Treatment Protocol: DIABETIC EMERGENCIES **Ref. No. 1203-P**

1. Assess airway and initiate basic and/or advanced airway maneuvers prn *(MCG 1302)*

2. Administer **Oxygen** prn *(MCG 1302)*

3. Initiate cardiac monitoring prn *(MCG 1308)*

4. Establish vascular access prn *(MCG 1375)*

5. Check blood glucose

6. For blood glucose < 60 mg/dL: ❶
   Oral glucose preparation or **Glucopaste 15gm PO (4 years or older)** if patient awake and alert
   OR
   Dextrose 10%, 5mL/kg IV/IO❷
   ≤24kg: **Dextrose 10%, 5mL/kg IV/IO in 1mL/kg** increments dose per *MCG 1309*, reassess for clinical improvement after every 1mL/kg. Administer slow IVP. Recheck glucose prn after 3mL/kg infused
   >24 kg: **Dextrose 10%, administer 125mL IV/IO** and reassess, continue infusion as needed with maximum dose of 5mL/kg

   CONTACT BASE for persistent hypoglycemia for repeat dose of Dextrose 10% 5mL/kg IV in 1mL/kg increments, maximum total dose 10mL/kg, not to exceed 250mL

   Document Provider Impression as *Hypoglycemia* ❸
   If unable to obtain venous access, **Glucagon (1mg/mL) IM** per *MCG 1309* ❹
   <1 year of age: **Glucagon 0.5mL IM**, may repeat x1 in 20 min prn
   ≥1 year of age: **Glucagon 1.0mL IM**, may repeat x1 in 20 min prn

7. For blood glucose > 200 mg/dL:
   Document Provider Impression as *Hyperglycemia*

   For blood glucose >250mg/dL❺
   Normal Saline 10mL/kg IV rapid infusion per *MCG 1309*

8. For poor perfusion *(MCG 1355)*:
   Normal Saline 20mL/kg IV/IO rapid infusion per *MCG 1309* ❷
   For persistent poor perfusion *(MCG 1355)*, treat in conjunction with *TP 1207-P, Shock/Hypotension*

9. For nausea or vomiting in patients ≥ 4 years old:
   Ondansetron 4mg ODT

SPECIAL CONSIDERATIONS

❶ In pediatric patients with hypoglycemia consider causes such as medication error or medication given without appropriate oral intake, infection, or toxins. Survey scene and ask family for types of medications in the home including those in various forms (e.g., pill, patch, drops, salves, inhaled or herbal). Caretakers of pediatric patients should always be encouraged to have patient be transported to the hospital for evaluation as hypoglycemia in this population is rare as compared to adults and is often caused by serious disease or poisonings.

❷ Use judgment based on the clinical status of the patient to determine whether IO placement for dextrose and/or fluid administration prior to hospital arrival is warranted. For altered patients who show signs of shock/poor perfusion and/or extremis with severe *HYPERglycemia* or HYPOglycemia and an IV cannot be obtained, an IO may be placed for fluid resuscitation or treatment with dextrose. Refer to MCG 1375.

❸ Pediatric patients with hypoglycemia who are successfully treated with oral glucose or Dextrose 10% IV and then their parent wishes to decline transport to the hospital should be discouraged to do so, especially if they have abnormal vital signs, fever, are taking long acting hypoglycemic agents possible ingestion or poisoning, or if they DO NOT have a history of diabetes mellitus as these patients are at high risk for recurrent hypoglycemic episodes.

Long Acting hypoglycemic agents

- Sulfonylureas: gliclazide, glimepiride, glipizide, gliquidone, glyburide, glyclopyramide,
- Thiazolidinediones (TZDs): pioglitazone (Actos), rosiglitazone (Avandia), troglitazone (Rezulin)
- Alpha-glucosidase inhibitors: acarbose, miglitol, voglibose
- Meglitinides – nateglinide, repaglinide
- Combination drugs: glipizide and metformin (Metaglip), glyburide and metformin (Glucovance), pioglitazone and glimepiride (Duetact), pioglitazone and metformin (ACTOplus
- Met), rosiglitazone and metformin (Avandamet), rosiglitazone and glimepiride (Avandaryl)

❹ Glucagon is effective only if there are sufficient glycogen stores in the liver. Patients with low glycogen stores such as young infant, severe malnutrition, cirrhosis, or adrenal insufficiency may not respond to glucagon.

❺ Patients with hyperglycemia are at risk for significant volume losses leading to dehydration and electrolyte abnormalities. Fluid resuscitation with **Normal Saline** is recommended until their glucose can be lowered with medications. Hyperglycemia can also be associated with trauma, infection, or other serious illness. For patients with elevated glucose requiring fluids IV Normal Saline should be given – only those patients who show signs of poor perfusion and an IV cannot be obtained would have an IO placed for fluid resuscitation.