Management of Hyperglycemia in Adult Hospitalized Patients

OPPORTUNITY STATEMENT:
Traditional methods to manage hyperglycemia fall short of standards critical to reduce mortality and morbidity in adult hospitalized patients.

- Diabetic inpatients at Loyola experienced 62% of days with a glucose measurement >200mg/dL.

AIM STATEMENT:
Achieve euglycemia (glucose of 80-120 mg/dL) in all diabetic inpatients, without increasing the rate of hypoglycemia.

CHANGES IMPLEMENTED:
- Reviewed scientific literature and established a multidisciplinary ICU committee.
- Created evidenced-based guidelines and protocols, based on basal bolus approach, to standardize management of hyperglycemia in hospitalized adult diabetics in ICU and non-ICU settings.
- Developed protocols and guidelines for:
  - Intravenous Insulin Infusion
  - Transition from IV to Subcutaneous Insulin in Adult Patient.
  - Insulin Therapy in Adult Patients who are Eating
- Initiated ongoing hospital-wide, nursing, physician and pharmacist education.
- Developed physician and nurse quick reference, pocket-sized fact sheets on new insulin management protocols.
- Modified protocols based on user feedback and glucose control data.
- Administered insulin after meals based on percent of meal consumed.
- Discontinued routine evening snacks for all diabetics.
- Removed sliding scale regular insulin from pharmacy ordering.
- Formed a Diabetes Quality and Safety Committee and unit-based nursing “Train the Trainer” program.
- Added Glycosylated Hemoglobin Test (HgbA1c) lab order to insulin protocols for patient with an admission glucose above 180 mg/dL, or if not drawn in the last month, to better manage patient’s medication upon discharge.
- Changed hypoglycemia treatment targets from 60mg/dL to 70mg/dL.

NEXT STEPS:
- Develop protocols for steroid use, renal patients and intermittent tube feeds.
- Develop discharge planning guidelines for outpatient management of hyperglycemia.
- Explore software program for Tight Glycemic Control Modules and insulin dosing.
- Monitor protocol effectiveness, staff compliance and protocol violations.
- Continue annual nursing competency test on insulin protocols.
- Establish a Glycemic Team to manage and control patients’ daily blood glucose.
- Share protocol outcome data and experience in appropriate physician, nursing and pharmacy publications.
- Plan an half day seminar on insulin protocols for Loyola staff and external public.