

GLUCOSE ESTIMATION, 2.5 HOURS

(Hexokinase, Dipstick)

Time	Plasma Glucose in mg/dL	Reference Range in mg/dL	Urine Sugar	Reference Range
Basal		70-100		Nil
Post Glucose load				
0.5 hr		30-60 above fasting		Nil
1.0 hr		20-50 above fasting		Nil
1.5 hr		Not Established		Nil
2.0 hr		70-140		Nil
2.5 hr		Fasting level or below		Nil

Interpretation

Status	Fasting plasma glucose in mg/dL	Post 75 g glucose load in mg/dL
Normal	70-100	70-140
Impaired fasting glucose	101-125	70-140
Impaired glucose tolerance	70-100	141-199
Pre-Diabetes	101-125	141-199
Diabetes mellitus	>126	>200

Note: 1. The diagnosis of Diabetes requires a fasting plasma glucose of $>$ or $=$ 126 mg/dL or a random / 2 hr post glucose value of $>$ or $=$ 200 mg/dL on at least 2 occasions.

- As per American Diabetes Association (ADA) & WHO recommended test for diagnosis of Diabetes Mellitus is Glucose Tolerance Test, Oral (OGTT) – Fasting & 2 hrs Post 75 g glucose load.

TYPES	PATTERN	CONDITIONS
Normal Curve	Normal fasting blood glucose Maximum at 0.5 – 1.0 hr post glucose Reaches fasting at 2.0 hr Urine sugar negative in all samples	-
Diminished glucose tolerance	Fasting blood glucose high Peak higher than normal Delayed return to normal Urine sugar positive if blood glucose $>$ 180 mg/dL	<ul style="list-style-type: none">• Diabetes mellitus• Hyperpituitarism• Hyperthyroidism• Cushing's syndrome

Flat Curve	All values near fasting blood glucose Urine sugar negative in all samples	<ul style="list-style-type: none"> • Normal healthy individuals • Hypothyroidism • Addison's disease • Hypopituitarism • Idiopathic steatorrhea
Renal Glycosuria	Blood glucose normal Urine sugar positive	<ul style="list-style-type: none"> • Pregnancy • Renal tubular dysfunction • Cystinosis • Galactosemia • Lead poisoning
Increased renal threshold	Blood glucose > 180 mg/dL Urine sugar negative	<ul style="list-style-type: none"> • Increasing age • Diabetic with reduced GFR
Lag Curve	Fasting blood glucose normal Exaggerated peak 0.5-1.0 hr Normal / Low blood glucose at 2.0 hr Urine sugar may be positive at peak	<ul style="list-style-type: none"> • Delay in insulin secretion • Partial gastrectomy