



Medical Automation Systems



Computer Training

January 10, 2012

Denise Zito

Objectives

- Understand how intervention software works
- Understand how control software allows documentation
- Become familiar with the resources for help and questions
- Have fun!

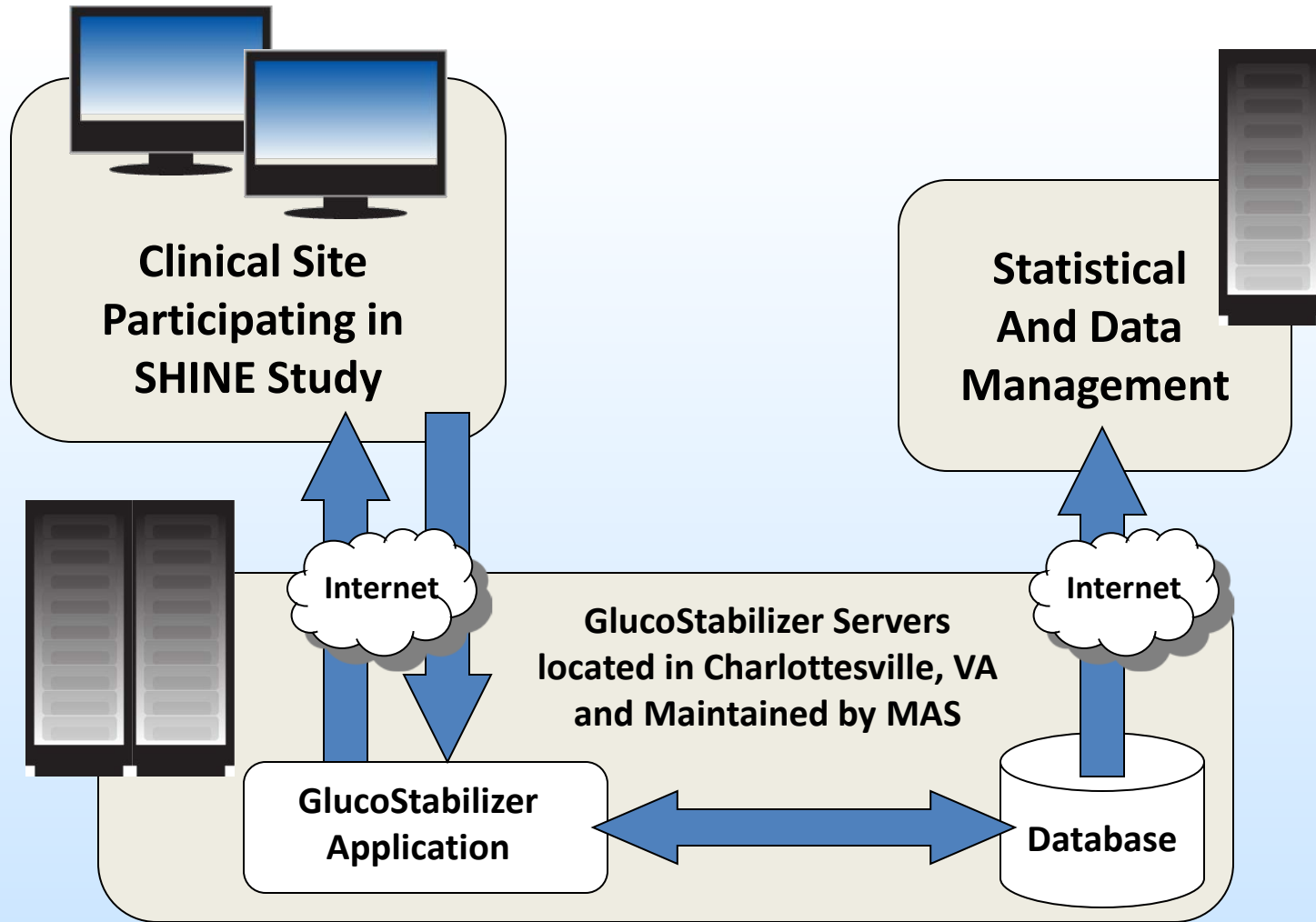
Outline for SHINE Computer Training

- Hour One
 - Become familiar with the computer
 - Overview of Intervention software
 - Practice session for Intervention arm
- Hour Two
 - Patient simulations intervention arm
 - Introduction to Control arm software
 - Patient simulations for Control arm

Outline (cont.)

- Hour Three
 - Intervention arm simulations
 - Control arm simulations
 - How to get help
 - Q & A

Schematic of System



GlucoStabilizer...

- Designed at Indiana University / Clarian Health
- Licensed by Medical Automation Systems, an Alere company
- Enhanced the functionality
- FDA cleared
- Over 65,000 patients covered
- Nurses accept the insulin recommendations over 99% of the time.

Each patient is different.

Algorithm adapts need for insulin

- New insulin drip rate is calculated using the formula

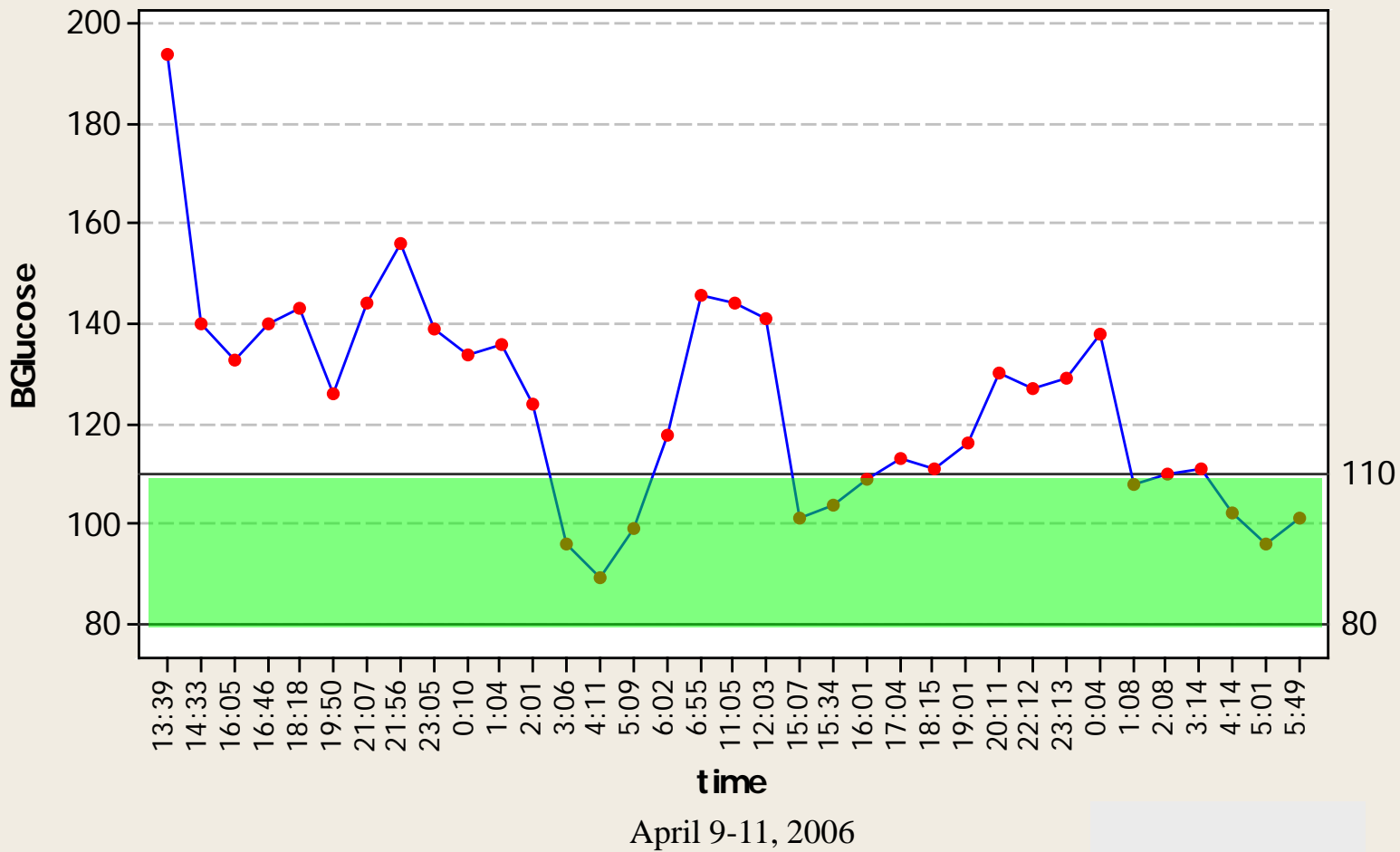
$$\text{units/hr} = (BG-60) \times \text{multiplier.}$$

