

Diabetic Emergencies

One very common scenario that we as emergency responders find ourselves dealing with are issues and complications related to diabetes. Generally speaking, there are two classifications of diabetic emergencies – hypoglycemia and hyperglycemia. Both have a wide range of signs and symptoms that can include anything from minor nuisances to serious complications and death if left untreated.

Hypoglycemia

A condition characterized by abnormally low blood glucose levels.

- Signs and symptoms – heart palpitations, fatigue, pale skin, shakiness, anxiety, sweating, hunger, irritability, tingling sensations, confusion, abnormal behavior, inability to complete simple tasks, visual disturbances, seizures, and loss of consciousness
- Patient may appear intoxicated
- Complications – seizure, loss of consciousness, and death
- Treatment
 - Suspect hypoglycemia in any patient or known diabetic who is unconscious, combative, or appears to be intoxicated
 - Note time of last insulin dose or oral medication, time of last oral intake, any nausea/vomiting/diarrhea, abdominal pain, fever, and chest pain
 - Obtain a glucose level via glucometer
 - Administer an oral glucose solution if the patient is awake, alert, and can swallow without difficulty
 - If the patient is unconscious or unable to swallow
 - Initiate an IV with normal saline at TKO
 - Administer an amp of D50
 - Re-check blood glucose levels every 15 to 60 minutes

Hyperglycemia

A condition characterized by high blood glucose levels.

- Signs and symptoms – usually develop over days or weeks
 - Early: frequent urination, increased thirst, blurred vision, fatigue, and headache
 - Later: fruity smelling breath, nausea/vomiting, shortness of breath, dry mouth, weakness, confusion, coma, abdominal pain

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Hyperglycemia (continued)

- Complications
 - Long-term – cardiovascular disease, neuropathy, kidney damage, retinopathy, blindness, cataracts, amputations, and serious infections
 - Emergency
 - Diabetic ketoacidosis occurs when there's not enough insulin to process glucose, so the body breaks down fat for energy which causes a build-up of toxic ketones in the bloodstream
 - Can lead to coma and death
 - Hyperglycemic Hyperosmolar Syndrome occurs when insulin is produced, but doesn't work properly – since insulin is present, the body can't use either glucose OR fat for energy
 - Can lead to extremely high glucose levels, life-threatening dehydration, and coma
- Treatment for emergency complications
 - Note last dose of insulin, last meal, nausea/vomiting, fever, chest pain, baseline EKG (if possible) and ABGs (if possible)
 - Obtain blood glucose level via glucometer
 - Initiate two IVs with normal saline and bolus 500-1000 ml
 - Medications to consider
 - Regular insulin bolus of 0.1 units/kg IV
 - Sodium bicarbonate if pH < 6.9
 - Potassium chloride
 - Re-check blood glucose level every 15 to 30 minutes
 - As levels decrease, consider adding a D5 ½ NS infusion and slowly decreasing the insulin infusion
 - Consider a foley catheter to monitor urine output and maintain a goal of > 30 ml/hr

Remember to always follow your local policies, procedures, protocols, medical direction, and scope of practice!

www.mayoclinic.org/diseases-conditions

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