



# REGIONAL ADULT PARENTERAL DRUG MONOGRAPH

GENERIC NAME

**dextrose**



**Effective Date:** Oct 2012

**Revised Date:** Nov 2024

CLASSIFICATION  
**Caloric agent**

OTHER NAMES  
**Glucose**

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### ADMINISTRATION POLICY:

IV Bolus – May be administered by a nurse

IV Intermittent - May be administered by a nurse

IV Infusion - Administration restricted to nurses experienced in ED/CARDIAC ROOM/ICU/PACU for concentrations greater than 20% otherwise may be administered by a nurse

IM Injection – *Not to be administered*

Subcutaneous – *Not to be administered*

### RECONSTITUTION/DILUTION/ADMINISTRATION:

**Available as:** 50% solution – 50 mL pre-filled syringe (25g/50 mL), D10W (10% dextrose) premixed bag

**IV bolus:** Doses up to 25 g (50 mL) may be administered without further dilution (preferably by central venous catheter, if not available, peripheral administration in a large vein is acceptable) over 2 to 5 minutes

**IV intermittent:** Administer over 15 minutes to 2 hours

### IV Infusion: Pump Library:

Drug Library	Dose Rate	Short Name	Care Unit
Yes	g/kg/h	dex20%	Critical Care
Drug	Diluent	Final Volume (VTBI)	Final Concentration
200 g (400 mL of D50W)	1000 mL NS	1000 mL	0.2 g/mL

Clinical Advisory: High Alert

Soft Low Dose Limit: 0.25 g/kg/h

Soft High Dose Limit: 1 g/kg/h

*Preparation of 1litre of Dextrose 20% solution:*

1. Remove 400 mL from a 1 litre bag of normal saline.

2. Add 400 mL of Dextrose 50%



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### DOSAGE:

**Treatment of hypoglycemia:** IV bolus: 10 to 25 grams (20 to 50 mL of a 50% solution)  
May be repeated in severe hypoglycemia

**Treatment of hyperkalemia:** IV bolus: 25 to 50 grams of dextrose over 5 minutes (50 to 100 mL 50% solution)  
Only administer along with separate administration of IV regular insulin; repeat as needed.  
IV infusion: administer D10W at 50 to 100 mL/hour for approximately 5 hours

**IV infusion:** 0.25 g to 0.5 g/kg/hour titrated as per blood glucose values

*Dose conversion:*

Dose	Dextrose 10%	Dextrose 20%	Dextrose 50%
0.25 g/kg/hour	2.5 mL/kg/hour	1.25 mL/kg/hour	0.5 mL/kg/hour
0.5 g/kg/hour	5 mL/kg/hour	2.5 mL/kg/hour	1 mL/kg/hour

**Maximum rate:** 1 g/kg/hour

**Maximum concentration:** Central venous access device: 50% solution  
Peripheral: 12.5% may go up to 50% in emergency situations

### STABILITY/COMPATIBILITY:

**Compatibility:** Compatible with D5W, normal saline, combination dextrose-saline solutions, Lactated Ringer

### PRECAUTIONS, POTENTIAL ADVERSE REACTIONS:

- Local pain and vein irritation, with or without thrombosis, may occur if infused rapidly
- Rapid administration may cause substantial hyperglycemia and hyperosmolar syndrome, especially in patients with chronic uremia or carbohydrate intolerance

### ADDITIONAL NOTES AND NURSING CONSIDERATIONS:

- D5W and D10W administered using IV fluids label via pump according to prescriber's orders
- Monitor for hyperglycemia and administration via central venous access device is recommended when multiple doses are needed
- Avoid hand and wrist veins for administration
- Dextrose 50% contains 170 kcal per 100 mL