MDN
Medical Decision Network, LLC

GLUCOSTABILIZER
INSULIN MANAGEMENT SOFTWARE

PATIENT
Unit: CCU Hyperglycemia

Doe, Jane

MRN	123
DOB	07/13/1990
Room	1
Today's Date	12/13/2017

Enter Glucose

Modify

Cover Carbs

Stop/Hold System

Next Blood Glucose due in

BG IS DUE NOW!

at 12:30

Current Order
as of 12/13/2017 11:30

• Start Insulin Infusion at 6.8 Units/hour

Insulin Infusion Status
as of 12/13/2017 11:30

Insulin Infusion Rate

6.8 Units/hour

| Last Glucose | Target Glucose Range |
| 400 | 140-180 |

| Multiplier | Carb Ratio |
| 0.02 | 10 |

Reduce the frequency, risk, and cost of hyperglycemia, hypoglycemia and glycemic varibility

GLUCOSTABILIZER® is integrated inpatient software for IV insulin management with the mission of improving glycemic control.

www.glucostabilizer.com

GLUCOSTABILIZER
INSULIN MANAGEMENT SOFTWARE

Insulin Management Software

- FDA clearance for Adult and Pediatric Population
- Treatment Modules for Hyperglycemic Crisis Patients e.g. DKA & HHS
- Calculates proper IV insulin dosage
- Decreases time required to achieve and maintain blood glucose targets
- Considers an individual patient's sensitivity to insulin
- Transition guidance for IV to subcutaneous insulin therapy
- Reduces errors often associated with paper protocols
- Includes safety features for hypoglycemia awareness
- Replaces multiple protocols and sliding scales with a standardized process
- Notifies nursing with audible and visual alerts for timely dosing adjustment
- Reduces rebound hypoglycemia with patient-specific recommendations for 50% dextrose

Benefits

Saves Nursing Time
- Shortens time to initiate infusions, resulting in reduced critical staff time and resources
- Optimizes workflow, increasing efficiencies, and reducing costs

Reduces Caregiver Workload
- Removes manual calculations
- Reduces documentation efforts through EMR interfacing and true networking capability
- Optimizes testing frequency in stabilized patients

Reduces Potential Errors
- Automates the calculation of an IV insulin dose resulting in reduced potential of dangerous dosing errors
- Uses a secure server, supplied or virtual, where glucose results can be entered and monitored from any computer that's on the hospital network for greater flexibility and maximum accessibility
- Allows you to move patients on a drip from surgery to ICU to step- down units easily

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Proven Technology

GLUCOSTABILIZER®
by the Numbers*

~215,000
of patients with Blood Glucose levels controlled

~6,800,000
of IV insulin doses administered

1.42%
% of blood glucoses <70mg/dL

0.05%
% of blood glucoses <40mg/dL

GLUCOSTABILIZER
INSULIN MANAGEMENT SOFTWARE

Streamlining the Treatment Process

More steps mean more errors | 8 out of 14 Paper Protocol steps have the potential for error.

