



Diabetic; Adult

History

- Past medical history
- Medications
- Recent blood glucose check
- Last meal

Signs and Symptoms

- Altered mental status
- Combative / irritable
- Diaphoresis
- Seizures
- Abdominal pain
- Nausea / vomiting
- Weakness
- Dehydration
- Deep / rapid breathing

Differential

- Alcohol / drug use
- Toxic ingestion
- Trauma; head injury
- Seizure
- CVA
- Altered baseline mental status

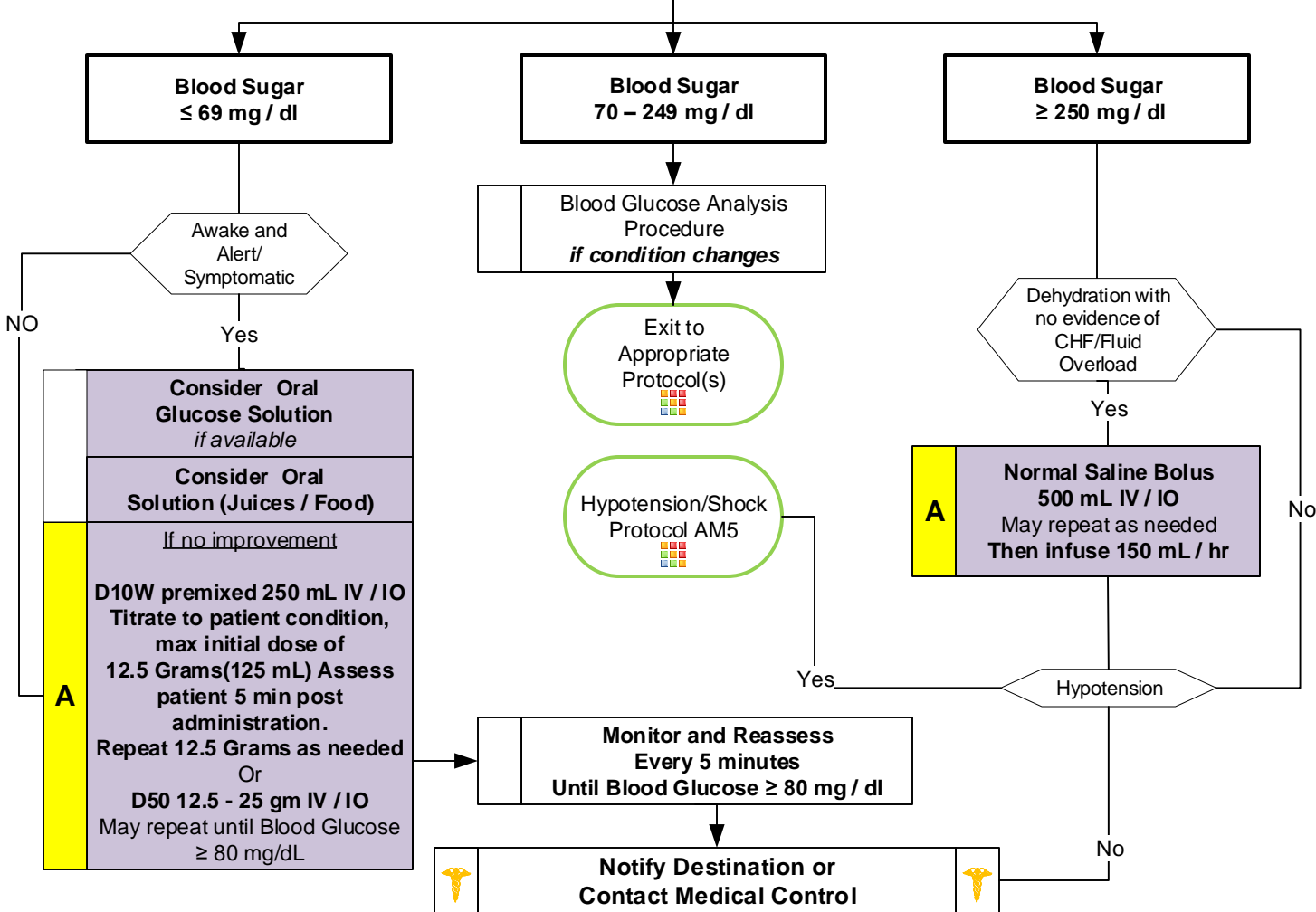
Altered Mental Status Protocol UP 4
If indicated



