Identification of the problem: There is an increasing prevalence of diabetes in surgical patients presenting for outpatient procedures with few evidence based guidelines for their management.

Purpose: Our previous retrospective study (2009-10) established baseline data regarding diabetic management at an ambulatory Eye Center. As a result, a Perioperative Diabetes Management Council was developed for our Health System. Detailed medication and patient specific preoperative dosing instruction guidelines were incorporated into a new teaching tool. These focused on evening before and day of surgery (DOS) insulin administration and combination therapies. This was implemented in Preop Screening and reinforced at the day before surgery phone call by nursing staff. The aim was to improve perioperative glycemic control.

Methods: This IRB approved retrospective study evaluated the effectiveness of these new guidelines. Data, including POCG (point of care glucose) results, timing of tests, past medical and medication history (diabetes categorized as: Diet, Oral, Insulin (IU), Insulin analog (IA), Pump (PU), Incretin or Amylin analogs) were reviewed in the charts of 5529 records, 23.9% of all these encounters included some form of diabetes diagnosis (some patients had more than one encounter) from 12/1/11 to 11/29/12 and compared to the previous study of 13,178 encounters (17.4% with diabetes).

Outcomes: One or more preoperative (pre anesthesia care) POCG were recorded in 1324 encounters. Hyperglycemia (>200mg/dL) occurred in 12.6% of preop encounters (old data = 16.1%, other old data in parentheses as follows), 25.1% in IU (32.1%), 24.7% IA (19.4%), 24.2% PU (49.1%). 1.9% were >300mg/dL (2.5%), and 4 records or 0.3% were >400mg/dL (0.53%). Insulin was given subcutaneously in only 7.2% (IV in 0.4%) for those over 200mg/dL but close values were often not treated. Hypoglycemia (<70mg/dL) only occurred in 1.8% (1.9%), despite DOS insulin therapy. Only 12 required rescue therapy of 50% Dextrose.

Implications for perianesthesia nurses and future research: The new preoperative dosing instruction guidelines for patients with diabetes did measurably reduce both hyper- and hypoglycemia in the preoperative period. It provides consistency of information transmittal, which is crucial.
We intend to exam the effect of these guidelines on intra- and postoperative blood glucose levels.