**Hyperglycemia**

**Management of patients with blood glucose >250 with DKA or HHS**

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| **History**   * Known diabetic, medic alert tag * Past medical history * Medications * Change in responsiveness/condition * Disorientation * Recent nausea or vomiting * Recent highly abnormal glucose readings * Recent abdominal pain | **Signs and Symptoms**   * Decreased mental status or lethargy * Change in baseline mental status * Bizarre behavior * Signs of Hyperglycemia (warm, dry skin; fruity breath; Kussmaul respiration; signs of dehydration) * Polydipsia (thirsty) * Nausea or vomiting, abdominal pain * Glasgow Coma Scale <14 | **ASSESSMENT**   * Diabetic Ketoacidosis (DKA) * Hyperosmolar Hyperglycemic state * Beware of additional comorbid conditions such as: * CNS (stroke, tumor, seizure, infection, trauma) * Infection (CNS and other) |

**TREATMENT GUIDELINES**

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| **R-EMR** | **E-EMT** | **A-AEMT** | **P-PARAMEDIC** | **\*\*M-Medical Control \*\*** |

**\*\*\*Higher level of providers are responsible for lower level treatments\*\*\***

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| * Initial Patient Contact (2000) * Administer Oxygen 10-15 L via non rebreather (9000). * Observe for signs of Respiratory Distress (4002). | R |
| * Pulse Oximetry (9001). * Assist ALS with Cardiac Monitor and 12-lead EKG (9030) if indicated. * Check to see if lungs are clear (absence of Pulmonary Rales). * Transport to receiving facility. ALS intercept unless transport time is less than 5 minutes. | E |
| * Establish IV with NS, draw labs; **do not delay transport for IV access.**2 * Blood Glucose Analysis (9040)2 * Administer IV bolus of NS 10 cc/kg. May repeat NS bolus if lungs remain clear.2 | A |
| * **ALS required for continued ALOC, Hypotension or signs of Respiratory Failure.** * Repeat patient assessment. * Assess for adequacy of ventilation and need to protect airway/possible endotracheal intubation (9011-9013). * For patients over 35, perform 12-lead EKG and transmit when possible to Medical Control. | P |
| * **\*\*** Call Medical Control for unusual presentation or failure to respond to appropriate care. May repeat NS bolus up to a maximum of 40 cc/kg if lungs remain clear. **\*\*.** | M |

2EMT providers may perform these procedures if credentialed with the appropriate OM.

Pearls:

**Hyperglycemic emergencies include both diabetic Ketoacidosis (DKA) and Hyperosmolar Hyperglycemic State (HHS), also known as Hyperosmolar Hyperglycemic Non-Ketotic Coma (HHNC).**

**It is estimated that 2-8% of all hospital admissions are for treatment of DKA.**

**Mortality for DKA is between 2-10%. Older patients have a greater risk of death.**

**Management of hyperglycemia is centered around treatment of severe dehydration and support of vital functions such as respiration and ventilation.**

**QA: 100% of patients with hyperglycemia requiring field intubations.**