

## Perioperative Blood Glucose Monitoring in the General Surgical Population

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### Abstract

Several studies have shown a relationship between poor outcome and uncontrolled blood glucose (BG) in cardiac, neurosurgical, critical care, and general surgical patients. A major study showed that *tight* glycemic control (80–110mg/dl) was related to increased mortality. Based on evidence from controlled studies, the American Diabetes Association, and the Society of Thoracic Surgeons, maintaining intraoperative BG levels in the 140–180 mg/dl range seems appropriate. Optimization of the patient's preoperative medications and the use of insulin infusions, as well as surgical and anesthetic technique, are important factors for achieving desirable perioperative BG control. Minimizing BG variability during surgery should be part of the glycemic control strategy. Advances in real-time glucose monitoring may soon benefit hospitalized diabetes and nondiabetes patients.

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**Abbreviations:** (BG) blood glucose, (GIK) glucose–insulin–potassium, (GLUT) glucose transporter, (ICU) intensive care unit, (IIT) intensive insulin therapy, (NICE-SUGAR) Normoglycemia in Intensive Care Evaluation-Survival Using Glucose Algorithm Regulation, (NPO) *nil per os*,

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