Evaluation of New Insulin Infusion Protocols in Advocate Aurora Health

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BACKGROUND

AAH developed and implemented 2 new nurse-managed insulin infusion protocols in October 2019

- Endocrine (Endo) inpatient (IP) insulin infusion
  - Goal blood glucose: 140-180 mg/dL
  - For most non-DKA patients
- Cardiovascular (CV) Surgery inpatient (IP) insulin infusion
  - Goal blood glucose: 110-150 mg/dL
  - Used almost exclusively post cardiac surgery

METHODS

- Retrospective medical record review of blood glucose values for first 4 months after protocol launch
- Data obtained through monthly EPIC\(^*\) data report—Blood glucose data for all patients while on an insulin infusion
- MRN, point of care (POC) BG (mg/dL) with date and time stamps, protocol used, hospital, hospital unit
- Safety and efficacy endpoints were chosen in collaboration between pharmacy and endocrine within AAH

RESULTS

- Average BG (mg/dL)
  - Endo: 93.6% 92.4% 91.1% 92.4% 92.4%
  - CV Surgery: 71.180 mg/dL
- Goal Blood Glucose 110-150 mg/dL

OBJECTIVE

Assess the safety and efficacy of the updated insulin infusion protocols

- Hyperglycemic control
- Hypoglycemia prevention

Create a standardized measure for ongoing evaluation of the insulin infusion protocols

- Monthly glucometrics data report

CONCLUSIONS

- Severe hypoglycemia is rare
  - 2% patient stay average for Endo IP protocol
  - 2.8% patient stay average for CV Surgery protocol

- CV surgery protocol is performing well overall
  - Average BG of 135 mg/dL (Goal 110-150 mg/dL)
  - 92.4% of values in clinically acceptable range (71-180 mg/dL)

- Endo protocol identified as an opportunity for improvement
  - Average BG of 185 mg/dL (Goal 140-180 mg/dL)
  - 73.9% of values in clinically acceptable range (101-210 mg/dL)

- Insulin infusion glucometrics report can be used as a tool to validate and improve insulin protocols within AAH

REFERENCES

