

## **Hypoglycemia: Prevention and Treatment in the Hospitalized Medical Patient**

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### **Purpose:**

A quality improvement project to reduce incidence and severity of hypoglycemia and improve appropriate treatment in the hospitalized adult medical patient through staff nurse education & coaching.

### **Background:**

At Stanford hospital, one quality initiative is to improve glycemic control through new protocol developments and staff education. 20-30% of the patients on the adult medical unit have diabetes and/or hyperglycemia. One of the barriers to good glycemic control has been the fear of increasing the incidence of hypoglycemia. An electronic insulin admission orderset which included standard orders for glucose monitoring, basal-bolus insulin dosing, prandial and corrective insulin scales, the hypoglycemia treatment protocol, and patient education was recently implemented. Nursing staff education on the new insulin admission orderset was provided via inservicing by the diabetes clinical nurse specialist, diabetes educators and the unit educator to reach 80% of the staff nurses on the medical unit.

### **Methods:**

A retrospective chart review was performed to investigate the hypoglycemia incidence, treatment of the hypoglycemia, the timing of BG recheck and nursing documentation related to the hypoglycemia episode. Data were collected from the uploaded Point-of-Care-Testing (POCT) glucometer database from patients bedded on the adult medical unit. All BG results < 70 were reviewed. Retrospective electronic chart review of nursing documentation of BG values, patient symptoms, treatment interventions around all of these BG was done before and after staff education. Additional inservices were provided to the nursing staff focusing on hypoglycemia management and timely individual feedback was provided to those staff nurses whose patients experienced a hypoglycemia episode.

### **Results:**

The incidence of hypoglycemia decreased slightly from 2.1% to 2.0%; however, severe hypoglycemia (BG < 40) reduced from 9% of hypoglycemia results in the baseline period to 0% in the post training period. Appropriate nursing documentation of treatment increased from 19% to 61%. Appropriate treatment by following the protocol was also present after the educational intervention. Nursing documentation of patients' symptoms and response to treatment greatly improved from 3.8% to 61%.

### **Conclusion:**

Initial inservices were not enough to produce change of practice to utilize the hypoglycemic protocol. Coaching by giving feedback to the nursing staff soon after the hypoglycemic event seemed to provide better understanding of the hypoglycemia treatment protocol, prevented episodes of severe hypoglycemia, and improved the treatment and nursing documentation.