



# Jackson Hole Fire/EMS

## Operations Manual

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Title: **Medication Protocol:  
Glucagon**  
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### GLUCAGON (Medication Protocol)

#### EMT-INTERMEDIATE PROVIDERS

##### STANDING ORDER

#### PARAMEDIC PROVIDERS

##### STANDING ORDER

**CLASS:** Pancreatic hormone, insulin antagonist

**PHARMACOLOGY/ ACTIONS:** Glucagon is a protein secreted by the alpha cells of the pancreas. It increases blood glucose by converting glycogen in the liver into glucose. Glucagon also has positive inotropic action on the heart and decreases renal vascular resistance which makes it useful in beta-blocker and calcium channel blocker overdose.

**ONSET/DURATION:** Onset: 1 min Duration: 60-90 min

**USE IN FIELD/ INDICATIONS:** Persistent hypoglycemia despite glucose supplementation. Calcium channel blocker or beta-blocker toxicity. Esophageal obstruction.

**CONTRAINDICATIONS:** Hypersensitivity (allergy to proteins)

**SIDE EFFECTS:** Tachycardia, hypotension, nausea and vomiting, urticaria

**DRUG INTERACTIONS:** Effect of anticoagulants may be increased if given with glucagon. Do not mix with saline.

**HOW SUPPLIED:** Glucagon must be reconstituted (with provided diluent) before administration. Dilute 1 unit (1mg) white powder in 1 mL of diluting solution (1 mg/mL).

**ROUTE:** IM, IV, IO

**DOSAGE:**

#### ADULT

**Hypoglycemia:** 1 mg IM; may repeat in 7-10 min

**CCB or  $\beta$ -Blocker toxicity:**  
2 mg IV initially, may require higher doses

#### PEDIATRIC

**Hypoglycemia:** 0.5 – 1 mg IM  
**CCB or  $\beta$ -Blocker toxicity:**  
Safety and efficacy have not been established.

**PREGNANCY SAFETY:** Category B – unproven or unknown risk to fetus, and no risk in later trimesters

**COMMENTS:** Glucagon should not be considered a first-line choice for hypoglycemia. IV glucose will need to be administered if the patient does not respond to a second dose of glucagon.