

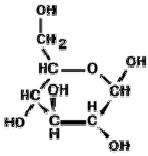
CQI Alerts

July
2007

OBSERVATIONS BY THE CONTINUOUS QUALITY IMPROVEMENT PROGRAM FOR UWMC ANESTHESIOLOGY

PERIOPERATIVE GLUCOSE CONTROL

A PROGRESS REPORT FROM THE UWMC'S PILOT STUDY



PERIOPERATIVE GLUCOSE CONTROL

In March 2007, the UWMC implemented a pilot study to examine perioperative glucose control. Below are answers to frequently asked questions about the study and some preliminary findings.

WHAT CASES ARE INCLUDED IN THE STUDY?

1. **UWMC ONLY:** The study is not in effect at any other UW Associated Medical Center (HMC, VA, CHRMC)
2. **NO CT OR NEURO:** Cardiac and Spine / Neurosurgery cases are excluded from this pilot study.

WHO GETS AN HOURLY GLUCOSE CHECK?

1. **Hourly** glucose checks are required for patients with known blood sugar management issues:
 - Patients with **diabetes or a history of diabetes**
 - Patients receiving **insulin or insulin analogues (e.g. Lispro)** as part of their hospital or perioperative care.
2. The goal of the pilot study is to maintain blood glucose at **80-150** during the perioperative period for this set of patients (by comparison, Floor goals are 80-180 and ICU goals are 80-130).
3. CT and Neuro patients are excluded from the hourly glucose requirement. CT and Neuro should follow the insulin protocols for their services.

WHO WRITES POSTOP DIABETES ORDERS?

1. **ONLY** the perioperative anesthesia care team writes the Ambulatory Surgery Post Operative Diabetes orders.
2. Make sure they are ordered and signed before you hand over care of the patient in the PACU.

WHAT SHOULD I KNOW ABOUT LISPRO?

1. **Lispro** is a rapid acting insulin analogue. It exhibits a faster onset, peak effect, and duration of action in comparison to regular insulin. Inform yourself of its pharmacokinetics.
2. Do not immediately use Lispro to treat hyperglycemia, as the elevation may be transient.
 - Hypotension can delay the effects of Lispro. Be patient. Do not repeat the dose of subQ Lispro, if the patient is hypotensive. Treating the *hypotension* may resolve any hyperglycemia by allowing the Lispro dose to work.
 - Perioperative stress and anesthesia can produce transient hyperglycemia by increasing peripheral insulin resistance and hepatic glucose production, and decrease insulin secretion, and fat and protein breakdown.
3. **Always infuse a glucose source with subQ Lispro:** Like insulin, Lispro can drop a patient's blood sugar level to below 80. Have a glucose source running concurrently so you can manage any possible hypoglycemia.
4. **Check blood glucose hourly** if you are running Lispro or any other insulin analogue.

PILOT STUDY RESULTS SO FAR

1. Only **56%** (50 out of 90 patients) who require hourly glucose checks are getting hourly checks.
2. At the end of case, 57% of 86 patients had blood glucose of the pilot study range of 80-150. 83% were in the 80-180 range. 17% were higher than 180.