- Initial multiplier defaults to 0.02
- Multiplier reflects insulin sensitivity
- Computer evaluates or modifies multiplier, based on these rules:
 - If BG is above target range, increase multiplier by 0.01
 - If BG is below target range, decrease multiplier by 0.01
 - If BG is in target range, no change in multiplier

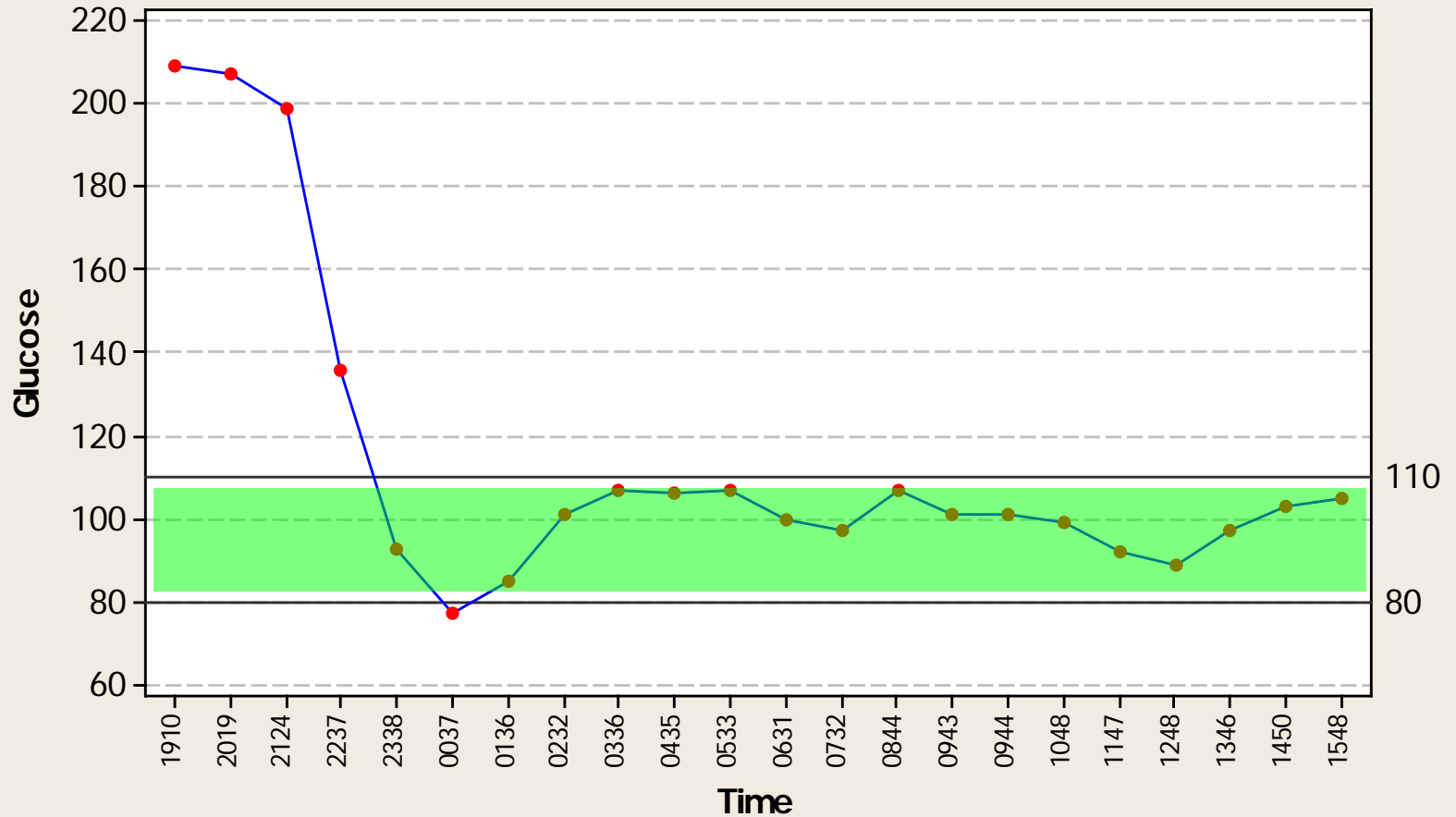
Other Rules going on in the background....

- If BG drops more than 50 mg/dL in one hour, multiplier will not increase even if BG is still above the high target
- If 3 of last 8 BGs are below target range, alert the nurse, decrease multiplier by 50%.

Time Series Plot of BGlucose--Old Process



Time Series Plot of Glucose--CGS drip run 32





SHINE Laptops

- Assigned to each site
- Records all interactions
- SHINE icon
- Videoclip



Getting Started

A screenshot of the SHINE Trial Portal interface. The background is dark blue. At the top center, the text "SHINE Trial Portal" is displayed in white. Below this, there are two rectangular buttons. The left button is orange and contains the text "Click Here for Control Group" in white. The right button is a lighter blue and contains the text "Click Here for Intervention Group" in white.

SHINE Trial Portal

Click Here
for
Control Group

Click Here
for
Intervention
Group

GlucoStabilizer™

INSULIN DOSING SOFTWARE

User ID:

Password:

LOG IN

GlucoStabilizer™

PATIENT

Unit: 5647

[Log Out](#)

