interactions:

Unknown

Adult Dosage: (children and adults greater than 20 kg or 44 lbs)

Hypoglycemia: 1 mg IM, may repeat in 7-10 minutes

Pediatric Dosage: (for children under 20 kg or 44 lbs)

Hypoglycemia: 0.5 mg IM or a dose equivalent to 20-30 µg/kg, may repeat in 7-10 minutes
**Routes of Administration:**

**Hypoglycemia:** IM or SC administration avoids possibility of inducing encephalopathy in a thiamine-deficient patient

**Onset of Action:** (dose and route dependent)

- 1 mg IM, 8-10 minutes
- IV, 1 minute

**Peak Effects:** (does and route dependent)

- 1 mg IM, 12-14 minutes
- IV, 3-6 minutes

**Duration of Action:** (dose and route dependent)

- 1 mg IM, 12-27 minutes
- IV, 20 minutes

**Dosage Forms/Packaging:**

1 mg (1 unit) with 1 mL vial of diluting solution
1 mg (1 unit) with prefilled syringe of diluting solution (Glucagon Emergency Kit)

**Arizona Drug Box Supply Range:**

- PARAMEDIC: 1 - 2 units
- INTERMEDIATE: 1 - 2 units

**Special Notes:**

- Blood sugar should be measured rapidly before deciding upon the administration of D50 or glucagon, especially in the non-diabetic patient.
- Documented hypoglycemia is a true medical emergency, IM glucagon should be administered rapidly if IV access is delayed.
- In known alcoholics, administer thiamine in addition to glucagon to prevent inducing an encephalopathy in a thiamine-deficient patient.
- Patients with Type I diabetes do not have as great a response in blood glucose levels as Type II stable patients. For all patients having hypoglycemic episode, supplementary complex carbohydrates should be eaten within 2 hour, especially in a child or adolescent.