



# REGIONAL PEDIATRIC PARENTERAL DRUG MONOGRAPH

GENERIC NAME

**glucagon**

**Effective Date:** Dec 2011

CLASSIFICATION

**Hyperglycemic Agent**

OTHER NAMES

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**Revised Date:** Dec 2022

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**ADMINISTRATION POLICY:**

- IV infusion – Administration restricted to nurses experienced in ED/CARDIAC ROOM/ICU/PACU
- IV bolus – May be administered by a nurse
- IM injection – May be administered by a nurse
- Subcutaneous – May be administered by a nurse

**RECONSTITUTION/DILUTION/ADMINISTRATION:**

**Available as:** 1 mg glucagon powder with 1 mL diluent to prepare a 1 mg/mL solution  
*Dilute with entire contents of prefilled syringe of diluent or 1 mL sterile water or D5W. Swirl gently until dissolved. Solution should be clear with a water-like consistency.*

- IV Bolus:** Administer undiluted over 1 – 5 minutes. Flush tubing with D5W before and after glucagon.
- IM/ Subcut:** Administer undiluted

**IV Infusion: Pump Library:**

*NOTE: If 100 mL D5W unavailable:*

*Use 250 mL D5W IV bag. Remove 150 mL from bag and discard; then add 10 mg (10 mL of 1 mg/mL glucagon)*

Drug Library	Dose Rate	Short Name	Care Unit
Yes	mg/h	gluca10p	Pediatric
Drug	Diluent	Final Volume (VTBI)	Final Concentration
10 mg (10 mL of 1 mg/mL)	100 mL D5W Refer to note above	110 mL	0.091 mg/mL
Clinical Advisory:			
Soft Low Dose Limit: 0.3 mg/h		Soft High Dose Limit: 5 mg/h	

- Maximum rate:** 5 mg/hour
- Maximum concentration:** 1 mg/mL

**DOSAGE:**

**Hypoglycemic episode**

- IV/IM/Subcutaneous:** 0.02 – 0.03 mg/kg per dose (maximum 1 mg per dose) given once and followed by administration of Dextrose IV or PO to prevent secondary hypoglycemia  
 If no response in 15 to 20 min, repeat dose  
 Usual maximum: 3 doses

**Beta Blocker or Calcium Blocker Overdose:**

- IV Bolus:** 0.05 mg/kg x 1. If no response, may repeat dose
- IV infusion:** 1 – 5 mg/hour; titrate every 30 minutes to desired heart rate and blood pressure

**Anaphylaxis: For patients on beta blockers not responding to epinephrine:**

- IV Bolus:** 20 - 30 mcg/kg (0.02-0.03mg/kg) maximum 1 mg IV over 5 minutes, may repeat dose x1
- IV infusion:** 0.3 - 0.9 mg/hour



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## STABILITY/COMPATIBILITY:

**Stability of reconstituted vial:** Use immediately after reconstitution; discard any unused portion.

**Stability of Final Admixture:** 24 hours at room temperature

**Compatibility:** Compatible with D5W  
*Incompatible with normal saline*

## PRECAUTIONS, POTENTIAL ADVERSE REACTIONS:

- Nausea, vomiting (may be prevented by pre-treating with prochlorperazine)
- Hypokalemia, hyperglycemia and hypersensitivity reactions
- Transient hypertension and heart rate elevation, hypotension and with rapid administration of large doses
- Hypersensitivity to urticaria, respiratory distress, hypotension
- CV: Transient hypertension and tachycardia. Hypotension with rapid administration of large doses (greater than 1 mg)
- GI: Nausea and vomiting (action: position patient in lateral position prior to dose; consider pre-medication with antiemetic)
- Metab: Hypokalemia, hyperglycemia. Paradoxical hypoglycemia after abrupt discontinuation of IV infusion (action: continue to infuse dextrose)
- Caution in patients with insulinoma (glucagon increases insulin release) or pheochromocytoma (glucagon increases catecholamine release from tumor)
- Hypoglycemia secondary to starvation, adrenal insufficiency or chronic hypoglycemia (insufficient glycogen stores)
- Acute or chronic alcohol ingestion (decreased response due to glycogen depletion or decreased gluconeogenesis)
- Contraindicated in hypersensitivity to glucagon or any component

## ADDITIONAL NOTES AND NURSING CONSIDERATIONS:

- In hypoglycemic events, if a patient fails to respond to glucagons, give IV dextrose
- Administer carbohydrates and protein containing foods as soon as possible to prevent recurrence
- Use caution in patients with a history of pheochromocytoma and insulinoma
- Canadian product contains no phenol
- Required monitoring
  - Blood pressure, HR: Baseline and every 15 minutes x 2, then as required for indication
  - Blood glucose: Baseline and every 30 minutes x 2, then as required for dose and indication
  - Serum potassium: Baseline and repeat 30 minutes after dose, then as required for dose and indication