Start New Drip

Resume



11/29/2011

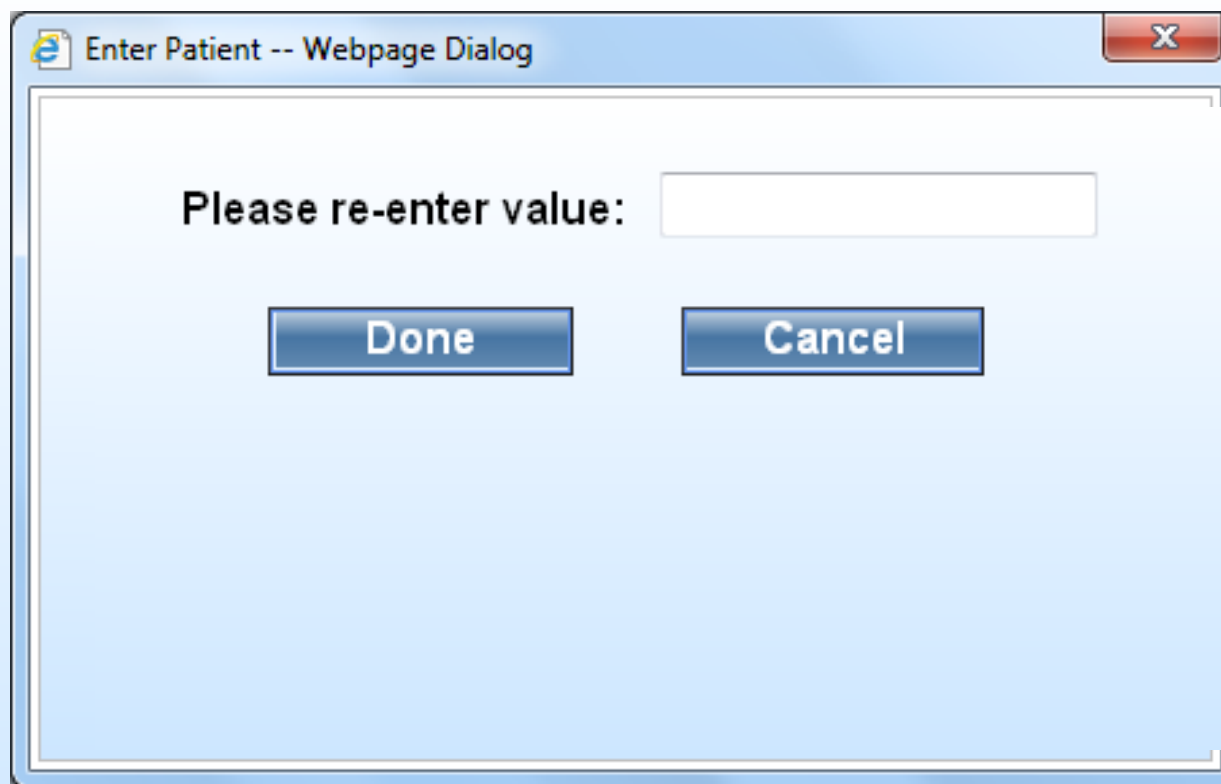
A large, empty rectangular area with a light blue gradient background, intended for patient data or drip settings.

Enter Patient -- Webpage Dialog

SHINE Subject ID:

Next **Cancel**

All numerical entries are double blind



All demographics are pre-populated

GlucoStabilizer™

Start New Insulin Drip Unit: Telemetry

Save Cancel

Patient Information

Medical Record #:	<input type="text" value="11"/>	Encounter #:	<input type="text" value="3567"/>
First Name:	<input type="text" value="SHINE"/>	Last Name:	<input type="text" value="Patient"/>
Date of Birth:	<input type="text" value="01/01/1900"/>	Gender:	<input type="text" value="Female"/>
Height:	<input type="text" value="1.00"/> Inches	Weight:	<input type="text" value="1.00"/> Lbs
	<input type="text" value="2.54"/> Cm		<input type="text" value="0.45"/> Kg
Room Number:	<input type="text" value="34"/>		
Attending Physician:	<input type="text" value="Crighton, Carol"/>		

Drip Settings

Multiplier:	<input type="text" value=".02"/>
(Insulin sensitivity factor (.02 = default))	
Low Target:	<input type="text" value="80"/>
(Low target BG)	
Hi Target:	<input type="text" value="130"/>
(High target BG)	
Cho Ratio:	<input type="text" value="10"/>
(Insulin:Carb ratio used to calculate prandial insulin)	

Just say 'No'

Would you like to change advanced setup?

No

Yes



PATIENT Unit: new unit

Enter Glucose Cover Carbs Stop/Hold System  

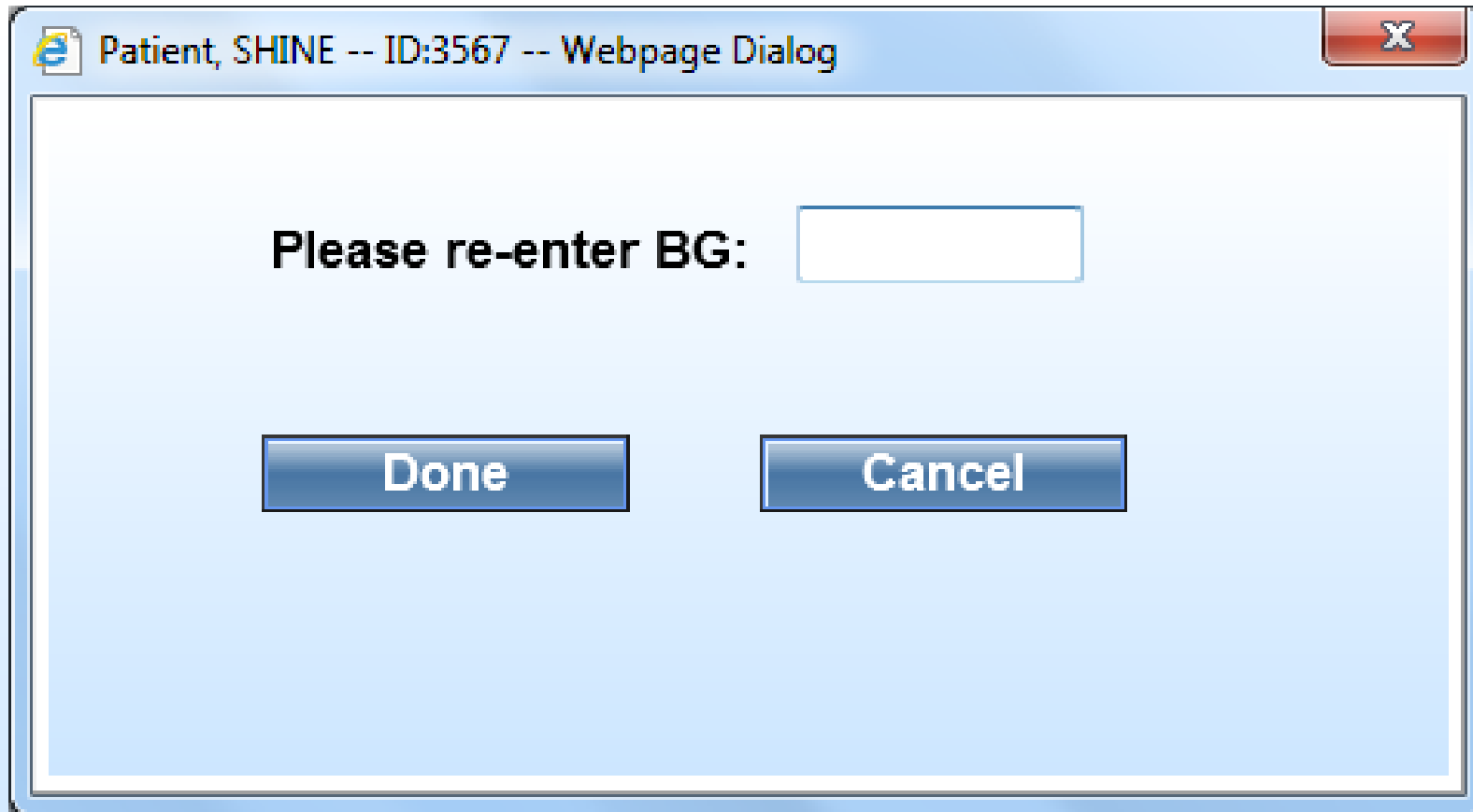
Patient, Name: SHINE SHINE Subject ID: 3567 Room: 0 12/14/2011 Run #: 294 DOB: 01/01/1900



Patient, SHINE -- ID:3567 -- Webpage Dialog


Enter BG:

Next Cancel




Please check new order

Start Insulin Infusion at 5.8 Units/hour
Next Blood Glucose due in 55 min

Entered BG: 350 

Nurse initials (Order Entry):

Administered Insulin Infusion Rate: 5.8 

Nurse initials (Administered):

Comments:



