



## 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 18<sup>th</sup> 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