

## Predictive Low-Glucose Suspend Necessitates Less Carbohydrate Supplementation to Rescue Hypoglycemia: Need to Revisit Current Hypoglycemia Treatment Guidelines

ANALYTICAL TESTING ★ TRANSLATIONAL MEDICINE

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### Abstract

Current guidelines recommend 15–20 g of carbohydrate (CHO) for treatment of mild to moderate hypoglycemia. However, these guidelines do not account for reduced insulin during suspensions with predictive low-glucose suspend (PLGS). We assessed insulin suspensions, hypoglycemic events, and CHO treatment during a 20-h inpatient evaluation of an investigational system with a PLGS feature, including an overnight basal up-titration period to activate the PLGS. Among 10 adults with type 1 diabetes, there were 59 suspensions; 7 suspensions were associated with rescue CHO and 5 with hypoglycemia. Rescue treatment consisted of median 9 g CHO (range: 5–16 g), with no events requiring repeat CHO. No rescue CHO were given during or after insulin suspension for the overnight basal up-titration. To minimize rebound hyperglycemia and needless calorie intake from hypoglycemia overtreatment, updated guidance for PLGS systems should reflect possible need to reduce CHO amounts for hypoglycemia rescue associated with an insulin suspension. The clinical trial was registered with [ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT03890003) (NCT03890003).