

# Pharmacology

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# Dextrose 10%

## GENERIC NAME

Dextrose

## TRADE NAME

Dextrose 10

## DESCRIPTION

Dextrose is a simple sugar that is rapidly metabolized by the body, providing quick restoration of blood glucose levels.

## HOW SUPPLIED

Prefilled bag: 25 grams/250 ml (10% solution)

## INDICATIONS

- Hypoglycemia

## CONTRAINDICATIONS

- No major contraindications for IV administration of Dextrose.
- Known or suspected CVA (stroke) in the absence of hypoglycemia.

## MECHANISM OF ACTION

Rapidly restores blood glucose levels in cases of hypoglycemia.

## SIDE EFFECTS

- Local venous irritation and potential tissue necrosis if IV infiltration occurs.

## AUTHORIZATION

**EMT:** Not authorized

**AEMT:** Standing order

**Paramedic:** Standing order

## DOSAGE

- **Adult:** 250 ml IV/IO wide open, may repeat once if blood glucose remains < 60 mg/dL.
- **Pediatric:** 5 ml/kg (0.5 g/kg) IV/IO, may repeat once if blood glucose remains < 60 mg/dL.

## ADMINISTRATION NOTES

- If desired dose is  $\leq$  100 ml, draw the required amount of D10 into a syringe and administer via slow IV/IO push using the port closest to the patient.
- If the desired dose is > 100 ml, administer by running wide open as a piggy-back to Normal Saline.

# Glucagon

## GENERIC NAME

Glucagon Hydrochloride

## TRADE NAME

None

## DESCRIPTION

Glucagon is used to increase blood glucose levels, particularly in cases where an IV line cannot be immediately established. Intramuscular (IM) administration results in a quicker onset than subcutaneous (SQ) and is therefore the preferred route.

## HOW SUPPLIED

Vial: 1 mg powder (activated by injection of 1 cc sterile water)

## INDICATIONS

- Hypoglycemia

## CONTRAINDICATIONS

- Allergy or hypersensitivity to Glucagon

## MECHANISM OF ACTION

Glucagon increases circulating blood glucose levels by promoting the breakdown of stored glycogen to glucose. Return to consciousness typically occurs within 5-20 minutes after administration. However, Glucagon may lose its effectiveness if given within the previous 48 hours.

## SIDE EFFECTS

- Hypotension
- Dizziness
- Headache
- Nausea and vomiting

## ADDITIONAL INFORMATION

After administration of Glucagon, the patient should eat a carbohydrate-rich meal as soon as possible to prevent recurrent hypoglycemia.

## AUTHORIZATION

**EMT:** Not authorized

**AEMT:** Not authorized

**Paramedic:** Standing order

## DOSAGE

- **Adult:** 1 mg IM/SQ
- **Pediatric < 20 kg:** Refer to specific dosages listed in the 402 - Drug Dosage Chart - Pediatric
- **Pediatric > 20 kg:** 1 mg IM/SQ

# Glucose

## GENERIC NAME

Glucose

## TRADE NAME

Glucose, Insta-Glucose

## DESCRIPTION

Oral glucose is used to provide supplemental glucose in cases of hypoglycemia. It is administered when the patient is conscious and able to swallow.

## HOW SUPPLIED

Tube: 15 gm

## INDICATIONS

- Hypoglycemia

## CONTRAINDICATIONS

- Allergy or hypersensitivity to glucose
- Patient is not awake or unable to swallow

## MECHANISM OF ACTION

Oral glucose restores blood sugar levels in patients experiencing hypoglycemia.

## SIDE EFFECTS

- None

## AUTHORIZATION

**EMT:** Standing order

**AEMT:** Standing order

**Paramedic:** Standing order

## DOSAGE

- **Adult:** 15 gm (1 tube) orally
- **Pediatric:** 15 gm (1 tube) orally

# Fentanyl Citrate

## GENERIC NAME

Fentanyl Citrate

## TRADE NAME

Fentanyl

## DESCRIPTION

Fentanyl is a potent narcotic analgesic used for pain management. It acts quickly and has a short duration of action, making it suitable for trauma patients experiencing pain.

## HOW SUPPLIED

Prefilled Syringe: 100 mcg/2 ml

## INDICATIONS

- All trauma patients with pain

## CONTRAINDICATIONS

- Allergy or hypersensitivity to Fentanyl
- Acute respiratory compromise or bradycardia

## MECHANISM OF ACTION

Fentanyl Citrate binds with opiate receptors in the central nervous system, altering the perception of and emotional response to pain.

## SIDE EFFECTS

- Nausea
- Vomiting
- Abdominal cramps
- Headache
- Anxiety
- Respiratory depression

## AUTHORIZATION

**EMT:** Not authorized

**AEMT:** Not authorized

**Paramedic:** Standing order

## **DOSAGE**

- **Adult:**

- IV/IO/IM: 100 mcg, may repeat once after 10 minutes (max 200 mcg total)
- IN: 200 mcg (administer half in each nostril), may repeat once after 10 minutes (max 400 mcg total)
- For patients  $\geq$  65 years: 25 mcg per dose, titrate to effect

- **Pediatric:**

- IV/IO/IM: 1 mcg/kg, may repeat once after 10 minutes (max 72 mcg total)
- IN: 2 mcg/kg (administer half in each nostril), may repeat once after 10 minutes (max 144 mcg total)