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Perioperative Glycemic Management

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We propose creating a standard easy to use and safe protocol for perioperative glycemic management for same day/elective surgical patients. Following implementation throughout all surgical services, we believe this protocol will facilitate improved glycemic control, in addition to better outcomes.

Complicating glycemic control is the fear of hypoglycemia. Patients undergoing surgical procedures are prepared by withholding oral nutrition. Furthermore, patients with existing adequate glycemic control are often taken off their home insulin and oral therapy in favor of hospital developed standard sliding scale, reactionary insulin therapy.

At Abington-Jefferson Health the standard practice for any diabetic patient is to place them on sliding scale insulin and withhold their home medication. Non-diabetic patients blood glucose is rarely continually monitored outside of scheduled basic metabolic panels and often mild to moderate hyperglycemia noted on these panels is not addressed due to lack of standardized protocols.

With an increase in healthcare quality based payment, improving perioperative glycemic control, in addition to better outcomes, can provide for significant cost savings and increased reimbursements for hospitals and health-systems. An estimated $3 Billion a year is spent on SSI related expenses and procedures presenting real opportunity for the system to improve rates of SSI and related complications.

### Methods

#### Objective 1: Prevalence of Perioperative Hyperglycemic Events

Patients admitted for elective bariatric and colorectal surgery procedures will have pre and (immediate) post operative blood glucose levels measured prospectively as part of their routine perioperative orders. Existing complications rates and SSI rates will be obtained from NSQIP and MBSAQIP abstracting.

#### Objective 2: Development of Perioperative Glycemic Control Protocol

In conjunction with the Department of Endocrinology and Department of Anesthesia a simple IV insulin protocol will be developed and implemented in the Bariatric and Colorectal patient populations. Again Perioperative blood glucose levels and abstracted data from NSQIP and MBSAQIP will be obtained for rates of complications and SSI. The protocol will be adjusted as to optimize glycemic control.

#### Objective 3: Results of Intervention and Expansion

Following implementation of the protocol perioperative glycaemia will be measured in patients from other surgical service lines and the protocol implemented with the goal of implementation across all surgical services.

### Current Proposed Glucose Control Protocol

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<th>Glucose (Units)</th>
<th>Initial Bolus (Units)</th>
<th>1 Hr Glucose Rising Rate (Units/hr)</th>
<th>1 Hr Glucose Dose Adjustment</th>
<th>1 Hr Glucose Decrease Rate (Units/hr)</th>
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#### Select References