Patient, SHINE (GlucoStabilizer Version 2.0) - Windows Internet Explorer

GlucoStabilizer™ History Change Setup Drip Weaning

PATIENT Unit: Telemetry Lock Program

Enter Glucose Cover Carbs Stop/Hold System Modify [Print] [Tools] [Info]

Patient, Name: SHINE MRN: 11 Encounter #: 3567 Room: 34 12/14/2011 Run #: 42

CURRENT ORDERS AS OF Dec 14 2011 9:21AM

Start Insulin Infusion at 5.8 Units/hour

Next Blood Glucose due in 54 min : 54 sec

Insulin Infusion Status

Insulin infusion running at 5.8 Units/hour. Multiplier = 0.02

Next Blood Glucose due at 12/14/2011 10:16:29

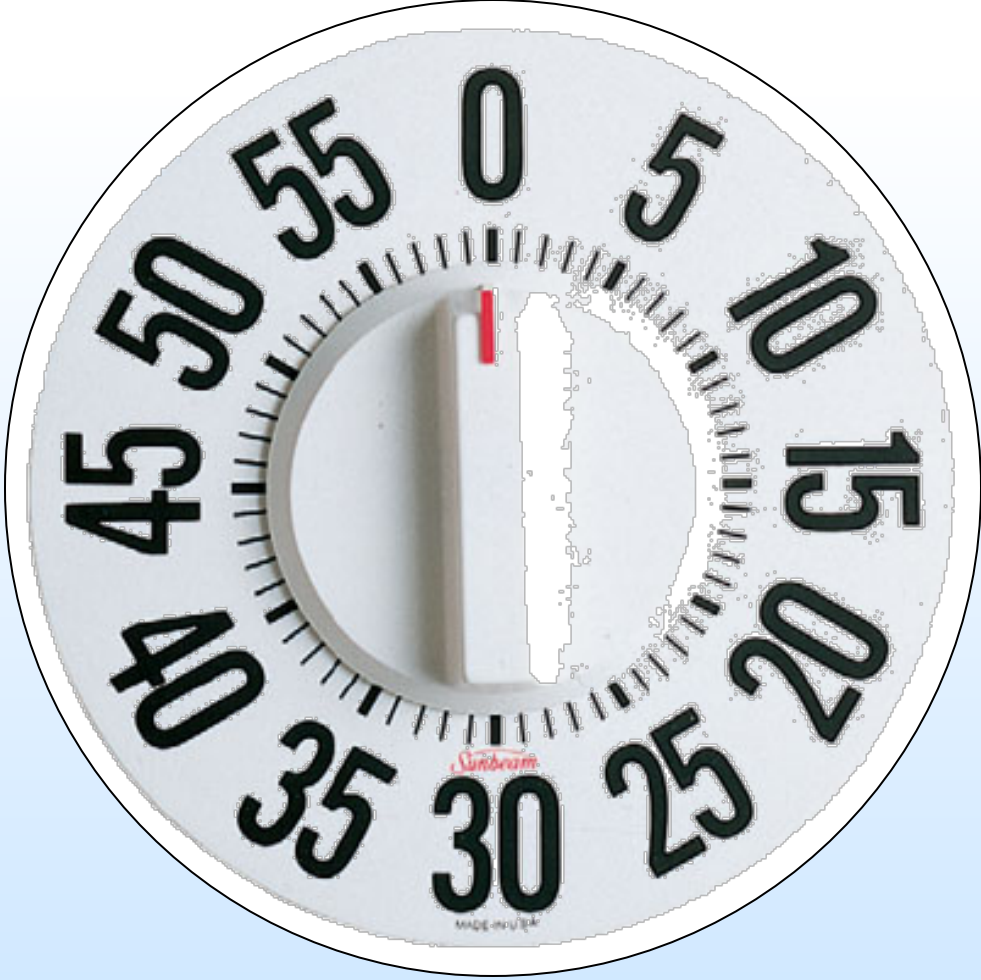
Last BG = 350

Target BG Range = 80 - 130

Carb Ratio = 10

Insulin Dose = (Blood Glucose - 60) x Multiplier







BG DUE!!! - Windows Internet Explorer

GlucoStabilizer™ Snooze History Change Setup Drip Weaning

PATIENT Unit: Telemetry Lock Program

Enter Glucose Cover Carbs Stop/Hold System Modify

Patient, Name: SHINE MRN: 11 Encounter #: 3567 Room: 34 12/14/2011 Run #: 42

CURRENT ORDERS AS OF Dec 14 2011 9:21AM

Start Insulin Infusion at 5.8 Units/hour

BG IS DUE NOW!!!

Insulin Infusion Status

Insulin infusion running at 5.8 Units/hour. Multiplier = 0.02

Next Blood Glucose due at 12/14/2011 10:16:29

Last BG = 350

Target BG Range = 80 - 130

Carb Ratio = 10

Insulin Dose = (Blood Glucose - 60) x Multiplier





Windows Internet Explorer - BG DUE!!!

GlucoStabilizer™ Snooze History Change Setup Drip Weaning

PATIENT Unit: Telemetry Lock Program

Enter Glucose Cover Carbs Stop/Hold System Modify Print Tools Info

Patient Name: SHINE MRN: 11 Encounter #: 3567 Room: 34 12/14/2011 Run #: 42

CURRENT ORDERS AS OF Dec 14 2011 9:21AM

[Start Insulin Infusion at 5.8 Units/hour](#)

BG IS DUE NOW!!!

Insulin Infusion Status

Insulin infusion running at 5.8 Units/hour. Multiplier = 0.02

Next Blood Glucose due at 12/14/2011 10:16:29

Last BG = 350

Target BG Range = 80 - 130


Carb Ratio = 10

Insulin Dose = (Blood Glucose - 60) x Multiplier




Enter BG:

Next **Cancel**



Please re-enter BG:

Done **Cancel**



Patient, SHINE -- MRN:11 -- Webpage Dialog

Please check new order

Increase Insulin Infusion from 5.8 to 7.5 Units/hour
Next Blood Glucose due in 55 min

Entered BG: 310

Nurse initials (Order Entry):

Administered Insulin Infusion Rate:

Nurse initials (Administered):

Comments:

Questions?

OPEN THE LAPTOP

Let's Try this Together

55 year old Caucasian male in the ED after collapsing at home. Blood glucose is 180 mg/dL. Evaluation confirms ischemic stroke, NIHSS score is 4 and he is enrolled in the SHINE trial and randomized to the intervention arm.

The randomization number is on the sheet in front of you.



Working Through the Example



GlucoStabilizer™

INSULIN DOSING SOFTWARE

User ID:

Password:

LOG IN

GlucoStabilizer™

INSULIN DOSING SOFTWARE

User ID:

Password:

LOG IN

GlucoStabilizer™

PATIENT

Unit: 5647

[Log Out](#)

