

Glucommander™ Wins Where EndoTool Fails for AdventHealth Waterman



Introduction

AdventHealth Waterman prides itself on being a progressive leader in the use of insulin. In 2013, the community hospital switched to basal/bolus insulin therapy, eliminated the use of sliding scale alone, and implemented IV insulin dosing software system EndoTool.

EndoTool did not meet the greater glycemic management needs. The system wasn't supporting the hospital in providing optimal IV treatment and meeting its goals for reducing hypoglycemic events. EndoTool led to workflow challenges, untimely and unnecessary administration of insulin therapy, and issues with prolonged hyperglycemia. In 2017, the facility had more than 250 hypoglycemic events.

Debra Dudley, BS, CDCES, RN, Clinical Diabetes Educator for AdventHealth Waterman, saw an opportunity to explore changes that would once again position the facility as an innovator in insulin management. After determining the root causes that needed to be addressed for optimal glycemic management, she switched the hospital from EndoTool to Glytec's eGlycemic Management System® (eGMS).

Within one year, AdventHealth Waterman was able to use the more advanced technology to improve workflows and patient care, lower costs, and significantly reduce hypoglycemic events.

HOSPITAL:

AdventHealth Waterman

FACILITY TYPE:

Community hospital

FACILITIES:

1

BEDS:

300

LOCATION:

Florida

SYNOPSIS

Implementing eGMS® and Glucommander helped AdventHealth Waterman reduce failure to adjust insulin in a timely manner by 87%, wrong-dose insulin ordering by almost 54%, and failure to follow policy by almost 44%. The hospital almost completely eliminated stacking insulin, and Dudley's pilot program saved the hospital about \$350,000 in the first year of Glucommander use.

Florida-based community hospital AdventHealth Waterman is known as a pioneer in the use of insulin and often pilots studies for the entire AdventHealth system. About one-third of AdventHealth Waterman patients need insulin, and 100% of their open-heart surgery patients every year need insulin.

Although progressive in glycemic management, the hospital didn't have an endocrinologist, and they felt its insulin dosing software system was creating problems that resulted in severe hypoglycemic events.

After conducting a root cause analysis of severe hypo events and finding four key opportunities for improvement, Clinical Diabetes Educator Debra Dudley swapped EndoTool for a partnership with Glytec that turned things around in less than a year.

“Waterman has become a model of success in using Glucommander in achieving glycemic management. Because of our data, almost every AdventHealth facility has already implemented IV Glucommander in their ICUs, most of them in their PCUs, some in their OB department, and many of them in their emergency rooms.”

Debra Dudley, BS, CDCES, RN
Clinical Diabetes Educator, AdventHealth Waterman

The Problem

AdventHealth Waterman's longtime use of EndoTool was not delivering the results the hospital needed. The insulin dosing software system being used for IV insulin dosing in the ICU, the CVI and the PCUs was not advanced enough to support the hospital in meeting its goals for reducing hypoglycemic events.

Teams were facing prolonged hyperglycemia, workflow challenges, and patients not receiving optimal treatment quickly. Providers were reluctant to begin insulin therapy when it was needed, wouldn't make dosing adjustments in a timely manner, or would sometimes begin insulin therapy on patients when it wasn't necessary. Switching to provider-directed basal/bolus insulin therapy and ditching use of sliding scale insulin alone was a big step in the right direction. Despite these improvements, nurses would administer insulin doses close to each other leading to insulin stacking, and deliver doses that seemed to contribute to hypoglycemia in the late afternoon before dinner.

Dudley ran a root-cause analysis of critical hypoglycemic events over a 12 month period and found four root causes she felt the hospital could address:

1. Initiation of insulin, and ordering and administering the correct dosages
2. Failure to adjust the dose as a patient needs
3. Stacking insulin doses that were causing hypoglycemic events in the late afternoon
4. Failure to follow the glycemic management policy

AdventHealth switched from EndoTool to Glytec's eGMS in order to improve glycemic management. Initially there were a few key barriers to change:

- Nurses were already overloaded; they didn't have time or desire to learn a new technology.
- Many providers felt they were already skilled enough at insulin dosing, and that insulin software couldn't do better.
- Glucommander works best if you accurately carb count, and it's difficult to comprehensively train 650 nurses with 20% annual turnover.

The Solution

Dudley combined advanced technology with culture change to help the hospital improve patient safety and outcomes.

She addressed each barrier to change head-on. Mandatory use of Glucommander on all inpatients requiring insulin was enforced from the onset, carb-counted menus were implemented, and the 14 glycemic policies were streamlined to just three.

Dudley addressed both people and processes by engaging providers, establishing consistent communication, and encouraging medical and nursing staff to shift their perspectives on learning a new tool. She needed every team involved in the changeover to think differently about the way insulin had always been administered.

Support from both corporate and facility leadership, a strong partnership with Glytec, and streamlined glycemic policies helped Dudley maximize end-user engagement. In addition, carb-counted menus set up nurses to carb count at a glance with ease.

Outcomes

Since AdventHealth Waterman's switch from EndoTool to eGMS in 2017, the hospital carries a nearly 100% utilization of Glucomander throughout the facility. Although there was an initial learning curve for medical and nursing staff, the hospital has since addressed all four of the root causes of severe hypoglycemic events Dudley identified.

Under Dudley's leadership, the switch from EndoTool to Glytec's eGMS helped AdventHealth Waterman analyze outcomes including:

- Savings of about \$350,000 through the reduction of hypoglycemic events
- Reduction of failure to adjust insulin in a timely manner by 87%
- Reduction in first-time calls to providers to change glycemic management by more than 75%
- Reduction of wrong dose insulin ordering by almost 54%
- Reduction of failure to follow policy by almost 44%
- The near-elimination of insulin stacking because Glucomander prevents it from happening
- Improved rates of A1C testing on all insulin users
- Easier transitions for patients using insulin from hospital to home

All of this engagement helped Dudley implement real culture change, even among the most skeptical providers.

“I confess, I was the biggest opponent of Glucomander. But now, I am the biggest proponent. It really works.”

Ajay Bisht, M.D.
AdventHealth Waterman

In Conclusion

AdventHealth Waterman needed greater support in its journey toward innovative insulin use. Dudley knew Glytec's eGMS would provide wins where the former technology had failed and help the hospital address the root causes of severe hypoglycemia. Through collaboration and education, Dudley and her team achieved significant improvements in patient care and outcomes.

**Get the full story
from Debra Dudley**

[WATCH VIDEO](#)

The eGlycemic Management System® is a modularized solution for glycemic management across the care continuum that includes Glucommander™. Glucommander™ is a prescription-only software medical device for glycemic management intended to evaluate current as well as cumulative patient blood glucose values coupled with patient information including age, weight and height, and, based on the aggregate of these measurement parameters, whether one or many, recommend an IV dosage of insulin, glucose or saline or a subcutaneous basal and bolus insulin dosing recommendation to adjust and maintain the blood glucose level towards a configurable physician- determined target range. Glucommander™ is indicated for use in adult and pediatric (ages 2-17 years) patients. The measurements and calculations generated are intended to be used by qualified and trained medical personnel in evaluating patient conditions in conjunction with clinical history, symptoms, and other diagnostic measurements, as well as the medical professional's clinical judgment. No medical decision should be based solely on the recommended guidance provided by this software program.

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