

Diabetic Emergency - Hypoglycemia

Normal Blood Glucose Levels

- Normal ranges for blood glucose levels:
 - Infant (40 – 90 mg/dl)
 - Child < 2 years (60 – 100 mg/dl)
 - Child > 2 years to Adult (70 – 105 mg/dl)
 - Elderly patients (50 y/o +) often have a slightly elevated blood glucose level, but should not normally exceed 126 mg/dl.

Clinical Presentation

- Hypoglycemia (BS < Normal)
 - Normal or rapid respirations
 - Pale, moist skin
 - Diaphoresis
 - Dizziness, headache
 - Rapid pulse
 - Normal or low BP
 - Altered mental status
 - Anxious or combative
 - Seizure or fainting
 - Coma
 - Weakness simulating CVA

Emergency Treatment

- Hypoglycemia
 - Scene size up & BSI
 - Initial Assessment
 - Determine need for rapid transport
 - Focused H&P Medical with vitals
 - Blood glucose check
 - If < 80 mg/dl, give oral glucose if LOC intact
 - If < 80 mg/dl and LOC is ↓, activate ALS assistance
 - Detailed, on-going assessments with transport to appropriate facility
 - Supportive care as needed
- Will not always have ALS support - Use EMT-B IV
- Meeker Fire Rescue protocol is glucose < 70
- Consider using IV glucose for cardiac arrest if a diabetic patient

D10 IV Infusion

Procedure:

- Administer wide open, when baseline mental status, reduce to TKO.
- Use saline lock or Piggyback for administration.

Concentration: 25g/250mL (1g/10mL)

Indications:

Symptomatic hypoglycemia, altered mentation with glucose < 70,
Pediatric glucose < 70
newborn with heart rate < 70 and glucose < 40.

Administration:

Adult -

- BG 40 to 70 give 50 ml bolus
- BG < 40 give 100 ml bolus

Pediatric -

1 ml/kg or above dosing whichever is less.

