**IMPROVING PERI-OPERATIVE GLYCEMIC CONTROL**

**Start Date:** October 5, 2012  
**Report Date:** April 5, 2013  
**Executive Sponsor:** Dr. Kristin Hahn-Cover  
**Team Leader:** Laurel Despins  
**Team Members:** Sarah Guilford, Sahil Hebbbar, Kimberly Matthews, Michael Nichols, William See, Ajit Tharakan  
**Advisors:** Barb Boshard, Doug Wakefield  

**Strategic Alignment:**  
**Quality** - Reduces serious patient safety events, surgical site infections, and readmissions due to complications of care  
**Finance** - Potentially improves value based purchasing score

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**Plan**

**Do**

**Study**

**Act**

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**Current State**

- BG not assessed in Holding on all diabetic patients
- No single place in EMR that reliably documents history of diabetes
- Variation in treatment of elevated BG

**Point of Care Blood Glucose Testing in Holding Room**

- Met with Holding Room supervisor, nurses at University Hospital
- Late-first-case day chosen (1/9/13)
- Extra BG monitors obtained by RNs

**Baseline Data**

- 12 months University Hospital Main OR patient analysis
- Identification of patients with diabetes
- Observations & interviews re: intra-operative insulin administration
- Utilization of Inpatient Diabetes Team consults
- Point of Care glucose assessment

**Identify and qualify patients with diabetes**

- Identification of patients with diabetes
- Point of Care glucose assessment
- Supplementary insulin administration outside of intravenous insulin infusion protocol

**Cost of Implementing Point of Care Glucose Assessment for All Holding Room Patients at University Hospital**

**Intervention Data**

- Proportion of Holding Room patients that had a Point of Care glucose assessed
- Proportion of Holding Room patients newly diagnosed with diabetes during their admission

**Recommendation:** No-charge* POC glucose testing for all Holding Room Patients

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### Graphics / Data

**Baseline Data**

- **Total Number of Patients:** 2582
- **Total Patients w/Known Diabetes Prior to Surgery:** 303 (12%)
- **Total Patients Diagnosed w/Diabetes During Admission:** 185
- **Total Patients w/Diabetes:** 488 (19%)
- **Number of Known Diabetic Patients w/o BG in Holding Room:** 71 (23%)

**Pilot Data**

- **Identification of Diabetic Patients**
  - Diabetes documented in surgery history & physical: 100%
  - Diabetes documented in pre-operative note: 100%
  - Diabetic medications listed in Medication List: 98%
  - 3 non-diabetic patients with low glucose levels

- **Process**
  - Patients with POC glucose check/total patients: 2525 (96%)
  - Glucose Results
    - 3 non-diabetic patients had values < 65mg/dL
    - 1 patient had persistent hyperglycemia (p 3 values > 200mg/dL)

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**Recommendation:** No-charge* POC glucose testing for all Holding Room Patients

- **Analysis of Financial Impact**
  - **Number of Holding Room Patients:** 2582
  - **Number of Diabetes Patients:** 303
  - **POC Glucose Charged Test:** $0.30
  - **Estimated Revenue Realized:** $1,165.54
  - **Estimated Total Cost for POC Glucose Testing on All Holding Room Patients:** $2.95
  - **Estimated Total Cost:** $2.95
  - **Estimated Cost of 1 POC Test on All Holding Room Patients:** $777.08
  - **Estimated Revenue from No-Charging POC Glucose Testing:** $1,165.54

*Need to manually delete charges for glucose testing for non-diabetic patients

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