

A1cNow[®] InView[™]: A New Simple Method for Office-Based Glycohemoglobin Measurement

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Abstract

Background:

Glycohemoglobin A1c (HbA1c) is a universally accepted tool for glycemic control. Portable HbA1c devices for use in physicians' offices are desirable because they provide immediate results that physicians can share with their patients. This has been shown to enhance self-management in patients with diabetes. We undertook this study to evaluate the accuracy and precision of a recently introduced device, the A1cNow[®] InView[™] capillary monitor.

Method:

Previously tested EDTA-preserved whole blood samples from our laboratory pool were preselected based on the results of HbA1c to cover a range from 4 to 13%. HbA1c was then measured using an A1cNow InView capillary monitor. Blinded aliquots of these samples were then sent to a National Glycohemoglobin Standardization Program (NGSP)-certified reference laboratory for comparison. One sample with a laboratory HbA1c result of 9.2% was measured with the InView device nine successive times to assess the device precision. The consistency between the measurement of HbA1c measured by the reference laboratory and the A1cNow InView device was analyzed via linear regression.

Results:

Thirty-five samples were tested. The correlation between HbA1c measured by the InView device and the reference laboratory, as well as our own laboratory, was 0.96. The coefficient of variation was 2.71%.

Conclusions:

Results of this study confirm the accuracy and precision of the InView capillary HbA1c monitor. However, the feasibility, reproducibility, and cost-effectiveness of this promising device in the real-life settings of physicians' offices must be verified by prospective clinical studies.

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Abbreviations: (CV) coefficient of variation, (HbA1c) glycohemoglobin A1c, (NGSP) National Glycohemoglobin Standardization Program

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