Evidence-based Insulin Therapy for Hospitalized Patients

Background/Purpose:
Hospitals are reviewing their current practices related to insulin therapy for diabetes mellitus and hyperglycemia, based on evidence that tighter glycemic control improves outcomes. The purpose of the project is to improve management of hospitalized patients utilizing evidence-based insulin therapy.

Significance:
- Although widely used in care, no current evidence shows that utilizing sliding scale insulin practice will effectively control hyperglycemia in patients with diabetes.
- Evidence-based insulin therapy orders will improve our glycemic goals and clearly identify when insulin should be given or held.

Strategy and Implementation Methods:
- Multi-disciplinary teams were identified that could impact glucose control.
- Benchmarking was done on current practice. Multiple workshops were planned in stages over a year to increase awareness of improvement in patient outcomes with improved glucose control with physicians and nurses.
- The planning included a needs assessment, implementation strategies, CME workshops, nursing grand rounds, an on-line continuing learning module and super user workshops.
- A three component insulin order set was developed for the pilot. A review of glucose values from patients admitted from June 2010 to August 2010 on the pilot unit was completed.

Evaluation:
- The mean percentage of glucose readings maintained between 70-180 mg/dl using the order set increased by 10 percent with 68.6 percent before the order set and 78.5 percent after implementation.
- No increase in hypoglycemia was reported in pre- and post-tests. In fact, glucometers showed 1.6 for pre-test and 1.1 for post test.

Implications for Practice:
Although this project began in the ICU setting, studies on non-ICU populations also show that sliding scale insulin therapy in diabetic and hyperglycemia patients will evolve to evidence-based insulin therapy using basal, mealtime and correction insulin to improve management of hospitalized patients.

Improved Glycemic Control
Target Glucose Range 70-180 mg/dl

Pre 68.6
Post 78.5

Target Glucose Range 70-180 mg/dl

Pre 78.5
Post 78.5

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