

Blood Glucose Meters

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Abstract—Biomedical Engineers are developing new and advanced types of blood glucose meters to help people with diabetes monitor the level of glucose in their blood.

I. INTRODUCTION

The Blood Glucose Meter is an instrument used for diabetics to maintain their blood level so that they do not fall sick or ill. Glucose Testing is a important and vital part of a diabetics daily health care. Without testing, a diabetic can become sick because their glucose levels are not where they need to be. Using a glucose-testing meter, which uses a glucose-testing strip, does glucose testing. A glucose meter is used to determine the approximate concentration of glucose in the blood.

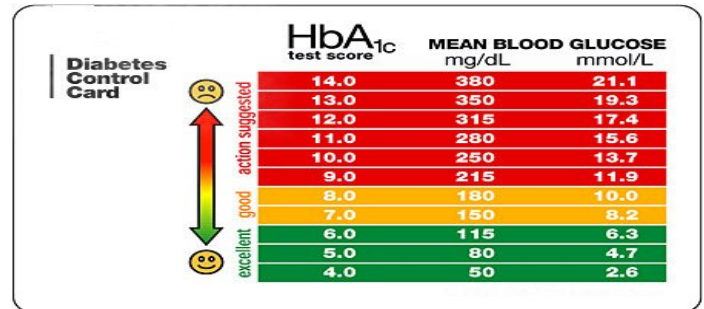
II. METHODS

To test for glucose one must drop a sample of blood by placing it on the strip. Poking the skin with a needle called a lancet does this. The lancet pricks the finger, which allows the sample of blood to flow right onto the glucose strip. In each test strip there is a chemical called glucose oxidase, which once the blood sample has made it on to the glucose strip, a device called a glucose meter is used to measure the glucose in the blood. In each test strip, there is a chemical called glucose oxidase. This glucose oxidase reacts with the glucose in the blood sample and is created into an acid called gluconic acid. This current is then able to read and determine how much glucose is in the sample of blood on the testing strip. The number is then relayed on the screen of the glucose-testing meter.



III. RESULTS

The blood glucose monitors have proven to be quite accurate at determining the approximate glucose levels in the bloodstream. However if you use your glucose monitor improperly it can produce results that are inaccurate. The glucose meter is a key element in monitoring diabetes can help test if the blood sugar is too high or low. Glucose meters are small and can fit in the palm of a hand.



IV. DISCUSSION

Glucose Meters are mostly accurate but engineers are constantly finding new problems with them, which they are using to help to make the next glucose meter more innovative and useful. The future for Glucose Meters is providing a device with precise accuracy, easy to use, affordable, and new software to detect any problems a diabetic may be having. The cost of a Glucose meter is anywhere from 25 dollars too the most advanced meter costing about 500 dollars. Engineers and scientist are now working on a brand new future glucose meter that is expected to be released during 2013. It will be faster, cleaner, and pain free compared to other devises and run on battery. The future glucose meter should consist of a pain free meter that requires a minimal amount of blood to test the glucose level to see whether the blood level is high or low.



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