

Quality Control of Self-Monitoring of Blood Glucose: Why and How?

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Abstract

The control of analytical quality of self-monitoring of blood glucose (SMBG) is recommended as a routine procedure in diabetes management. This control procedure should be easily accessible to patients, convenient, not time-consuming, and provide a reliable assessment of glucose meter performance. Optimally it should be located in the diabetes outpatient clinic. Presently there are two approaches to carrying out SMBG quality control. The first is based on the comparison of results obtained by a controlled glucose meter and use of the laboratory method or point-of-care testing device as a surrogate reference analyzer. The second one is a traditionally organized external quality assessment scheme with use of a dedicated control material, which is distributed to all participants. The recommended allowable meter error in SMBG can be realistically set at 10%.

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Abbreviations: (ADA) American Diabetes Association, (CV) coefficient of variation, (EQAS) external quality assessment scheme, (INSTAND) Institute of Standardization and Documentation, (ISO) International Organization for Standardization, (NCCLS) National Committee of Clinical Laboratory Standards, (POCT) point-of-care testing, (SMBG) self-monitoring of blood glucose

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