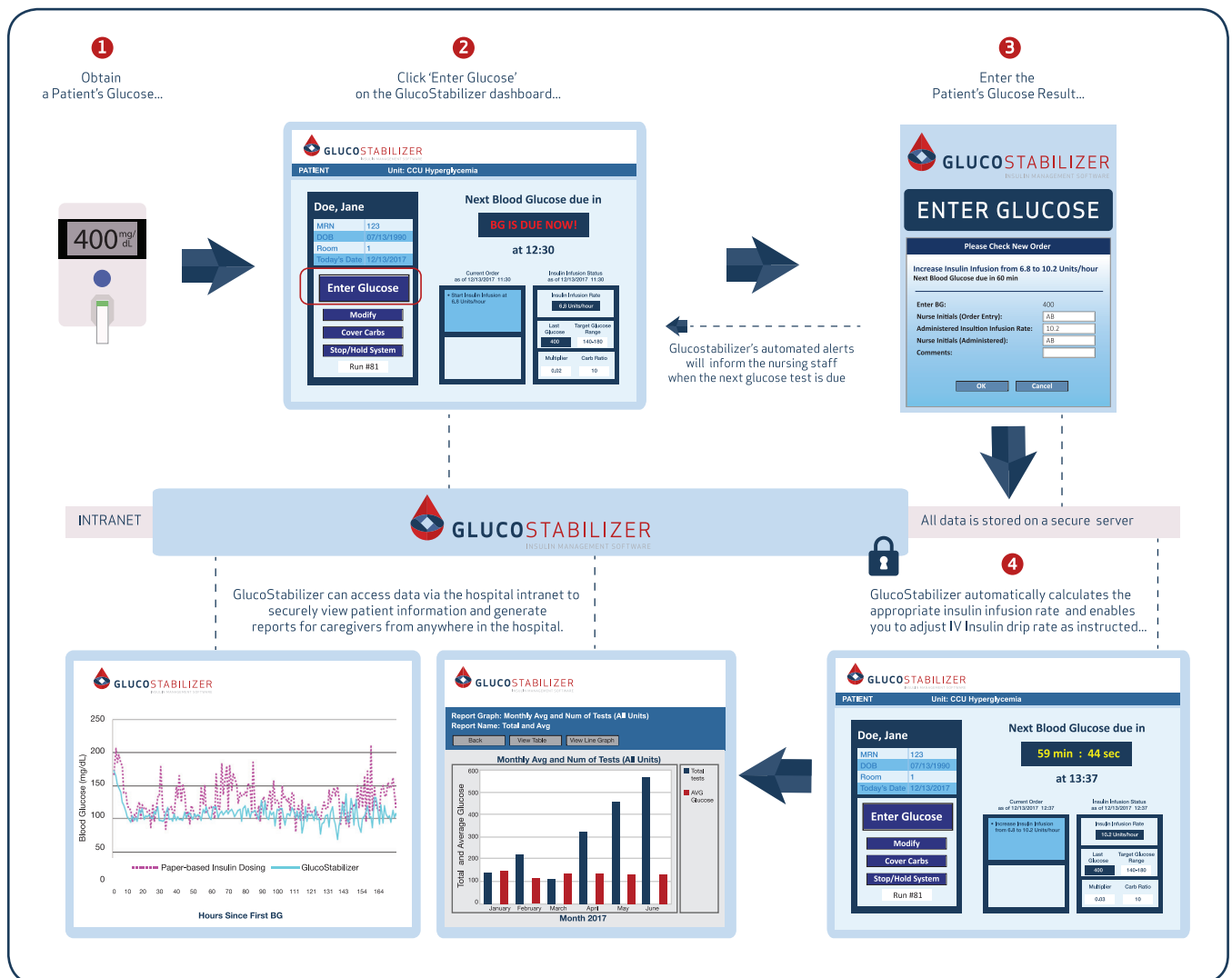**GLUCOSTABILIZER**   4 Steps

Paper Protocol   14 Steps

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |

STEPS

Easy to Use, True Network-Based Software

❶ Obtain a Patient's Glucose…

❷ Click 'Enter Glucose' on the GlucoStabilizer dashboard…

❸ Enter the Patient's Glucose Result…

400 mg/dL

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BG IS DUE NOW!
at 12:30

Current Order
as of 12/13/2017 11:30

Insulin Infusion Status
as of 12/13/2017 11:30

• Start Insulin Infusion at 6.8 Units/hour

Insulin Infusion Rate
6.8 Units/hour

Last Glucose	Target Glucose Range
400	140-180
Multiplier	Carb Ratio
0.02	10

Enter Glucose
Modify
Cover Carbs
Stop/Hold System
Run #81

Glucostabilizer's automated alerts will inform the nursing staff when the next glucose test is due

GLUCOSTABILIZER
INSULIN MANAGEMENT SOFTWARE

ENTER GLUCOSE

Please Check New Order

Increase Insulin Infusion from 6.8 to 10.2 Units/hour
Next Blood Glucose due in 60 min

Enter BG:	400
Nurse Initials (Order Entry):	AB
Administered Insulin Infusion Rate:	10.2
Nurse Initials (Administered):	AB
Comments:	

OK   Cancel

INTRANET

GLUCOSTABILIZER
INSULIN MANAGEMENT SOFTWARE

All data is stored on a secure server

GlucoStabilizer can access data via the hospital intranet to securely view patient information and generate reports for caregivers from anywhere in the hospital.

