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, Chapter 4, Article 1, Section 1797.218, 1797.220, Chapter 6, Article 3, Section 1798.170
B. California Code of Regulations, Title 22, Division 9, Article 3, Section 100027.02, 100027.03; Chapter 3.1, Article 2, Section 100066.02, 100066.04; Chapter 3.2, Article 2, Section 100076.02, 100076.03; Chapter 3.3, Article 2, Section 100091.02

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