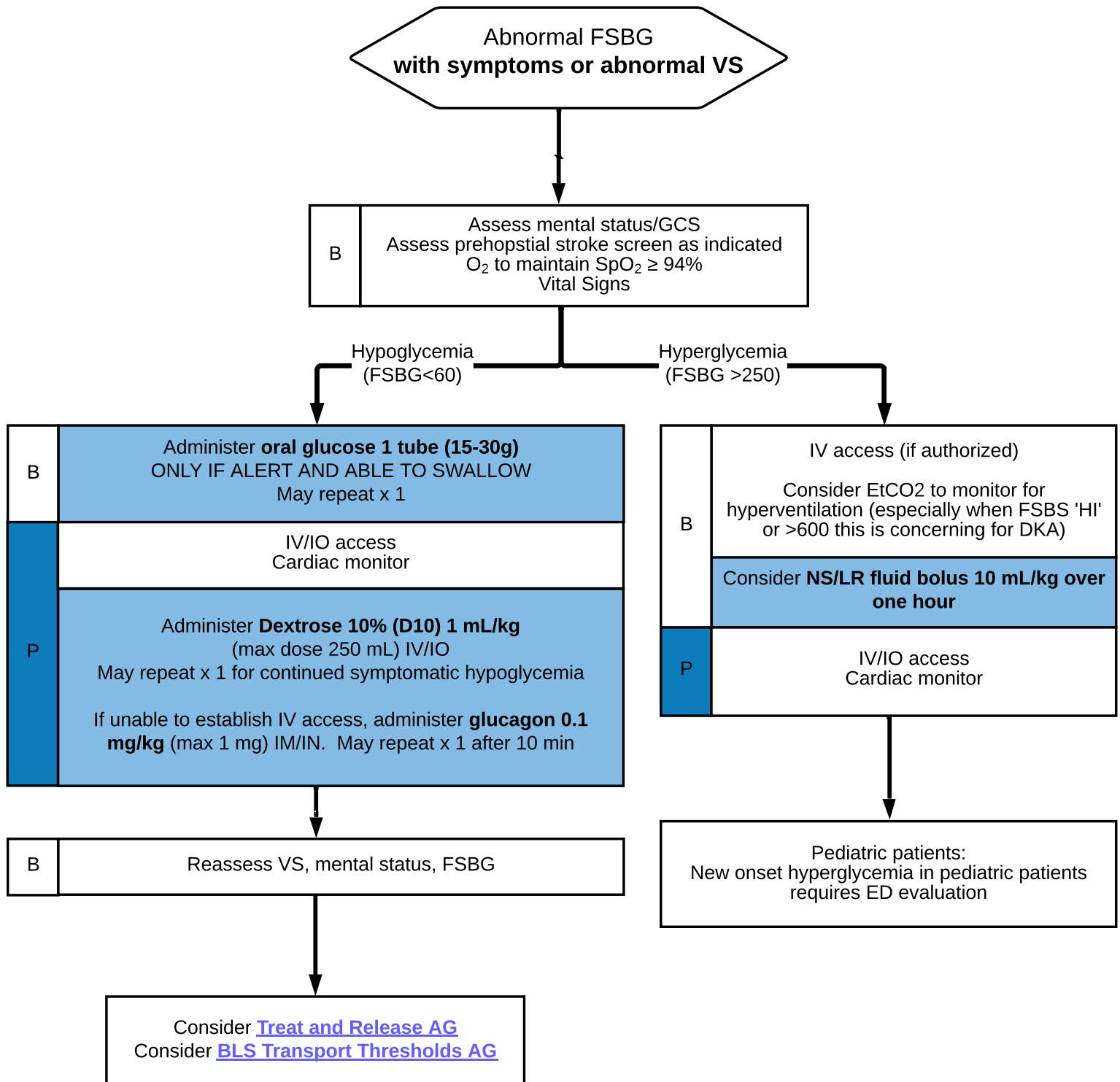


# Hypo/Hyperglycemia Administrative Guideline



<b>History</b> <ul style="list-style-type: none"> <li>Recent illness or infection</li> <li>Past medical history             <ul style="list-style-type: none"> <li>Insulin pump?</li> </ul> </li> <li>Pertinent medication history             <ul style="list-style-type: none"> <li>PO or Sub Q interventions</li> <li>Recent treatments</li> <li>Treatment compliance</li> </ul> </li> </ul>	<b>Signs and Symptoms</b> <ul style="list-style-type: none"> <li>Altered mental status</li> <li>Kussmaul breathing</li> <li>Polyuria</li> <li>Tachycardia</li> <li>Weakness</li> </ul>	<b>Differential</b> <ul style="list-style-type: none"> <li>Stroke</li> <li>Head injury/Trauma</li> <li>Drug usage</li> <li>ETOH usage</li> </ul>
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## Education/Pearls

Symptoms vary broadly in patients with hypoglycemia and hyperglycemia. **Hypoglycemia** may cause some patients to feel anxious or exhibit diaphoresis, tachycardia, or hypotension; others are asymptomatic. Many patients with **hyperglycemia** are also asymptomatic and do not need prehospital treatment of their hyperglycemia, especially if chronic. Other patients may feel thirst, urinate frequently, or experience malaise; even others progress to developing acidosis or altered mental status from complications of hyperglycemia in such emergent diseases as diabetic ketoacidosis and hyperosmolar hyperglycemic state.

Evaluate patients for causes of their glucose level abnormalities, as it may represent an underlying process, like infection, trauma, or other illness. Patients who have developed diabetic ketoacidosis (DKA) related to elevated blood sugar may benefit from fluid administration; these patients often appear ill, and exhibit a constellation of symptoms (e.g. polyuria, polydipsia, weakness, dizziness, abdominal pain, tachypnea).

**Hypoglycemia:** Patients may be considered for release without transport or further EMS treatment per the **Treat and Release AG**. If patients do not meet the following criteria, they are at increased risk of decompensation. Consider consultation with medical direction for patients that do not meet all of the following criteria:

- Not actively vomiting/is tolerating oral intake
- Patient had adequate response to single dose of dextrose - with VS in BLS range, normal mentation, and FSBG within normal limits.
- Patient has no acute conditions other than hypoglycemia (chest pain, shortness of breath, intoxication, liver disease, kidney disease, or febrile illness).
- Patient only on short acting insulin or premixed analog (e.g. NovoLog® 70/30 or Humalog® 70/30)
- Patient is not taking oral agents (other than metformin) for blood glucose control.
- Patient released to competent adult
- Patient or legal guardian refuses transport or patient and providers agree transport is not indicated

### **Hypoglycemia in patients with insulin pump:**

- ALOC/AMS – stop insulin pump or disconnect at insertion site.
- GCS 15 & able to take oral glucose – leave connected with pump running.

**Hyperglycemia:** Defined as blood glucose greater than 200 mg/dL. Elevated glucose alone does not represent a medical emergency. Markedly elevated glucose in the setting of DKA is an urgent medical condition.

Patients may benefit from fluid administration; a 10 mL/kg bolus is indicated, especially in the setting of dehydration.

- Multiple boluses of fluid may be harmful to patients in DKA; however, if the patient is exhibiting signs of shock or decreased perfusion, treat per **Shock AG**.
- Avoid administration of narcotics or anxiolytics in the setting of DKA, as tachypnea is important to maintaining the patient's precarious acid-base status.
- In young patients with diabetes or suspected new-onset diabetes, **administer fluid slowly** to minimize the chance of developing cerebral edema.