Start New Drip

Resume



11/29/2011

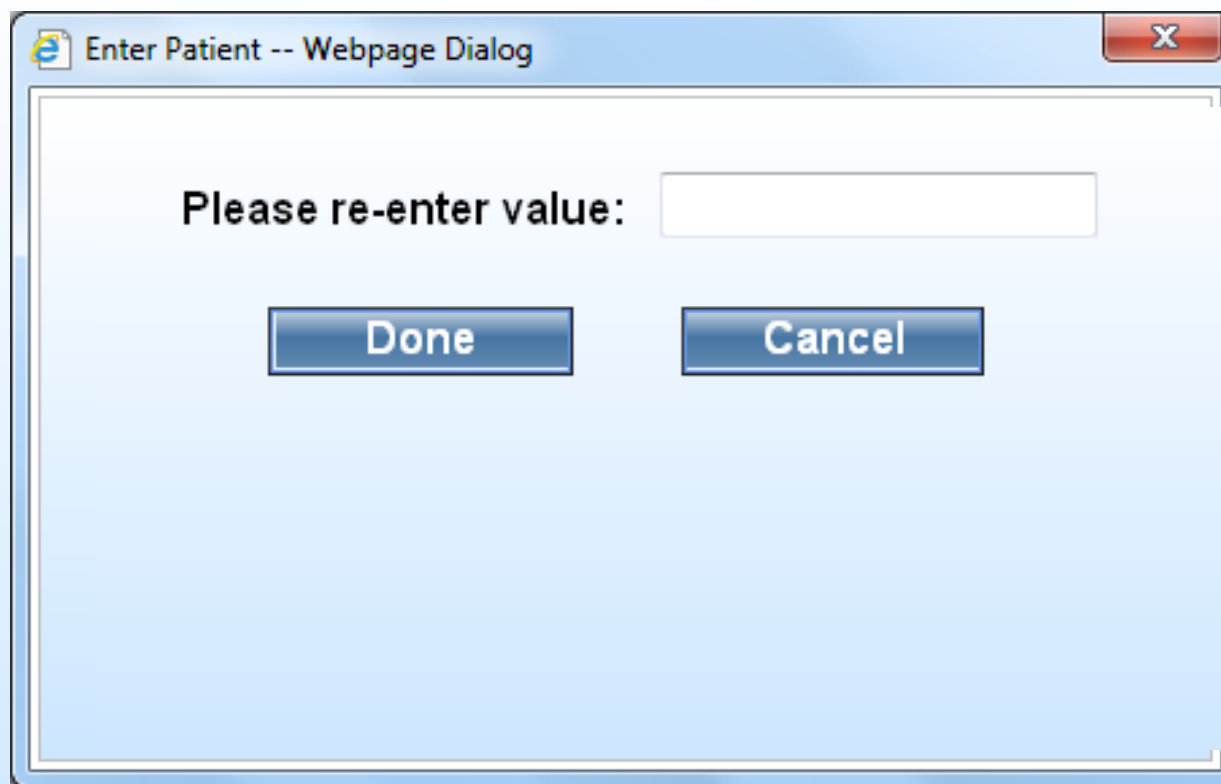
A large, empty rectangular area with a light blue gradient background, intended for patient data or drip settings.

Enter Patient -- Webpage Dialog

SHINE Subject ID:

Next **Cancel**

All numerical entries are double blind



All demographics are pre-populated

GlucoStabilizer™

Start New Insulin Drip Unit: Telemetry

Save Cancel

Patient Information

Medical Record #:	<input type="text" value="11"/>	Encounter #:	<input type="text" value="3567"/>
First Name:	<input type="text" value="SHINE"/>	Last Name:	<input type="text" value="Patient"/>
Date of Birth:	<input type="text" value="01/01/1900"/>	Gender:	<input type="text" value="Female"/> ▼
Height:	<input type="text" value="1.00"/> Inches	Weight:	<input type="text" value="1.00"/> Lbs
	<input type="text" value="2.54"/> Cm		<input type="text" value="0.45"/> Kg
Room Number:	<input type="text" value="34"/>		
Attending Physician:	<input type="text" value="Crighton, Carol"/> ▼		

Drip Settings

Multiplier:	<input type="text" value=".02"/>
(Insulin sensitivity factor (.02 = default))	
Low Target:	<input type="text" value="80"/>
(Low target BG)	
Hi Target:	<input type="text" value="130"/>
(High target BG)	
Cho Ratio:	<input type="text" value="10"/>
(Insulin:Carb ratio used to calculate prandial insulin)	

Just say 'no'

Would you like to change advanced setup?

No

Yes

Patient, SHINE -- ID:1111 -- Webpage Dialog

Enter BG:

Patient, SHINE -- MRN:11 -- Webpage Dialog

Please check new order

Start Insulin Infusion at 2.4 Units/hour
Next Blood Glucose due in 55 min

Entered BG: 180

Nurse initials (Order Entry):

Administered Insulin Infusion Rate:

Nurse initials (Administered):

Comments:



Patient, SHINE (GlucoStabilizer Version 2.0) - Windows Internet Explorer

GlucoStabilizer™ History Change Setup Drip Weaning

PATIENT Unit: Telemetry Lock Program

Enter Glucose Cover Carbs Stop/Hold System Modify [Print] [Tools] [Info]

Patient, Name: SHINE MRN: 11 Encounter #: 1111 Room: 11 12/14/2011 Run #: 44

CURRENT ORDERS AS OF Dec 14 2011 11:47AM

[Start Insulin Infusion at 2.4 Units/hour](#)

Next Blood Glucose due in 54 min : 56 sec

Insulin Infusion Status

Insulin infusion running at 2.4 Units/hour. Multiplier = 0.02

Next Blood Glucose due at 12/14/2011 12:42:44

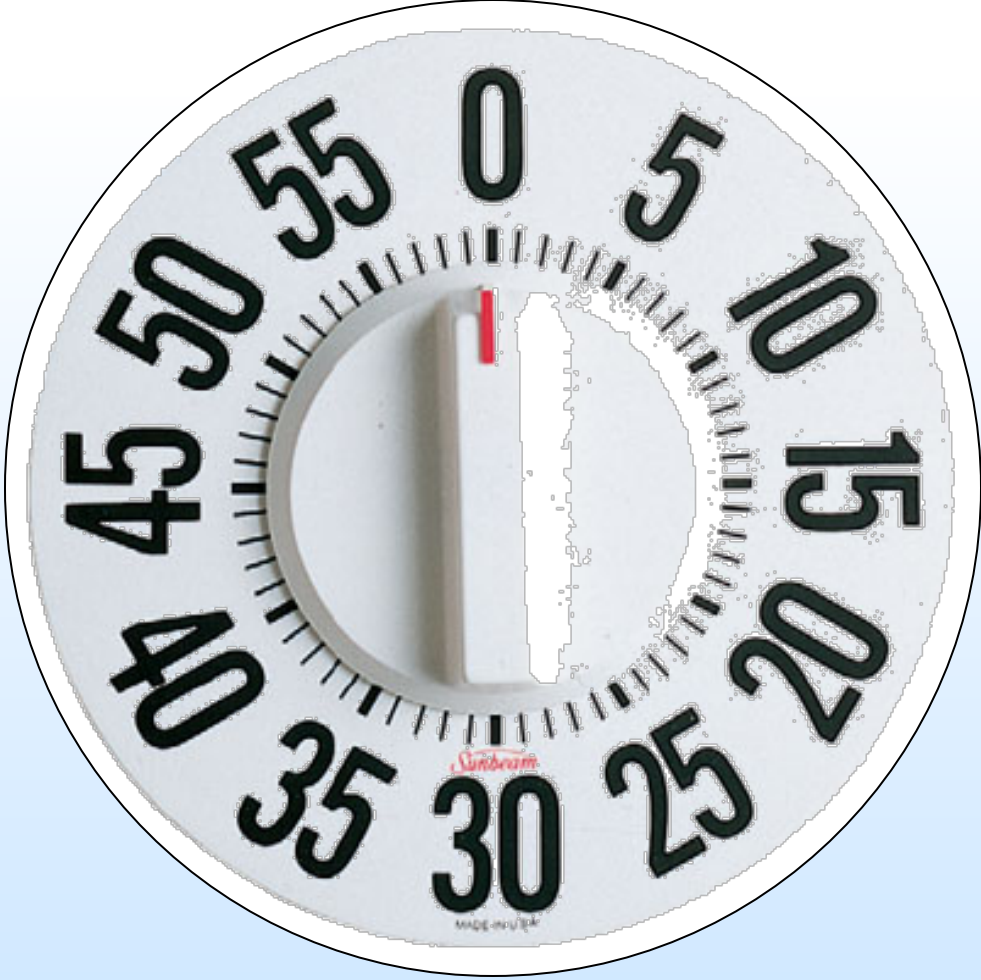
Last BG = 180

Target BG Range = 80 - 130

Carb Ratio = 10

Insulin Dose = (Blood Glucose - 60) x Multiplier





Windows Internet Explorer - BG DUE!!!

