Patient-Centered Insulin Dosing Cycles Producing Glycemic Control through Interdisciplinary Collaboration
Jaci L. Langham, RN, CMSRN
Baylor All Saints Medical Center

Problem: Task-centered coordination of glucose tests, insulin doses and meal delivery results in poor glycemic control. Data collected retrospectively from a 26-bed inpatient unit confirmed that insulin doses were calculated using glucose values taken up to three hours earlier. Additionally, meal delivery times varied widely resulting in frequent insulin timing errors.

Evidence: Insulin dosing cycles must be timed appropriately. Glucose testing should occur as close to insulin administration as possible and never be used for insulin dosing when more than 60 minutes old. Additionally, insulin dosing must be timed according to drug action onset and meal intake times.

Strategy: Interdisciplinary process change focused on individualizing the insulin dosing cycle.

Practice Change: Staff and patient education was provided. Dietary staff provided 45-minute tray delivery warnings. Nursing obtained finger-sticks within 15 minutes of the warning and insulin administration timing was determined by the insulin onset of action, mealtime and patients’ insulin sensitivity.

Evaluation: Using evidence based guidelines, insulin dosing cycles were considered within range when finger-sticks were collected within one hour of tray delivery, insulin was dosed using a finger-stick within 60 minutes and administered 0-30 minutes prior to mealtime.

Results: Compliance with best practices tripled during the 30-day pilot. 67% of insulin dosing cycles met compliance goals, compared to 23.9% in the retrospective study. Use of expired finger-sticks for dosing insulin decreased from 43% to 17%. Finger-sticks obtained more than 60 minutes prior to tray arrival decreased to 14% from 60%. Insulin given more than 30 minutes prior to tray arrival was reduced from 45% to 27%. Late doses decreased by 4%.

Recommendations: Program implementation throughout the facility. Update policies to reflect current evidence. Develop tools to identify compliance issues and future educational needs.

Lessons Learned: Glycemic control is improved by implementing patient-centered business processes focused on improving communication between patients and interdisciplinary staff including dietary, nursing, secretaries, management, educators and patient care technicians.

Bibliography:


