

Tight Glycemic Control

Demands on a POCT Program

Herald Waldon

Point-of-Care Testing Coordinator
Florida Hospital



Florida Hospital System

- Seven Hospitals in the Central Florida Tri-County area
- 1900 Beds in this system
- Our Host computer system is Seimans
- Our Lab System is Mysis
- RALS POC data management system.



FH Blood Sugar Program

- Over 900,000 Glucose's Annually
- 287 Accucheck Inform meters in use
- Over 6700 operator
- All managed by the RALS-Plus data managers system.



Where To Begin

Begin by finding out who in your facility is leading out in the implementation of TGC. Become a part of that part of that team. Get a clear understanding of the needs and expectations that are being placed on you as POCC and the laboratory as a whole.



Questions To Be Considered.

- Will we be doing more test at the bedside?
- Will we need more bedside meters?
- How accurate are the bedside meters?
- How will we know it's working?



More Testing

In most protocols you can expect glucose testing to be performed every hour until the patient reaches the target established by the protocol. Once the target is reached testing still remains at a high level to insure patients glucose remains below the established target.



Increase In Testing

- CVICU June 2003
3465

- CVICU June 2004
5685

- CVPCU June 2003
2423

- CVPCU June 2004
3928



More Instrumentation

Because of the increase in the number of test, and the frequency of testing. Coupled the number of patients on protocol. The need for additional test equipment increases.



Instrument Before Protocol

CVICU, which is a 28 bed unit, had 6 meters, 1 meter for every 4.7 patients.

CVPCU, which is a 65 bed unit, had 6 meters, 1 for every 10.6 patients.



Instrumentation After Protocol

CVICU now has 12 meters, 1 meter for every 2.3 patients.

CVPCU now has 10 meters, 1 meter for every 6 patients.



Method Comparison

You must do a thorough comparison of your POC analyzer with your instrument in the clinical laboratory. This will insure that a patient is getting that same quality of testing at POC as the would from the main lab. It also builds in both the nurses and the physicians confidence in the results obtained from your Glucose meter.



Analyzer Validation

- AMR - Range in which the analyzer can directly measure.
- Linearity - Should be done with each new lot of reagents or when a new analyzer is put into use.
- Precision Studies
- Comparison of unknown samples.



Operators

Operators should be well trained in the use of the glucose meter. They should be trained in the proper technique of collecting blood samples. Dosing the glucose strips and operating the analyzers. And what should be done in case an error occurs. The improper use of the testing material could have an adverse effect on a TGC program.



Patient Identification

In the day and age of Patient Safety, it is important to have in place a system to identify patient through the meters. A bar-code system using the patient account number or the patients MRI number is a safe and easy way to identify the patient being tested. Bar-coding patient's armbands makes testing easy.

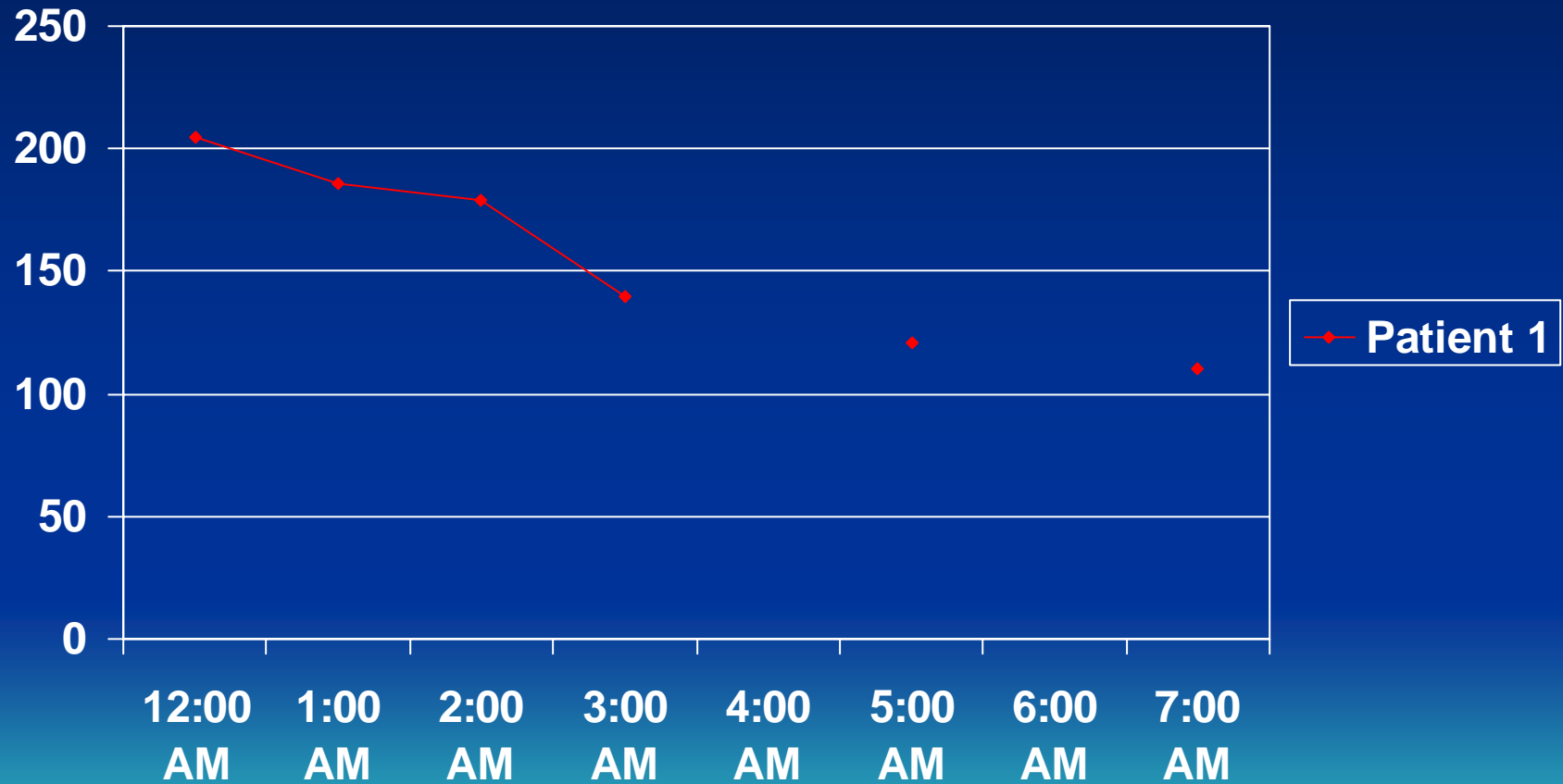


Data Gathering

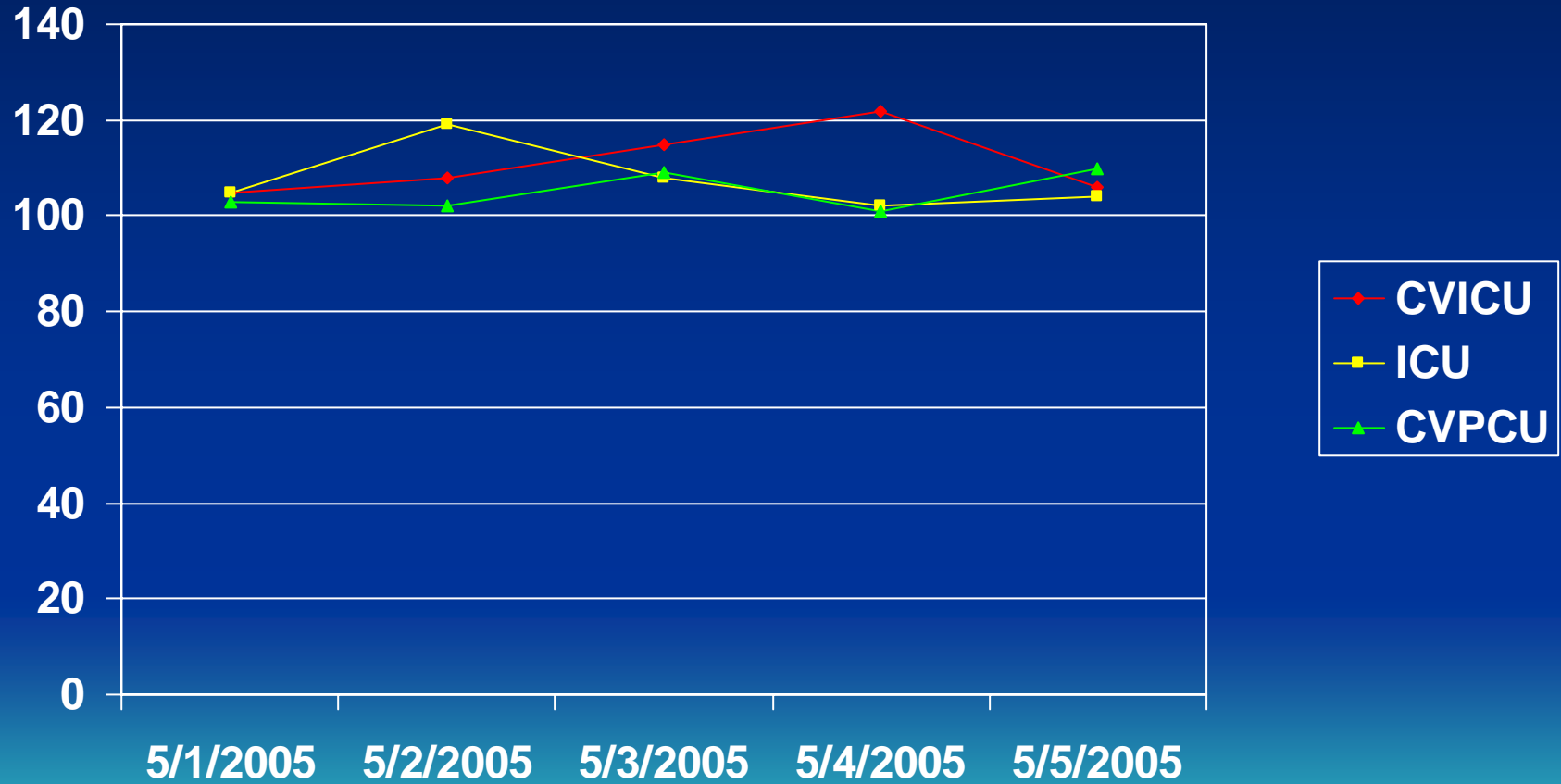
Data gathering is important to determine if the protocol is having the desired affect. Having a good data manager for your glucose system is important. Being able to review patient data in a timely fashion allows the necessary changes in a patients treatment for a more desirable outcome.



Patient Daily Report



Unit Comparison

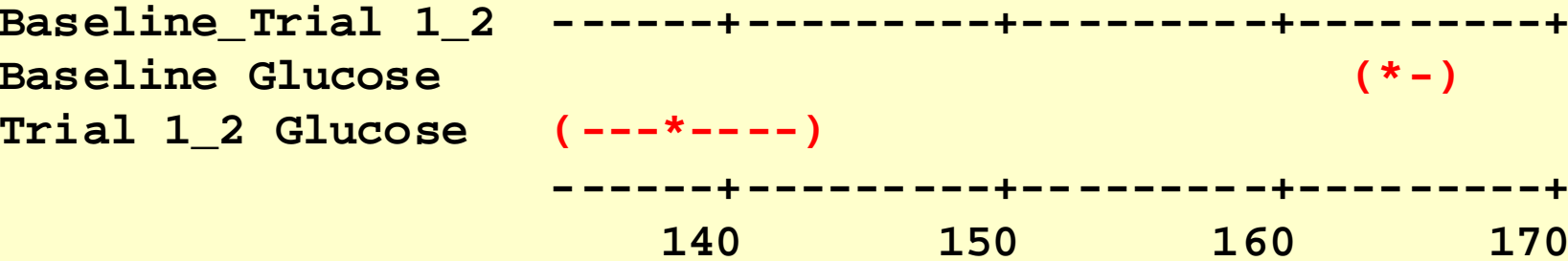


Mood Median Test: Base_Trial 1_2 Glucose versus Baseline_Trial 1_2

Mood median test for Base_Trial 1_2 Glucose
 Chi-Square = 53.92 DF = 1 P = 0.000

Baseline_Trial 1_2	N<=	N>	Median	Q3-Q1
Baseline Glucose	3881	3953	164.0	76.0
Trial 1_2 Glucose	323	161	138.0	65.8

Individual 95.0% CIs



Conclusion

- There will be an increase in glucose testing as a result of the protocol.
- Because of the increase more analyzers will be needed to cover the area where the protocol was instituted.
- Precision and Accuracy of your analyzer is critical in the monitoring of patient glucose's on protocol.



Conclusion

- Operator technique is critical when monitoring patients on protocol.
- Having a good means of collecting data is also very important when trying to determine if the protocol is achieving the desired affect.

