

---

# Clinical Guidance

---

## *Diagnosis of Diabetes in Adults – the use of HbA1c*

### Summary

*A move to use HbA1c as the basis for diagnosis for most diabetes rather than measurement of blood glucose.*

Document Detail	
Document type	Clinical Guideline
Document name	Diagnosis of Diabetes in Adults – the use of HbA1c
Document location	GTi Clinical Guidance Database
Version	1.0
Effective from	<i>May 2012</i>
Review date	<i>December 2012</i>
Owner	Clinical Lead, Diabetes and Endocrinology
Author(s)	Stephen Thomas, Consultant
Approved by, date	SQUID, <i>May 2012</i>
Superseded documents	
Related documents	
Keywords	HbA1c, diabetes, diagnosis
Relevant external law, regulation, standards	

Change History		
Date	Change details, since approval	Approved by

## Diagnosis of Diabetes in Adults - the use of HbA1c

The Diabetes Services of Lambeth & Southwark, with King's, Guy's & St Thomas' NHS Foundation Trusts propose moving to the use of HbA1c for the diagnosis of diabetes from April 2012.

Details of the rationale for this can be found at:

[http://www.diabetes.org.uk/About\\_us/Our\\_Views/Care\\_recommendations/New\\_diagnostic\\_criteria\\_for\\_diabetes/](http://www.diabetes.org.uk/About_us/Our_Views/Care_recommendations/New_diagnostic_criteria_for_diabetes/)

### HbA1c must not be used to diagnose / exclude diabetes if:

1. The patient has symptoms of less than 2 months duration, as an individual can be significantly hyperglycaemic without HbA1c having had sufficient time to rise.
2. If a patient is acutely unwell (for the same reasons as above).
3. In pregnancy.
4. In patients aged 18 years or younger.
5. In patients with suspected type 1 diabetes (eg. presence of ketones) at any age.
6. In patients taking medications that cause rapid glucose elevation (eg. steroids and antipsychotic medications)
7. In patients who have known genetic, haematological or illness-related factors that influence HbA1c and its measurement.
8. In patients with anaemia (Hb < 10.5g/dl).

*In the above circumstances, a random venous glucose sample must be checked ( $\geq 11.1\text{mmol/l}$  is diagnostic of diabetes in the presence of diabetes symptoms.)*

The following provides guidance for the use of HbA1c to diagnose diabetes:

### HbA1c $\geq 6.5\%$ (48 mmol/mol)

This level of HbA1c may be used to diagnose diabetes with the following provisos:

1. The test must be performed on an accredited analyser (central laboratory at KCH or GSTT) *not* a point of care testing machine.
2. It must be confirmed on a repeat sample i.e. two tests  $\geq 6.5\%$  (48 mmol/mol) within 4 weeks unless a patient is symptomatic in which case a diagnosis can be made based on one result.
3. If the second sample is < 6.5% (48mmol/mol), treat the patient as being at high risk of developing diabetes. The sample should be repeated after 6 months or before if the patient develops symptoms of diabetes.

### HbA1c $\geq 6\%$ (42 mmol/mol) but < 6.5% (48mmol/mol)

1. This level suggests a high risk of diabetes in the future similar to those with a diagnosis of impaired glucose tolerance (IGT) or impaired fasting glucose (IFG).
2. If there is a high suspicion of diabetes (diabetes symptoms or multiple risk factors for developing diabetes) and HbA1c < 6.5% an oral glucose tolerance test (OGTT) may be performed, although this should be considered exceptional.

### In pregnancy and postnatally:

1. In pregnancy a random glucose is required to screen for diabetes. If random glucose  $\geq 6.7\text{mmol/l}$ , or if there is a high risk of diabetes, an oral glucose tolerance test is *always* required.
2. Women who have had gestational diabetes *still require* an oral glucose tolerance test (OGTT) 3 months after delivery.