	Blood Glucose Analysis Procedure
B	12 Lead ECG Procedure if indicated
A	IV / IO Procedure
P	Cardiac Monitor
	Suspected Stroke Protocol AM 7 if indicated
	Seizure Protocol UP 13 if indicated

A

Blood Glucose ≤ 69 mg / dl and symptomatic
No venous access
Glucagon 1 – 2 mg IM
Repeat in 15 minutes if needed



Adult Medical Protocol Section



Diabetic; Adult

Hypoglycemia:

Always suspect hypoglycemia in any patient with altered mental status and perform finger stick glucose procedure. If Blood Glucose Analysis is not available or not functional give **D10 250 mL, D50 12.5 to 25 mg IV / IO**, or Glucagon with altered mental status. **D10 is preferred even in adults, however if volume overload is suspected give D50 if available.** Dextrose 50 % will raise blood sugar but rebound hypoglycemia is common.

Hyperglycemia:

Diabetic ketoacidosis (DKA) is a complication of diabetes melitus and cannot be diagnosed in the field but can be suspected. DKA is a condition where the body cannot properly utilize insulin to effect glucose metabolism. The body compensates by breaking down fats and proteins leading to a metabolic acidosis. The body also begins to dump excess glucose by excessive urination. Patients typically appear dehydrated, ill and usually have tachypnea. Patients can have marked hyperglycemia without being in DKA. DKA can occur at any level of hyperglycemia typically above 250 mg / dl.

Glucagon:

If IV / IO access is obtained after glucagon administration and the patient remains symptomatic then give D50 as per appropriate treatment arm.

Insulin Pump:

If patient is hypoglycemic turn off the patient's insulin pump. Elicit help from the patient, when able, and / or the family who typically are well versed in it's operation.

Oral Diabetic Agents / Patient Refusal:

Patients taking oral agents who experience hypoglycemia should be strongly encouraged to seek care in the emergency department via EMS. These agents may have very long half lives placing the patient in danger of hypoglycemia hours later (12 – 36). If patient refuses transport make every effort to contact the patient's Primary Care Provider to arrange quick follow up that business day or the next. Patients refusing should also be warned to remain with a responsible person for the next 36 hours in order for help to be summoned if patient becomes incapacitated. Contact medical control for advice concerning oral agents if needed.

Glucophage / Metformin: Patients who ONLY take this medication (orally is only route) do not fit into the category of oral diabetic agents. This medication does not induce hypoglycemia.

Pearls

- **Recommended exam: Mental Status, Skin, Respirations and effort, Neuro.**
- **Patients with prolonged hypoglycemia may not respond to glucagon.**
- **Do not administer oral glucose to patients that are not able to swallow or protect their airway.**
- **Quality control checks should be maintained per manufacturers recommendation for all glucometers.**
- **Patient's refusing transport to medical facility after treatment of hypoglycemia:**
 - Blood sugar must be ≥ 80 , patient has ability to eat and availability of food with responders on scene.
 - Patient must have known history of diabetes and not taking any oral diabetic agents.
 - Patient returns to normal mental status and has a normal neurological exam with no new neurological deficits.
 - Must demonstrate capacity to make informed health care decisions. See Universal Patient Care Protocol UP -1.
 - Otherwise contact medical control.
- **Hypoglycemia with Oral Agents:**
 - Patient's taking oral diabetic medications should be encouraged to allow transportation to a medical facility.
 - They are at risk of recurrent hypoglycemia that can be delayed for hours and require close monitoring even after normal blood glucose is established.
 - Not all oral agents have prolonged action so Contact Medical Control for advice.
 - Patient's who meet criteria to refuse care should be instructed to contact their physician immediately and consume a meal.
- **Hypoglycemia with Insulin Agents:**
 - Many forms of insulin now exist. Longer acting insulin places the patient at risk of recurrent hypoglycemia even after a normal blood glucose is established.
 - Not all insulin have prolonged action so Contact Medical Control for advice.
 - Patient's who meet criteria to refuse care should be instructed to contact their physician immediately and consume a meal.
- **Congestive Heart Failure patients who have Blood Glucose > 250:**
 - Limit fluid boluses unless they have signs of volume depletion, dehydration, poor perfusion, hypotension, and / or shock.
- In extreme circumstances with no IV / IO access and no response to glucagon, D50 can be administered rectally. Contact medical control for advice.