



ISPAD

INTERNATIONAL SOCIETY FOR PEDIATRIC
AND ADOLESCENT DIABETES
(founded as ISGD in 1974)

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Global standarization and harmonization of HbA1c

HbA1c has been an invaluable tool for the monitoring of long-term complications in type 1 and type 2 diabetes. In spite of the wide international use of HbA1c, there has been a substantial lack of harmonization among methods for measuring and reporting results. The new international IFCC calibrator will be an important step towards global harmonization of HbA1c. However, the major question is whether we should change the numbers that are presented to clinicians and patients with diabetes or just the reference for laboratory calibration. From a clinical point of view it is essential that HbA_{1c} test results can be traced to the DCCT/UKPDS results which remain the only evidence based relationship to the long term risks for vascular complications.

HbA1c differs from many other laboratory tests in that the person with diabetes takes an active part in influencing the result by the way he/she is living with diabetes and also in interpreting and acting on the result. . Even the decimals of the result are important to the person with diabetes who at times feels like “getting the results of an exam” – will they be “good” or “bad”? It seems as if persons and families with diabetes aim at a certain level of HbA1c which often is rather stable throughout the years. A change in the reported reference level can therefore lead not only to a change in numbers, but also a change in metabolic control (1).

ISPAD welcomes the IFCC initiative of producing a stable calibrator, giving us a true reference level that can be used worldwide for anchoring laboratory methods. But, we do not think we should move to the new IFCC standard for the numbers shown to patients and diabetes teams without careful consideration of all the effects particularly the metabolic and long term financial costs associated with such a major change.

For the time being, we recommend that the clinical “gold standard” of DCCT/UKPDS units should not be changed. Nevertheless, when the level of the IFCC calibrator has been permanently established, a master equation can be calculated so that the calibrator can be used to harmonize all HbA1c levels internationally at the laboratory level. Meanwhile, the effects of changes at the clinical level can be more thoroughly investigated and consequences both for patients with diabetes and health care systems can be clearly evaluated.

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1) Hanas R. Psychological Impact of Changing the Scale of Reported HbA1c Results Affects Metabolic Control. Diabetes Care 2002, in press.