

2.0 Definition and diagnosis

2.1 Recommendations

- Diagnose diabetes and other hyperglycaemic states on the basis of laboratory-measured plasma glucose levels according to WHO criteria (Table 2.1)
- Confirm any abnormal results with a second sample on a subsequent day unless osmotic symptoms are present
- HbA_{1c} can be used to support the diagnosis if $\geq 6.5\%$

2.2 Definition

Diabetes is a group of disorders of multiple aetiologies, with a number of common features, of which characteristic chronic hyperglycaemia with disturbances of carbohydrate, fat and protein metabolism is the most evident, resulting from defects in insulin secretion, insulin action, or both. A specific feature of diabetes is the risk of characteristic microvascular complications.

2.3 Diagnosis

The diagnosis is based on the measurement of plasma glucose levels. The current WHO criteria for the diagnosis of diabetes, impaired fasting glucose, and impaired glucose tolerance (IGT) are shown in Table 2.1. Abnormal results must be confirmed by measuring FPG, 2-h OGTT glucose, or random plasma glucose (if symptoms are present) on a subsequent day. The FPG is the preferred test because of its acceptability to patients, easy to perform, and lower cost. Fasting is defined as no caloric intake for at least 8 h. Although the oral glucose tolerance test (OGTT) is a valuable tool in research, it is not recommended for routine clinical use to diagnose or screen for diabetes. In the vast majority of cases, the diagnosis can be made based on either an elevated fasting glucose concentration or an elevated random glucose in the presence of hyperglycaemic symptoms. Levels of haemoglobin A_{1c} (HbA_{1c}) remain the preferred method for monitoring the efficacy of diabetes treatment, and will be endorsed by WHO as a tool for support of diagnosis in 2010.

Table 2.1 Diagnostic criteria for diabetes and other glucose intolerance states

	<i>Normal</i>	<i>Impaired fasting glycaemia</i>	<i>Impaired glucose tolerance</i>	<i>Diabetes</i>
Fasting plasma glucose (mg/dl)	<110	110-125	<126	≥126
2-H plasma glucose (mg/dl)	<140	–	140-199	>200
Random plasma glucose (mg/dl)	–	–	–	>200 (plus symptoms)

An HbA_{1c} ≥6.5 % can be used to support diagnosis