COUNTY OF SACRAMENTO
EMERGENCY MEDICAL SERVICES AGENCY

Program Document: **Pediatric Diabetic Emergency (Hypoglycemia/Hyperglycemia)**
Policy Number: 9007.04

Initial Date: 07/26/21
Last Approved Date: 09/11/25

Effective Date: 05/01/26
Next Review Date: 09/01/27

Signature on File
EMS Medical Director

Signature on File
EMS Administrator

Purpose:

A. To establish treatment standards for patients exhibiting signs and symptoms of a diabetic emergency.

Authority:

A. California Health and Safety Code, Division 2.5
B. California Code of Regulations, Title 22, Division 9

Protocol:

A. The ability to maintain temperature in prehospital settings in pediatric patients is a significant problem with a dose-dependent increase in mortality for temperatures below 37°C or 98.6°F. Simple interventions to prevent hypothermia can reduce mortality. During transport, warm and maintain normal temperature, being careful to avoid hyperthermia.
B. Perform blood glucose determination.

Hypoglycemia:

A. Blood Glucose Level ≤ 60 mg/dl
B. History of Diabetes
C. Weakness
D. Confusion
E. Nausea/Vomiting
F. Coma

BLS:

1. Supplemental O2 as necessary to maintain SpO2 ≥ 94%. Use the lowest concentration and flow rate of O2 as possible.
2. Airway adjuncts as needed.
3. If trauma is suspected, assess for traumatic injury and/or need for Spinal Motion Restriction (SMR) when indicated per PD# 8044.
4. If the patient is seizing, protect the patient from further injury.
5. If Blood Glucose is ≤ 60 mg/dl:
   a. If the patient is alert and oriented, consider orange juice sweetened with sugar, regular soft drinks, or oral glucose paste. Have the patient swallow a small amount of water, and if tolerated, EMT may give glucose paste.
6. Transport.

ALS:

1. Initiate vascular access. Titrate to an appropriate Systolic Blood Pressure for the patient's age.
2. If blood glucose ≥ 60 mg/dl, consider other causes of decreased sensorium.
3. If blood glucose ≤ 60 mg/dl and the patient doesn't tolerate oral glucose, treat as follows:
   a. Under 2 years old: D10, 5 ml/kg.
   b. 2-14 years old: D25, 2 ml/kg or D50 1 ml/kg.
      i) If D10 is only available give 5 ml/kg in this age group.

   Note: if blood glucose remains < 60 mg/dl a repeat dose may be given.
4. If blood sugar remains ≤ 60 mg/dl, give additional Dextrose 0.5 gm/kg up to 12.5 gm.
5. If IV access is unavailable or delay is anticipated, treatment options are:
   a. Glucagon 0.5 mg Intramuscular (IM) if blood sugar ≤ 60 mg/dl OR
   b. Dextrose IO as per dosages above.
   c. If blood sugar remains ≤ 60 mg/dl, give additional Dextrose as per the doses above.
6. Airway management as needed per PD# 8020.

   Note: Concentrations of 10% Dextrose (D10), 25% (D25), or 50% Dextrose (D50) may be used.

a. If IV access is unavailable and the blood sugar ≤ 60 mg/dl or decreased responsiveness continues for more than fifteen (15) minutes after administration of Glucagon, IO access should be established.
b. Cardiac monitoring.

Hyperglycemia:

A. Blood Glucose Level ≥ 350mg/dl
B. History of Diabetes
C. Weakness
D. Confusion
E. Nausea/Vomiting
F. Fruity smelling breath
G. Shortness of Breath
H. Coma

BLS:

1. Supplemental O2 as necessary to maintain SpO2 ≥ 94%. Use the lowest concentration and flow rate of O2 as possible.
2. Pediatric Airway Management as needed per PD# 8837.
3. Spinal motion restriction when indicated per PD# 8044.
4. Perform blood glucose determination.
5. If the patient is seizing, protect the patient from further injury.
6. Transport.

ALS:

1. Perform blood glucose determination. If blood glucose ≥ 350 mg/dl and there is no evidence of fluid overload, initiate vascular access and administer a Normal Saline bolus of 20 mL/kg.
2. Airway adjuncts as needed.
3. Cardiac Monitoring.
4. Ondansetron when indicated for Nausea/Vomiting per PD# 9020.

Consider AEIOUTIPS:

Alcohol
Epilepsy
Insulin
Overdose
Uremia
Trauma
Infection
Psychiatric
Stroke or Cardiovascular

Cross Reference:

PD# 8015 – Trauma
PD# 8044 – Spinal Motion Restriction
PD# 8837 - Pediatric Airway Management
PD# 9016 – Pediatric Parameters
PD# 9020 – Nausea and Vomiting