

I. Dextrose in Water (D₁₀W or D₅₀W)

- I. Classification
 - Hyperglycemic agent (carbohydrate)
- II. Actions
 - Immediate source of glucose for cellular metabolism
- III. Indications
 - Altered level of consciousness due to hypoglycemia
- IV. Contraindications
 - Patients without documented hypoglycemia
- V. Adverse Effects
 - None significant in above indications
- VI. Administration
 - A. Adult
 - D10W: 125 ml (12.5 gm) IV/IO drip, may repeat once
 - D50W: 25 ml (12.5 gm) IV/IO slow IV push, may repeat once
 - B. Pediatric
 - D10W: 5 ml/kg IV/IO drip, may repeat once
 - D50W: Dilute to D25W. 2 ml/kg of D₂₅W (0.5 g/kg) slow IV/IO push at 10 ml/min, may repeat once.
- VII. Onset
 - 30 - 60 seconds
- VIII. Duration
 - Depends on the degree and cause of hypoglycemia
- IX. Precautions
 - A. D₅₀W may increase cerebral ischemia or infarction caused by intracranial hemorrhage or increase cerebral edema in patients with normal or elevated blood glucose levels. Verify hypoglycemia with a blood glucose test prior to the intravenous administration of D₅₀W.
 - B. Patients may experience pain, warmth or burning at the IV site and can develop phlebitis, sclerosis or thrombosis of the vein. Establish the IV in the largest vein possible and run the IV wide open during the D₅₀W administration.
 - C. Concentrated dextrose causes tissue necrosis if it is injected into the interstitial space. Ensure the IV is patent by aspirating blood prior to administration of D₅₀W.
- X. Note
 - A. The entire amount does not need to be administered if the patient's condition improves.
 - B. Dilution of D₅₀W to D₂₅W
 - Discard 25 ml of D₅₀W from the preloaded syringe.
 - Withdraw 25 ml of Normal Saline from an IV bag and inject into the preloaded syringe.
 - Gently shake the syringe to mix the solution.