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Glucose and Hemoglobin A1c: New Interpretative Guide

The table below provides interpretive guides/decision limits for glucose and hemoglobin A1c to assist Investigators to determine their patient's status for the diagnosis and management of Type-2 Diabetes patients.

These guides/decision limits are in alignment with the International Diabetes Federation and the American Diabetes Association recommendations, for the diagnosis and management of Type-2 Diabetes patients.

Table 1: Criteria for the Screening and Diagnosis of Prediabetes and Diabetes

	Normal	Prediabetes	Diabetes
Hemoglobin A1c	<5.7 % (<39 mmol/mol)	5.7–6.4% (39–47 mmol/mol)	≥6.5% (≥48 mmol/mol)
Fasting serum/plasma glucose	<100 mg/dL (<5.6 mmol/L)	100–125 mg/dL (5.6–6.9 mmol/L)	≥126 mg/dL (≥7.0 mmol/L)
2-hour serum/plasma glucose (75-g OGTT)	<140 mg/dL (<7.8 mmol/L)	140–199 mg/dL (7.8–11.0 mmol/L)	≥200 mg/dL (≥11.1 mmol/L)
Random serum/plasma glucose (non-fasting)			≥200 mg/dL (11.1 mmol/L)

Table 2&3: Q² Solutions current Reference Ranges displayed on Lab Reports

Glucose		
Age Range	Conventional Units (mg/dL)	SI (mmol/L)
0 – 7 d	45 – 110	2.5 – 6.1
8 – 364 d	54 – 117	3.0 – 6.5
1 – 15 yr	60 – 100	3.3 – 5.6
16 – 59 yr	74 – 106	4.1 – 5.9
60 – 90 yr	82 – 115	4.6 – 6.4
91 – 133 yr	75 – 121	4.2 – 6.7

Hemoglobin A1c		
18 and above	<6.5%	<47.6 mmol/mol

References

- Diagnosis and management of type 2 diabetes (HEARTS-D). Geneva]: World Health Organization; 2020 (WHO/UCN/NCD/20.1). <https://www.who.int/publications/i/item/who-ucn-ncd-20.1>
- Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2022. Diabetes Care 2022;45(Suppl. 1):S17–S38 | <https://doi.org/10.2337/dc22-S002>