GlucoStabilizer™ Snooze History Change Setup Drip Weaning

PATIENT Unit: Telemetry Lock Program

Enter Glucose Cover Carbs Stop/Hold System Modify [Print] [Tools] [Info]

Patient, Name: SHINE MRN: 11 Encounter #: 1111 Room: 11 12/14/2011 Run #: 44

CURRENT ORDERS AS OF Dec 14 2011 11:47AM

Start Insulin Infusion at 2.4 Units/hour

BG IS DUE NOW!!!

Insulin Infusion Status

Insulin infusion running at 2.4 Units/hour. Multiplier = 0.02

Next Blood Glucose due at 12/14/2011 12:42:44



Last BG = 180

Target BG Range = 80 - 130

Carb Ratio = 10

Insulin Dose = (Blood Glucose - 60) x Multiplier



 Patient, SHINE -- MRN:11 -- Webpage Dialog 

Please re-enter BG:

Patient, SHINE -- MRN:11 -- Webpage Dialog

Please check new order

Increase Insulin Infusion from 2.4 to 4.2 Units/hour
Next Blood Glucose due in 55 min

Entered BG: 200
Nurse initials (Order Entry):

Administered Insulin Infusion Rate: 4.2
Nurse initials (Administered):

Comments:

GlucoStabilizer™

History

Change Setup

Drip Weaning

PATIENT

Unit: Telemetry

Lock Program

Enter Glucose

Cover Carbs

Stop/Hold System

Modify

**Patient,
Name: SHINE**

MRN: 11 Encounter #: 1111 Room: 11 12/14/2011 Run #: 44

CURRENT ORDERS AS OF Dec 14 2011 12:52PM

Increase Insulin Infusion from 2.4 to 4.2 Units/hour

Next Blood Glucose due in 54 min : 58 sec

Insulin Infusion Status

Insulin infusion running at 4.2 Units/hour. Multiplier = 0.03

Next Blood Glucose due at 12/14/2011 13:47:24

Last BG = 200

Target BG Range = 80 - 130

Carb Ratio = 10

Insulin Dose = (Blood Glucose - 60) x Multiplier



GlucoStabilizer™

History

Change Setup

Drip Weaning

PATIENT

Unit: Telemetry

Lock Program

Enter Glucose

Cover Carbs

Stop/Hold System

Modify



**Patient,
Name: SHINE**

MRN: 11 Encounter #: 1111 Room: 11 12/14/2011 Run #: 44

CURRENT ORDERS AS OF Dec 14 2011 12:52PM

Increase Insulin Infusion from 2.4 to 4.2 Units/hour

Next Blood Glucose due in 54 min : 58 sec

Insulin Infusion Status

Insulin infusion running at 4.2 Units/hour. Multiplier = 0.03

Next Blood Glucose due at 12/14/2011 13:47:24

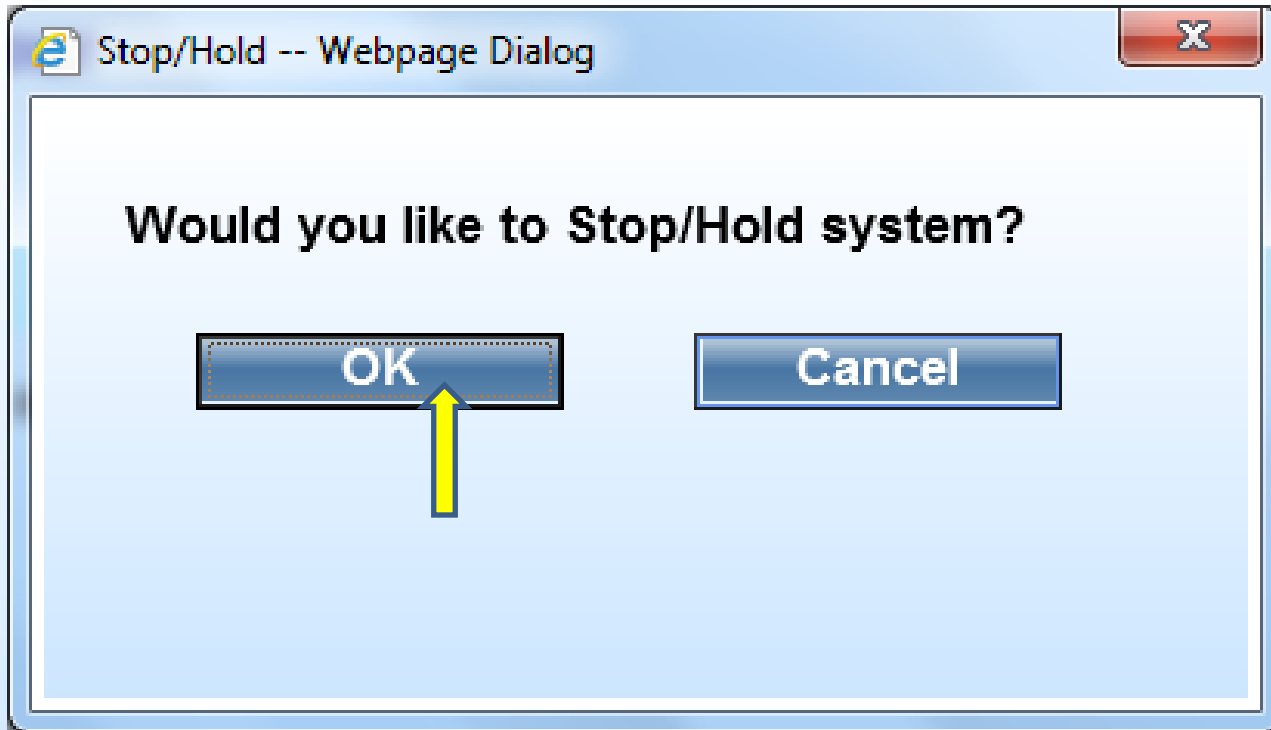
Last BG = 200

Target BG Range = 80 - 130

Carb Ratio = 10

Insulin Dose = (Blood Glucose - 60) x Multiplier







Medical Automation Systems

Questions?





Medical Automation Systems

Break



Patient 1

- **Simulation**

56 year old male in the ED after sudden right sided weakness. Evaluation confirms ischemic stroke and the NIHSS score is 8. Blood glucose is 345 mg/dL. He is enrolled in the SHINE trial and randomized to the intervention arm.

Patient 2

65 year old female with suddenly inability to speak. She arrives in the ED an hour after onset of symptoms and receives IV tPA treatment. Blood glucose is 266 mg/dL and the NIHSS score is 6. Ischemic stroke is confirmed and she is enrolled in the SHINE trial and randomized to the intervention arm.

Patient 3

70 year old male is seen by primary care physician for sudden slurred speech and hemiparesis. He arrives in ED 5 hours after onset of symptoms. Evaluation confirms ischemic stroke with NIHSS score of 12. Blood glucose is 180 mg/dL and he is enrolled in the SHINE trial and randomized to the intervention arm and goes for endovascular treatment.

Patient 4

62 year old male is transported to ED after a fall at work. He has severe weakness on the right side and aphasia. Ischemic stroke is confirmed and NIHSS is 20. Blood glucose is 161 mg/dL and he is enrolled in the SHINE trial and randomized to intervention arm.

