Celebrate Successful Practice (CSP) Abstract

Title: Improving Perioperative Glycemic Control

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Background: Studies supporting tighter glucose control show that hyperglycemia, especially > 200 mg/dl, increases the risk of developing postoperative infections. Controlling blood glucose may decrease perioperative morbidity and mortality in certain patient populations such as cardiac surgery, but little is known about implementation of a hospital-wide program.

Objectives: To determine the effectiveness of a perioperative glycemic control program for diabetic patients admitted on the day of surgery.

Process: Protocols for perioperative education and blood glucose management were developed. Prior to admission, patients received standardized education about oral medications and insulin. On arrival, patients with BG levels > 180 mg/dl received insulin based on a sliding scale protocol, were monitored intra- and post-operatively and received additional insulin if needed.

Statement of successful practice: Mean blood glucose on arrival improved from 191 to 155 mg/dL (p = 0.016). Patients with blood glucose > 180 mg/dL preoperatively improved from 51% to 26%. Mean postoperative blood glucose level improved from 189 mg/dL to 168 mg/dL, and percentage > 180 mg/dL decreased from 59% to 37%. Hypoglycemia rates remained low.

Implications for Advancing the Practice of Perianesthesia Nursing: Perianesthesia nurses play an important role in glycemic control for diabetic patients undergoing surgery. A nursing led protocol which standardized preoperative education, testing and treatment of elevated blood glucose safely improves perioperative glycemic control.