



11. DEXTROSE

a) Pharmacology

Dextrose is a water-soluble monosaccharide found in corn syrup and honey.

b) Pharmacokinetics

- (1) Dextrose restores circulating blood sugar and is rapidly utilized following IV injection.
- (2) Excess dextrose is rapidly excreted unchanged in the urine.

c) Indications

Correction of altered mental status due to low blood sugar (hypoglycemia) seizures and cardiac arrest

d) Contraindications

Known hyperglycemia




e) Adverse Effects

May worsen hyperglycemia (high blood sugar)

f) Precautions

- (1) May worsen preexisting hyperglycemia
- (2) Tissue necrosis if extravasation occurs

g) Dosage

- (1) Adult:
 - (a) If blood glucose is less than 70 mg/dL, administer 10% dextrose in 50 mL (5 grams) boluses, one minute apart, to a maximum of 250 mL **OR** 25 grams of 50% dextrose IVP, until:
 - (i) the patient has a return to normal mental status, and
 - (ii) the patient's blood glucose is at least 90 mg/dL.
 - (iii) If, following 250 mL of 10% dextrose or 25 grams of 50% dextrose, patient has persistently altered mental status and blood glucose less than 90 mg/dL, repeat dosing regimen in (a).
- (2) Pediatric:
 - (a) **Patient less than 28 days** - if blood glucose is less than 40 mg/dL administer 2 mL/kg of 10% dextrose IV/IO.
D10W is prepared by mixing one part of D50W with four parts LR.
Recheck glucose after first dose.
 If blood glucose is less than 40 mg/dL, obtain medical consultation to administer second dose of D10W.
 - (b) **Patients 28 days up to 4 years** - if blood glucose is less than 70 mg/dL, administer 2–4 mL/kg of 10% dextrose IV/IO to a maximum of 25 grams.
Recheck glucose after first dose.
 If blood glucose is less than 70 mg/dL, obtain medical consultation to administer second dose of D10W.
 - (i) If unable to start IV and blood glucose is less than 70 mg/dL, administer 0.5 mg glucagon IM/IN.
 - (ii)  Medical consult for additional dosing to a maximum of 3 mg IM/IN




- (c) **Patients 5 years up to patient's 18th birthday** -if blood glucose is less than 70 mg/dL, administer 2–4 mL/kg of 10% dextrose IV/IO to a maximum of 25 grams.

Recheck glucose after first dose.



If blood glucose is less than 70 mg/dL, obtain medical consultation to administer second dose of D10W.

- (i) If unable to start IV and blood glucose is less than 70 mg/dL, administer 1 mg glucagon IM/IN.

- (ii)  Medical consult for additional dosing to a maximum of 3 mg IM/IN