Patient 5

49 year old female with history of diabetes and smoking has sudden slurred speech and facial droop. In the ED evaluation 7 hours after onset of symptoms confirms ischemic stroke. Blood glucose is 115 mg/dL and the NIHSS score is 5. She is enrolled in the SHINE trial and randomized to the intervention arm.



On to the Control Arm



Control Arm Software

- Intended to simulate a paper protocol
- For instruction and documentation
- No auto-calculations; No reminders

Getting Started

- Add log-in
- New patient
- Review protocol
- Add event
- Remove event
- Change date/time



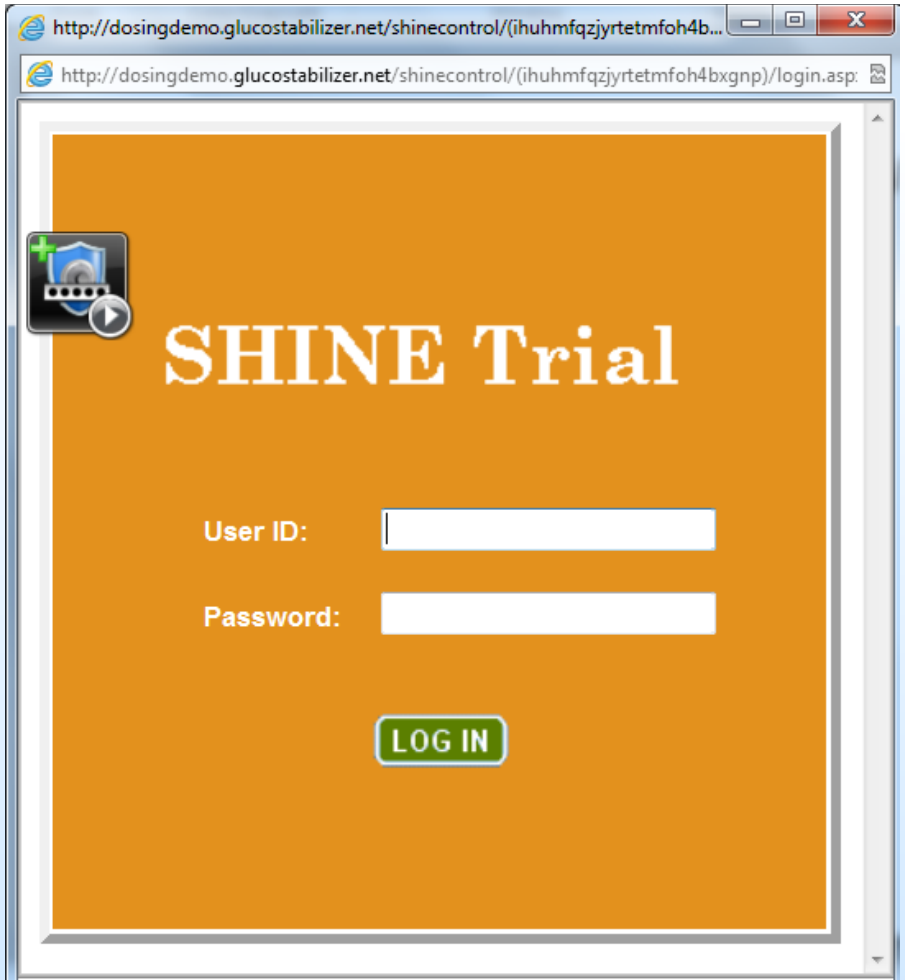
Getting Started

SHINE Trial Portal

Click Here for Control Group

Click Here for Intervention Group

A screenshot of a dark blue web portal titled "SHINE Trial Portal". It features two buttons: an orange button on the left labeled "Click Here for Control Group" and a blue button on the right labeled "Click Here for Intervention Group".



The screenshot shows a web browser window with the following details:

- Address bar: [http://dosingdemo.gluco stabilizer.net/shinecontrol/\(ihuhmfqzjyrtetmfo...](http://dosingdemo.gluco stabilizer.net/shinecontrol/(ihuhmfqzjyrtetmfo...)
- Page title: [http://dosingdemo.gluco stabilizer.net/shinecontrol/\(ihuhmfqzjyrtetmfoh4bxgnp\)/Form](http://dosingdemo.gluco stabilizer.net/shinecontrol/(ihuhmfqzjyrtetmfoh4bxgnp)/Form)
- Form content:
 - Label: **SHINE Subject ID:**
 - Input field: A white rectangular text box.
 - Buttons: Two blue buttons labeled **Next** and **Cancel**.
- Zoom level: 133%



Check finger stick glucose Q 1 hr for the first 4 hours, then Q 3hrs (3:00, 6:00, 9:00, 12:00, 15:00, 18:00, 21:00, and 24:00), but give sq insulin if indicated only 4/day (6:00, 12:00, 18:00, and 24:00)

IV Saline	SQ Human Regular Insulin (Humulin R or Novolin R) Sliding Scale			
Start at rate indicated below and adjust if indicated each time glucose is checked.	Start at Level 1. If at the end of the first 24 hours, the previous two glucose levels remain \geq 180mg/dL, advance to Level 2. If after 24 hours on Level 2, the previous two glucose levels remain \geq 180mg/dL, proceed to Level 3. In Level 3, give a one-time subcutaneous basal insulin injection (Glargine) at a dose equal to 40% of previous day's entire insulin dose and continue Level 2 insulin dose.			
mL/hr	Glucose (mg/dL)	Level 1 Insulin dose (units)	Level 2 Insulin dose (units)	Level 3 One time sq basal insulin (Glargine) and continue Level 2 Insulin dose (units)
5	>450	8	16	16
5	400-450	7	14	14
5	351-399	6	12	12
5	300-350	5	10	10
5	251-299	4	8	8
5	200-250	3	6	6
5	180-199	2	4	4
4	80-179	0	0	0
0	<80	See hypoglycemia protocol (Click Here)		

SHINE Subject ID: 1234

New Event

Remove

Hide Protocol

Logged In: Nurse

Unit: Test Unit 1A

Tools

Lock Program

Log Out

Date/Time	Glucose (mg/dL)	SubQ Insulin If Applicable (Units)	Saline Drip (Units/hour)	Basal Insulin (Glargine) (Units)	D50 (mL)	Notes
0 records						

<< < 1 > >>

Page 1 of 1

Local intranet



100%



New Event -- Webpage Dialog

http://dosingdemo.glucostabilizer.net/shinecontrol/(ihuhmfqzjyrtetmfoh4bxgnp)

Please enter values

Date:	<input type="text" value="11/22/2011"/>
Time:	<input type="text" value="14:21"/>
Glucose (mg/dl):	<input type="text"/>
SubQ Insulin (Units):	<input type="text"/>
Saline Drip (ml/hr):	<input type="text"/>
Basal Insulin (Glargine) (Units):	<input type="text"/>
D50 (mL):	<input type="text"/>
Notes:	<input type="text"/>

New Event -- Webpage Dialog

[http://dosingdemo.gluco stabilizer.net/shinecontrol/\(ihuhmfqzjyrtetmfoh4bxgnp\)](http://dosingdemo.gluco stabilizer.net/shinecontrol/(ihuhmfqzjyrtetmfoh4bxgnp))

Please enter values

Date:	<input type="text" value="11/22/2011"/>
Time:	<input type="text" value="14:23"/>
Glucose (mg/dl):	<input type="text" value="234"/>
SubQ Insulin (Units):	<input type="text" value="3"/>
Saline Drip (ml/hr):	<input type="text" value="5"/>
Basal Insulin (Glargine) (Units):	<input type="text" value="0"/>
D50 (mL):	<input type="text" value="0"/>
Notes:	<input type="text"/>

