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|  | COUNTY OF SACRAMENTO EMERGENCY MEDICAL SERVICES AGENCY | Document # | 9007.01 |
| | PROGRAM DOCUMENT: Pediatric Diabetic Emergency (Hypoglycemia/Hyperglycemia) | Initial Date: | 07/26/21 |
| | | Last Approved Date: | 12/09/21 |
| | | Effective Date: | 07/01/22 |
| | | Next Review Date: | 09/01/23 |

 EMS Medical Director

 EMS Administrator

Purpose:

- A. To establish treatment standard 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:

- 1. Blood Glucose Level ≤ 60 mg/dl
- 2. History of Diabetes
- 3. Weakness
- 4. Confusion
- 5. Nausea/Vomiting
- 6. Coma

| BLS |
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| 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 suspected, assess for traumatic injury and/or need for Spinal Motion Restriction (SMR) when indicated per PD# 8044. 4. If patient is seizing, protect the patient from further injury. 5. If Blood Glucose is ≤ 60 mg/dl: <ul style="list-style-type: none"> • If the patient is alert and oriented, consider: Orange juice sweetened with sugar, regular soft drinks, oral glucose paste or 50% dextrose. Have the patient swallow a small amount of water, and if tolerated, EMT may give glucose. 6. Transport. |

ALS

1. Initiate vascular access. **Titrate to an appropriate Systolic Blood Pressure for patient's age.**
2. If blood glucose > 60 mg/dl, consider other causes of decreased sensorium.
3. If blood glucose ≤ 60 mg/dl **and patient doesn't tolerate oral glucose**, treat as follows:
 - Dextrose 0.5 gm/kg IV/IO up to 12.5 gm.
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:
 - Glucagon 0.5 mg Intramuscular (IM) if blood sugar < 60 mg/dl OR
 - Dextrose 0.5 gm/kg IO.
 - If blood sugar remains ≤ 60 mg/dl, give additional Dextrose 0.5 gm/kg for a maximum dose of 1 gm/kg
6. **Airway management as needed per PD# 8020.**
NOTE: Concentrations of 10% Dextrose (D10), **25%**, or 50% Dextrose (D50) may be used.
 - 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.
 - In the event of a glucometer failure, administer **0.5 gm/kg for a maximum dose of 1 gm/kg** of Dextrose or 0.5 mg of Glucagon IM based on clinical assessment.
 - Cardiac monitoring.

Hyperglycemia:

1. Blood Glucose Level ≥ 350mg/dl
2. History of Diabetes
3. Weakness
4. Confusion
5. Nausea/Vomiting
6. Fruity-smelling breath
7. Shortness of Breath
8. 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 patient is seizing, protect the patient from further injury.
6. Transport

ALS

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

Consider AEIOUTIPS:

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| Alcohol | Trauma |
| Epilepsy | Infection |
| Insulin | Psychiatric |
| Overdose | Stroke or Cardiovascular |
| Uremia | |

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