

5 July, 2011

The following letter is from the chair of the Working Party on HbA1c Units of Reporting, Dr Graham Jones. The AACB endorses the introduction of dual reporting of HbA1c in % units and SI units.

Dear Pathologist or Laboratory Scientist,

Re: Introduction of Dual Reporting of HbA1c in % units and SI units (mmol/mol)

The Royal College of Pathologists of Australasia (RCPA) and the AACB, together with the Australian Diabetes Educators Association (ADEA) and the Australian Diabetes Society (ADS) have recommended the dual reporting of HbA1c in both % units (aligned with NGSP values) and Système International (SI) units of mmol/mol (also known as IFCC units).

This recommendation was formally published in The Medical Journal of Australia on 4th July, 2011 (http://www.mja.com.au/public/issues/195_01_040711/jon10186_fm.html). All Australian pathology laboratories are requested to commence dual reporting, if this is not already being done. Dual reporting is recommended for 2 years, to be followed by a move to reporting in SI units only.

This recommendation is in response to an international consensus statement (Hanas 2010) and the rationale has been explained in a document on the AACB website (Goodall 2010).

The key reasons for implementing this recommendation in Australia are as follows:

- the SI units relate to a scientifically valid measure of HbA1c;
- the SI units remove potential confusion between the numbers for HbA1c values as a percentage and blood glucose values in mmol/L;
- the change is in keeping with the international consensus statement; and
- the change has already been initiated in New Zealand and a number of countries in the European Union.

Updates will be made to the College Manual (www.rcpamanual.edu.au) and Lab Tests On-line (www.labtestsonline.org.au) and the change will be supported with educational material from the ADEA and the ADS.

Yours sincerely,



Leslie Burnett FRCPA MAACB
President, AACB

Encl.

Introduction of Dual Reporting of HbA1c in % units and SI units (mmol/mol)

Details of required laboratory procedures:

Analysis

Results can be generated using an IFCC calibration, with the NGSP results derived as follows: $\text{HbA1c unit (\%, NGSP)} = 0.09148 \times (\text{SI unit, mmol/mol}) + 2.152$

Results can be generated using an NGSP calibration, with the SI/IFCC units derived as follows: $\text{SI HbA1c unit (mmol/mol)} = 10.93 \times \text{NGSP unit (\%)} - 23.50$

All manufacturers should be able to provide information regarding calibration for generation of IFCC/SI units and also be able to produce results in both units.

Reporting

The test name should be reported on two separate lines, with the sequence on the page being old test (%) first and new test (mmol/mol) below. The "HbA1c" result is reported in % (NGSP) units to 1 decimal place. The "HbA1c (IFCC)" result is reported with SI units (mmol/mol) to no decimal places.

The LOINC code for HbA1c in mmol/mol is 59261-8. The ability of doctors' desktop software packages to receive this code is unknown at this time but will need to be addressed.

All supporting material relating to HbA1c such as footnotes, handouts, laboratory manuals and web pages should include both units. Additional information can be made available by links to the AACB website (www.aacb.asn.au) as well as to the MJA article once published. A unit conversion calculator has been built on the QAAMS website: www.qaams.org.au/HbA1c%20unit%20converter%20v2.htm. Links to other information will be publicised as they become available.

Any point of care testing devices with facility for dual reporting should be set up to report results on both formats.

Please also note that there have been revised targets for HbA1c therapy based on individual patient status (*Med J Aust* 2009;**191**:339-344) and laboratories should promote these guidelines for interpretation of HbA1c. These guidelines are reproduced in dual units in the upcoming publication.

The Working Party welcomes any feedback or comments you may have.

Contact details for Dr Graham Jones (Working Party Chair) are:

gjones@stvincents.com.au

References

Goodall I. 2010 Recommended Changes in HbA1c Reporting Units for Australian Laboratories (www.aacb.asn.au/admin/?getfile=2802)

Hanas R, John G. 2010 Consensus Statement on the Worldwide Standardization of the Hemoglobin A1c Measurement. *Clin Chem* 2010;**56**:1362-4.

Jones GRD, Barker G, Goodall I, Schneider HG, Twigg S. Change of glycated haemoglobin (HbA1c) reporting to the new SI units MJA 2011;**195**:45-6.

(Version 04 July 2011)