GLUCOSE EMERGENCIES
HYPOGLYCEMIA / HYPERGLYCEMIA
UPDATED 1/2024

ALL PROVIDERS

- ❑ Focused history and physical exam
  - Blood glucose assessment (heel stick is preferred in newborns or infants).
  - Hypoglycemia is defined as blood glucose level <50 mg/dl for adults, <60 mg/dl for children, and <40 mg/dl for the term neonate (<30days of age) with any degree of altered mentation.
- ❑ **Treatment Plan**
  - In cases of hypoglycemic seizures, care should be taken to stop seizures prior to administering glucose.
  - Insulin pump in place: Hypoglycemic patient with altered mentation -
    - Care is directed at treating hypoglycemia first, then stopping administration of insulin.
    - Turn off the insulin pump, if able.
    - If no one familiar with the device is available to assist, disconnect pump from patient by either:
      - Using quick release where the tubing enters the dressing on patient's skin.
      - Completely remove the dressing, thereby removing the subcutaneous needle and catheter from under the patient's skin.
    - When mental status returns to normal, the patient should be strongly encouraged to eat.
  - Criteria for scene release (non-AMA) of hypoglycemic patient:
    - Patient does not want to be transported.
    - Return to apparent normal mental capacity following treatment.
    - Repeat blood glucose after treatment to achieve >70.
    - Known diagnosis of diabetes.
    - The patient does not have access to oral medications to control diabetes.
    - No suicidal ideations or recent suicide attempts.
    - There is at least one responsible party that can assist them in their recovery and is comfortable in their care.
  - Children should be considered for transport for evaluation regardless of improvement in the field due to other possible etiologies for the episode.

- ❑ **Key Considerations**
  - Do NOT attempt to give oral glucose to those who are unconscious, cannot swallow or whose gag reflex is diminished.
  - Transport any patient who is at risk for prolonged or recurrent hypoglycemia such as long-acting insulin or oral hypoglycemic overdose.
  - If the patient is hypoglycemic and has a seizure, recheck blood glucose every 15 minutes to check for recurrent low blood sugar that may need treatment.

ADULT

EMT

- ❑ **Dextrose Oral glucose 15 grams** if patient is able to protect airway
  - Repeat in 15 minutes as needed

PEDIATRIC (<15 years of Age)
NOTE: Pediatric weight based dosing should not exceed Adult dosing.

EMT

- ❑ **Dextrose Oral glucose 7.5 grams** if patient is able to protect airway
  - Repeat in 15 minutes as needed

AEMT

- ❑ Vascular access and fluid therapy

HYPOGLYCEMIA

- ❑ **Dextrose 50% 12.5 grams** (25mL) IV/IO. May repeat as necessary.
- ❑ **Dextrose 10%:** Infuse **125 mL** (12.5 grams), then recheck blood sugar. If repeat blood glucose <70, may repeat 125mL dose.
- ❑ **Glucagon 1 mg** IM if no IV/IO access available

HYPERGLYCEMIA

(BGL >300 mg/dL W/ Altered Mental Status, Concern for DKA/HHS, or low ETCo2)

❑ **NS / LR 500 mL** IV/IO over 30–60 minutes
Lactated Ringers is preferred in DKA/HHS, low ETCo2 patients

PARAMEDIC

AEMT

- ❑ Vascular access and fluid therapy

HYPOGLYCEMIA

- ❑ Infants up to 1 year
  - **Dextrose 10% 5 mL/kg** (0.5 grams/kg) IV/IO. May repeat as necessary (**Max of 125 mL (12.5 grams)**).
- ❑ Children greater than 1 year
  - **Dextrose 25% 2 mL/kg** IV/IO: repeat as necessary (**Max 12.5G/ 50mL**)
  - **Dextrose 10% 5 mL/kg** (0.5 grams/kg) IV/IO. May repeat as necessary (**Max of 125 mL (12.5 grams)**).
  - **Glucagon 0.01 mg/kg (Max 1 mg)** IM if no IV/IO access available

HYPERGLYCEMIA

(BS >300 mg/dL)

- ❑ **NS / LR 20 mL/kg IV/IO** over 30–60 minutes
  - Lactated Ringers is preferred in DKA/HHS, low ETCo2 patients

PARAMEDIC