❹ GlucoStabilizer automatically calculates the appropriate insulin infusion rate and enables you to adjust IV Insulin drip rate as instructed…

GLUCOSTABILIZER

Blood Glucose (mg/dL)
250
200
150
100
50
0

0 10 20 30 40 50 60 70 80 90 100 111 121 143 154 164

•••• Paper-based Insulin Dosing   — GlucoStabilizer

Hours Since First BG

GLUCOSTABILIZER
INSULIN MANAGEMENT SOFTWARE

Report Graph: Monthly Avg and Num of Tests (All Units)
Report Name: Total and Avg

Back   View Table   View Line Graph

Monthly Avg and Num of Tests (All Units)

Total and Average Glucose
600
500
400
300
200
100
0

January February March April May June

■ Total tests
■ AVG Glucose

Month 2017

GLUCOSTABILIZER
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DOB	07/13/1990
Room	1
Today's Date	12/13/2017

Next Blood Glucose due in
59 min : 44 sec
at 13:37

Current Order
as of 12/13/2017 12:37

Insulin Infusion Status
as of 12/13/2017 12:37

• Increase Insulin Infusion from 6.8 to 10.2 Units/hour

Insulin Infusion Rate
10.2 Units/hour

Last Glucose	Target Glucose Range
400	140-180
Multiplier	Carb Ratio
0.23	10

Enter Glucose
Modify
Cover Carbs
Stop/Hold System
Run #81

GLUCOSTABILIZER
INSULIN MANAGEMENT SOFTWARE

Published Comparisons

Software-Guided Insulin Dosing Decreases Glycemic Variability in Critically Ill Patients

Patients whose intensive insulin infusions were managed using GLUCOSTABILIZER, compared to a traditional paper protocol:

1. Sustained tighter glycemic control
2. Spent more time within the blood glucose target range
3. Achieved a 2/3 decrease in time spent in the range of hypoglycemia
4. Achieved a significant decrease in glycemic variability
5. Were discharged from the ICU with a significantly reduced final blood glucose

	Paper (110)	Software (87)	P
Age	59	60	ns
APACHE II	16	15	ns
% Sepsis	35	39	ns
% Mortality	12	9	ns
Admission BG	156±60 mg/dL	181±45 mg/dL	<.01
Mean BG	135 mg/dL	117 mg/dL	<.001
Time in Target	52%	68%	<.001
Time <70mg/dL	1.44%	0.51%	<.01
BG Variability, SD	±42	±29	<.01
Final BG	145 mg/dL	99 mg/dL	<.001

Software-Guided Insulin Dosing Decreases Glycemic Variability in Critically Ill Patients, Stanley A. Nasraway, Jr, MD., FCCM.; Sharon Holewinski, RN; Alexis L. Nasraway; Gail L. Kongable, MSN, FNP, Tufts Medical Center; Tufts University School of Medicine, Boston, MA. Poster Presentation from the 2011 International Hospital Diabetes Meeting November 17-19, 2011, Barcelona, Spain.

Efficiency of GLUCOSTABILIZER vs. Paper Protocols

The table shown indicates the benefits of automating the insulin dosing process rather than using paper protocols. GLUCOSTABILIZER achieves patient glucose stability and reduces the required frequency of glucose testing. The table compares GLUCOSTABILIZER data to two published articles looking at nurse workload and performance related to glucose control protocols. **How does your hospital compare?**

Efficiency Parameters	Paper Protocol*	Paper Protocol**	GLUCOSTABILIZER***
ICU Patients- # used for calculation of subsequent data calculation	Not indicated in source	38	4,588
Total BG measurements (n)	77,954	454 (9-20/patient)	24,214
Time for Initiation of an infusion (minutes + SD)	Not indicated in source	32.56 + 12.83	8.2 + 3.2
Time for glucose measurement, insulin dose calculation and dose adjustment (minutes + SD)	4.72 + 1.13	10.65 + 3.24	3.2 + 1.1
Frequency of glucose testing reduced to Q2 hours	Not indicated in source	Not indicated in source	>54% of measures
Training Parameters	**Paper Protocol***	**Paper Protocol****	**GLUCOSTABILIZER****
Nursing Training time	35 minutes	35 minutes	10 minutes

*Aragon D, American Journal of Critical Care (July 2006);15:370-377 **Maleskar et al., American Journal of Critical Care (Nov 2007), 16(6): 589-598. ***Clarian Data, on file at Alere Informatics Solutions. These data were researched and produced by The Epsilon Group (www.epsilongroup.com) and published in the November 2008 issue of their Epsilon Evidentia newsletter.

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