

**Translating Evidence into an ICU Practice Toolkit**  
**Kathy Hoare, RN, DNS, Kathy.Hoare@kp.org**  
**Northern California Kaiser Permanente**

**Problem**

Due to stress of surgery and anesthesia, many non-diabetic patients have blood glucose levels outside normal limits. Evidence shows that aggressive glucose control in these patients reduces morbidity, mortality and length of ICU stay. A failure mode analysis of insulin drips showed that management guidelines appropriate for diabetes patients were inappropriate for management of non-diabetic patients and different guidelines were needed.

**Evidence**

A search and summary of research literature was performed using the terms intensive insulin therapy, critically ill adults, diabetics with myocardial infarction.

**Strategy**

Failure mode analysis was used to identify problems with insulin drips.  
Presentations to staff including nurses, physicians, pharmacists  
Observation of 2 hospitals with successful implementation.  
Development of insulin infusion grid.  
Development of toolkit

**Practice Change**

Initiation of blood glucose monitoring on all ICU patients  
Initiation of insulin drip on patients with elevated glucose levels  
Standardized doctors order sheets  
Continuous insulin infusion grid  
Transitional orders for transfer from ICU to unit

**Evaluation**

Number of episodes of hypoglycemia  
Median length of time until glucose target range achieved (hours)  
Median length of time target glucose range maintained (hours)

**Recommendations**

Successful implementation requires support and ongoing dialogue with leadership.  
A multidisciplinary core group representative of different expertise and leadership levels, familiar with day to day operations is necessary to ensure that decisions are made in a timely and inclusive manner.  
Formal interdepartmental agreements about training, workload, patient coverage, data collection and decision making facilitate core workgroup interactions.

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