

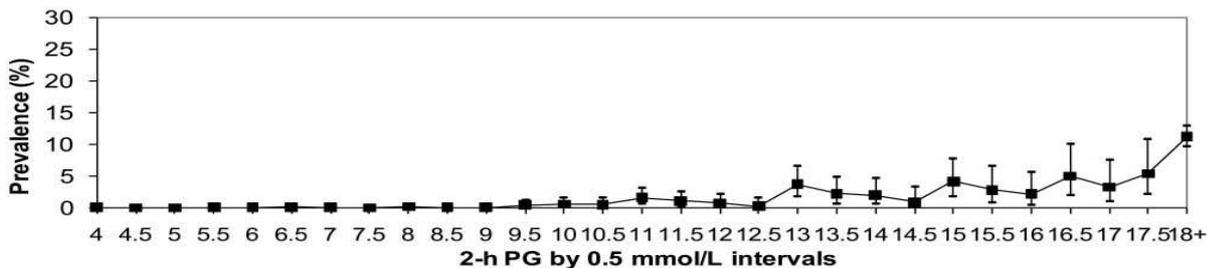


HbA1c and the Diagnosis of Type 2 Diabetes

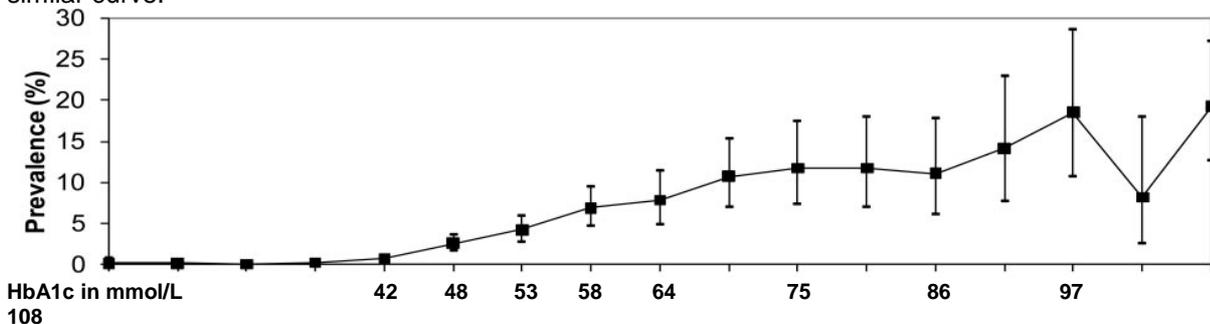
HbA1c is now the preferred screening and diagnostic test for the diagnosis of Type 2 Diabetes. Fasting glucose is recommended when HbA1c is unreliable, for example in patients with haemolytic conditions or haemoglobinopathies. Oral glucose tolerance tests (GTT) criteria are still valid but the **GTT is unreliable and should be rarely performed**. These are the key messages from a position statement released by The New Zealand Society for the Study of Diabetes (1). The GTT comments will be updated to reflect the NZSSD statement.

The move towards HbA1c is based on a number of studies, of which the Detect-2 study is a good example. The Detect group (2) pooled results from > 44 000 patients to assess the risk of diabetes specific retinopathy by HbA1c, fasting and 2hr glucose results.

Detect-2 shows the correlation between the 2hr glucose result and diabetes specific retinopathy. No apparent threshold is present.



Results from Detect-2 show the correlation between HbA1c and diabetes specific retinopathy, risk clearly increases above 48mmol/mol (rounded up to 50) or 6.5% in "old units". Fasting glucose has a similar curve.



HbA1c is preferred over fasting glucose because (a) there is no need for fasting and (b) the smaller biological variation (3.5% for HbA1c vs. 6% for fasting glucose).

- (1) <http://www.nzssd.org.nz/HbA1c/1.%20NZSSD%20position%20statement%20on%20screening%20for%20type%202%20diabetes%20final%20Sept%202011.pdf>
- (2) <http://care.diabetesjournals.org/content/34/1/145.full.pdf+html>

HbA1c interpretation criteria:

HbA1c \geq 50 mmol/mol is diagnostic of diabetes in symptomatic patients

HbA1c \geq 50 mmol/mol needs to be confirmed on a separate occasion, preferably by another HbA1c if asymptomatic

HbA1c of 41 – 49 mmol/mol = pre-diabetes / dysglycaemia / borderline diabetes

HbA1c \leq 40 mmol/mol excludes diabetes

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