New Event -- Webpage Dialog

http://dosingdemo.gluco stabilizer.net/shinecontrol/(ihuhmfqzjyrtetmf0h4bxgnp)

Please enter values

Date:	<input type="text" value="11/22/2011"/>
Time:	<input type="text" value="14:21"/>
Glucose (mg/dl):	<input type="text"/>
SubQ Insulin (Units):	<input type="text"/>
Saline Drip (ml/hr):	<input type="text"/>
Basal Insulin (Glargine) (Units):	<input type="text"/>
D50 (mL):	<input type="text"/>
Notes:	<input type="text"/>

New Event -- Webpage Dialog

[http://dosingdemo.gluco Stabilizer.net/shinecontrol/\(ihuhmfqzjyrtetmfoh4bxgnp\)](http://dosingdemo.gluco Stabilizer.net/shinecontrol/(ihuhmfqzjyrtetmfoh4bxgnp))

Please enter values

Date:	<input type="text" value="11/22/2011"/>
Time:	<input type="text" value="14:23"/>
Glucose (mg/dl):	<input type="text" value="234"/>
SubQ Insulin (Units):	<input type="text" value="3"/>
Saline Drip (ml/hr):	<input type="text" value="5"/>
Basal Insulin (Glargine) (Units):	<input type="text" value="0"/>
D50 (mL):	<input type="text" value="0"/>
Notes:	<input type="text"/>

Patient 6

- **Simulations**

72 year old male in the ED 9 hours after sudden sensory loss on the right. Evaluation confirms ischemic stroke with NIHSS score of 7. Blood glucose is 221 mg/dL and he is enrolled in the SHINE trial and randomized to the control arm.



Check finger stick glucose Q 1 hr for the first 4 hours, then Q 3hrs (3:00, 6:00, 9:00, 12:00, 15:00, 18:00, 21:00, and 24:00), but give sq insulin if indicated only 4/day (6:00, 12:00, 18:00, and 24:00)

IV Saline	SQ Human Regular Insulin (Humulin R or Novolin R) Sliding Scale			
Start at rate indicated below and adjust if indicated each time glucose is checked.	Start at Level 1. If at the end of the first 24 hours, the previous two glucose levels remain ≥ 180 mg/dL, advance to Level 2. If after 24 hours on Level 2, the previous two glucose levels remain ≥ 180 mg/dL, proceed to Level 3. In Level 3, give a one-time subcutaneous basal insulin injection (Glargine) at a dose equal to 40% of previous day's entire insulin dose and continue Level 2 insulin dose.			
mL/hr	Glucose (mg/dL)	Level 1 Insulin dose (units)	Level 2 Insulin dose (units)	Level 3 One time sq basal insulin (Glargine) and continue Level 2 Insulin dose (units)
5	>450	8	16	16
5	400-450	7	14	14
5	351-399	6	12	12
5	300-350	5	10	10
5	251-299	4	8	8
5	200-250	3	6	6
5	180-199	2	4	4
4	80-179	0	0	0
0	<80	See hypoglycemia protocol (Click Here)		

SHINE Subject ID: 1234

New Event

Remove

Hide Protocol

Logged In: Nurse

Unit: Test Unit 1A

Tools

Lock Program

Log Out

Date/Time	Glucose (mg/dL)	SubQ Insulin If Applicable (Units)	Saline Drip (Units/hour)	Basal Insulin (Glargine) (Units)	D50 (mL)	Notes
0 records						

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Page 1 of 1

Local intranet



100%



Patient 7

81 year old female with history of diabetes and hypertension is suddenly unable to speak. She arrives in the ED an hour after onset of symptoms and is treated with IV tPA. Blood glucose is 138 mg/dL and the NIHSS score is 13. She is enrolled in the SHINE trial and randomized to the control arm.

Patient 8

94 year old male is seen by primary care physician for sudden slurred speech and hemiparesis. He arrives in ED 6 hours after onset of symptoms. Evaluation confirms ischemic stroke with glucose of 255 mg/dL and NIHSS score of 11. He is enrolled in the SHINE trial and randomized to the control arm.

Patient 9

61 year old diabetic male arrives in ED after a fall at work. He has severe weakness on the right side and the NIHSS score is 18. Blood glucose is 309 mg/dL. Evaluation confirms ischemic stroke and he is enrolled in the SHINE trial, randomized to the control arm, and undergoes endovascular stroke treatment.

Patient 10

51 year old female with history of hypertension and smoking has sudden difficulty seeing to the left. Evaluation in the ED 10 hours after onset of symptoms confirms ischemic stroke with NIHSS score 6. Blood glucose is 192 mg/dL. She is enrolled in the SHINE trial and randomized to the control arm.



Medical Automation Systems

Questions?



Break

Desktop Item Review

- Detailed instructions are in the MOP
- Quick Guides on the SHINE website
- Videoclips in the help folder on laptop



Medical Automation Systems

More Practice!



Patient 11

85 year old male is in the ED 4 hours after collapsing. Evaluation confirms ischemic stroke with NIHSS score 19. Blood glucose is 171 mg/dL. He is enrolled in the SHINE trial and randomized to the intervention arm.



Patient 12

61 year old female suddenly loses the ability to speak. She arrives in the ED an hour after onset of symptoms, has an NIHSS of 3 and is treated with IV tPA. Her blood glucose is 336 mg/dL. She is enrolled in the SHINE trial and randomized to the intervention arm.

Patient 13

78 year old male is seen by primary care physician for sudden slurred speech. He arrives in the ED 10 hours after onset of symptoms and the NIHSS score is 4. Evaluation confirms ischemic stroke. Blood glucose is 288 mg/dL. He is enrolled in the SHINE trial and randomized to the intervention arm.

Patient 14

- **What happens in hypoglycemia?**

98 year old male enrolled in the SHINE trial and randomized to the intervention arm. Later his blood glucose drops to 68 mg/dL.

Patient 15

- **What if I have to Stop and Restart a Drip?**

88 year old female with diabetes was enrolled in the SHINE trial and randomized to the intervention arm. Soon after that she goes for an MRI scan and the study infusion is interrupted for 90 minutes.

Patient 16

- **Control Arm Practice**

48 year old male is in the ED 3 hours after sudden onset of left-sided weakness with NIHSS score of 10. Evaluation confirms ischemic stroke. Blood glucose is 202 mg/dL. He is enrolled in the SHINE trial and randomized to the control arm.

Patient 17

50 year old female has sudden numbness. In the ED 3 hours after onset of symptoms the NIHSS score is 3. Blood glucose is 266 mg/dL. Ischemic stroke is confirmed and she is enrolled in the SHINE trial and randomized to the control arm.

Patient 18

74 year old male is seen in the ED for sudden onset of slurred speech. Seven hours after onset of symptoms his NIHSS score is 8. Evaluation confirms ischemic stroke, the blood glucose is 392 mg/dL, and he is enrolled in the SHINE trial and randomized to the intervention arm.

Patient 19

- **Hypoglycemia?**

64 year old male is enrolled in the SHINE trial and randomized to the control arm. Later on his blood glucose drops to 66 mg/dL.

Patient 20

- **Accidentally shut down the computer?**

80 year old woman is enrolled in the SHINE trial and randomized to the control arm. Later on the SHINE computer power is accidentally turned off.

What if.....

- I shut down the program
- I didn't document in the control arm
- I can't get to the Internet
- I have other questions

- **DON'T LEAVE YET PLEASE**



CHANGE YOUR CLOCK BACK TO YOUR HOSPITAL TIME ZONE

- Do you have YOUR computer?
- Did you change your time?
- Did you log out?
- Do you know how to get help?
- Did you have fun?





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