Evidence-based Insulin Therapy for Geriatric Hospitalized Patients

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Purpose:
Hospitals are reviewing their current practice related to insulin therapy for hyperglycemia based on evidence that tighter control improves outcomes. The purpose of the project is to improve management in the hospital utilizing evidence based insulin therapy management to reduce adverse drug events in older patients as indicated by Beers criteria. Over 40% of our hospital’s patients are older, 60-85 years old and over 29% present with a diagnosis of diabetes.

Significance:
There is no evidence that sliding scale insulin practice is effective in controlling hyperglycemia in patients with diabetes and is recommended to avoid per PEERS criteria. There is a higher risk of hypoglycemia with sliding scale therapy without improvement in hyperglycemia management. Despite the lack of evidence sliding scale therapy is still widely used in care. Evidence based insulin therapy will improve our glycemic goals and improve safety in older adults by not increasing hypoglycemia.

Strategy and Implementation Methods:
Physicians were targeted first and it became apparent that nursing needed training on insulin therapy regarding basal insulin. Over two years there were three CME workshops, four nursing grand rounds, on-line continuing learning module, and super user workshops. We did a pilot and it is described below.

Evaluation:
A three component insulin order set was implemented. A review was done of glucose values from patients admitted from (pre) 06/2010 to (post) 08/2010 on the pilot unit. The glucose goal was 70-180mg/dl. Mean glucose readings were 68.8% before the order set and 78.5% after implementation. There was no significant increase in hypoglycemia while improving glycemic control by 10% in all populations. The hypoglycemia rate was 1.6 pre-implementation and 1.1 post-implementation for the pilot study.

Implications for Practice:
As we have seen more glycemic studies on non-ICU populations, it has become apparent that sliding scale insulin therapy in diabetic and hyperglycemia patients will evolve to evidence based insulin therapy using basal, mealtime and correction insulin. Steer away from sliding scale improves glycemic control and reduces potential adverse drug events (hypoglycemia) in all patients.

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Target Glucose Range 70-180 mg/dl

Pre 68.6
Post 78.5

Reference: Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults
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