Use Braslow tape to figure weight -

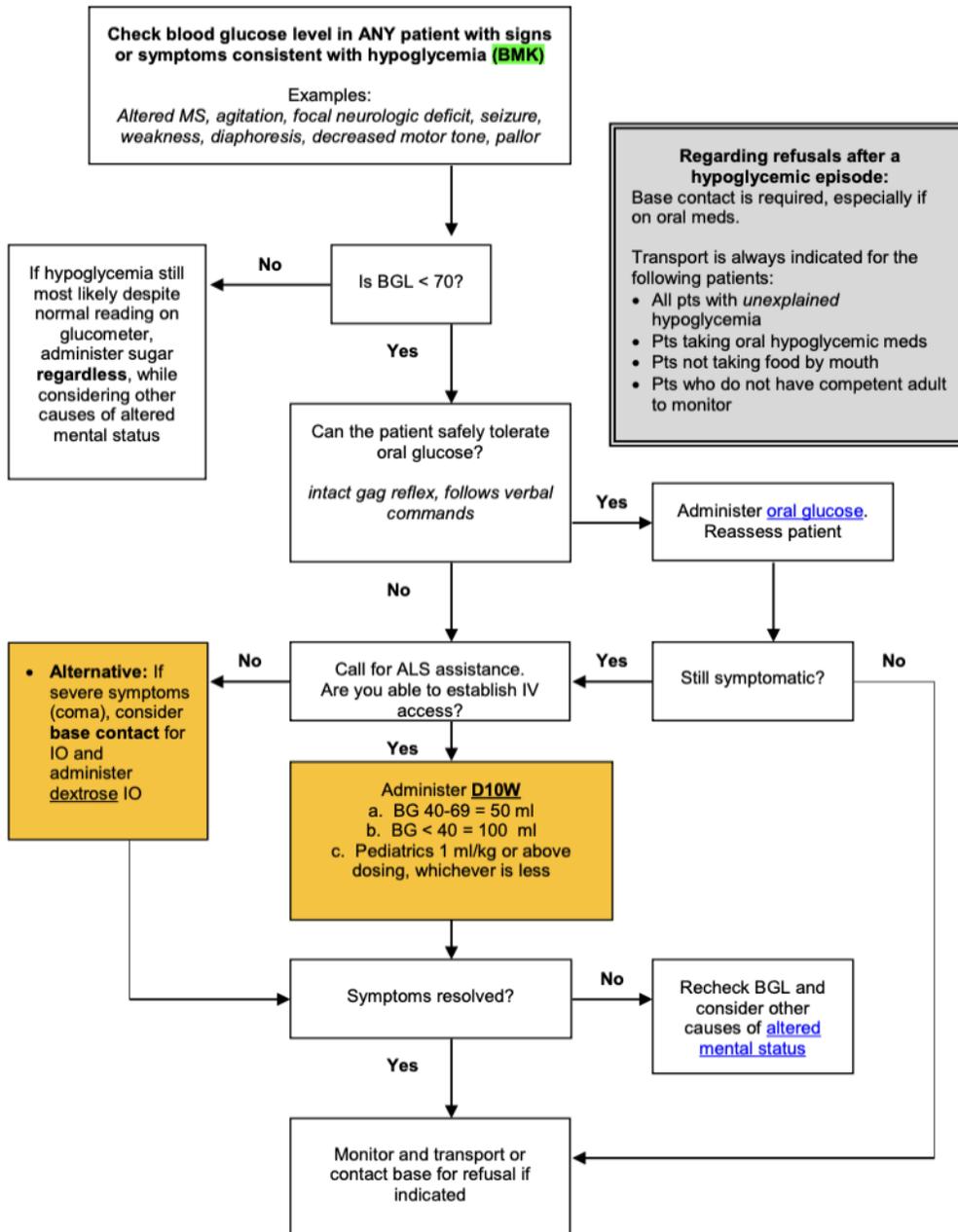
Example: weight 10 kg. Give 10 ml

Why to Use D10 IV infusion over D50 Syringe

D50 syringe provides a quick bolus of glucose with about five times the amount of glucose present in a normal adult's blood. However, D50's hypertonic nature increases the risk of vascular and tissue damage. If administered into a small vein D50 can be irritating and may cause thrombophlebitis. Additionally, it is also prone to extravasation from the vein leading to skin irritation and, in severe cases, local scarring or skin necrosis. Given these complications, recommendations is to for the use of D10 instead.

3010 HYPOGLYCEMIA

EMR	EMT/EMT-IV	AEMT	Intermediate	Paramedic
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7070 MEDICATIONS

EMT-IV

AEMT

Intermediate

Paramedic

DEXTROSE 10% (D10W)

Description

Glucose is the body's basic fuel and is required for cellular metabolism. A sudden drop in blood sugar level will result in disturbances of normal metabolism, manifested clinically as a decrease in mental status, sweating and tachycardia. Further decreases in blood sugar may result in coma, seizures, and cardiac arrhythmias. Serum glucose is regulated by insulin, which stimulates storage of excess glucose from the blood stream, and glucagon, which mobilizes stored glucose into the blood stream.

Indications

- Hypoglycemia
 - The unconscious or altered mental status patient with an unknown etiology.
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Precautions

- None
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Dosage and Administration

Adult:

25 gm (250 mL of a 10% solution) IV/IO infusion
Alternative: 25 gm (50 mL of 50% solution) IV/IO bolus

Pediatric: (Use length based tape for approximate weight)

<50kg administer 5mL/kg of 10% solution (maximum of 250 mL)

Protocol

- [Universal Altered Mental Status](#)
 - [Seizures](#)
 - [Poisoning/Overdose](#)
 - [Psych/Behavioral](#)
 - [Neonatal Resuscitation](#)
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Special Considerations

- The risk to the patient with ongoing hypoglycemia is enormous. With profound hypoglycemia and no IV access consider IO insertion.
- Draw blood sample before administration if possible.
- Use glucometer before administration, if possible.
- Use of D50 with extravasation may cause tissue necrosis; use a large vein and aspirate occasionally to ensure route patency. This is the primary reason to use D10.
- Dextrose can be irritable to the vein and the vein should be flushed after administration.

7190 MEDICATIONS

EMT/EMT-IV

AEMT

Intermediate

Paramedic

ORAL GLUCOSE (GLUCOSE, INSTA-GLUCOSE)

Description

Glucose is the body's basic fuel and is required for cellular metabolism

Indications

- Known or suspected hypoglycemia and able to take PO
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Contraindications

Inability to swallow or protect airway
Unable to take PO meds for another reason

Administration

One full tube 15 g buccal.

Protocol

- [Universal Altered Mental Status Guideline](#)
 - [Hypoglycemia](#)
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