TRICORE

CHANGES TO ORAL GLUCOSE TOLERANCE TESTS

On July 21, 2021, TriCore Reference Laboratories will be making several changes to oral glucose tolerance tests and postprandial glucose tests. Summaries of the changes are described below along with a change to the preferred sample type.

TEST CODE MAP

Current Test Code	Current Test Name	New Test Code	New Test Name
GLU2PP	Glucose 2 Hour Post Prandrial/Glucose	G2PP	Glucose 2h Postprandial
Not available	Not available	G1PP	Glucose 1h Postprandial
GTOL2	Glucose Tolerance, 2 Hour	GT2	Glucose Tolerance Test, 2 Hour 75G
GTOL3	Glucose Tolerance, 3 Hour	No longer offered. No evidence to support clinical use.	
GTOL4	Glucose Tolerance, 4 Hour		
GTOL5	Glucose Tolerance, 5 Hour		
GES1S	Glucose Tolerance, 1 Hour, Gestational Diabetes Screen (50g)	GESTA1	Glucose Challenge Test, Gestational Diabetes Screen 50G
GEST3	Glucose Tolerance, 3 Hour, Gestational Diabetes (100g)	GESTA3	Glucose Tolerance Test, Gestational, 3 Hour 100G
Not available	Not available	GESTA2	Glucose Tolerance Test, Gestational, 2 Hour 75G

NEW TEST DETAILS

New Test Code	New Test Name	Glucose Load	Samples	Reference Interval/Cutoff
G1PP	Glucose 1h Postprandial	None given	1 sample Collected one hour after a meal	No reference interval for a postprandial glucose result is provided as it varies by the clinical application of the test.
G2PP	Glucose 2h Postprandial	None given	1 sample Collected two hours after a meal	No reference interval for a postprandial glucose result is provided as it varies by the clinical application of the test.
GT2	Glucose Tolerance Test, 2 Hour 75G	75 grams	2 samples Fasting 2 hours	<126 mg/dL <200 mg/dL
GESTA1	Glucose Challenge Test, Gestational Diabetes Screen 50G	50 grams	1 sample 1 hour	<140 mg/dL[1]
GESTA3	Glucose Tolerance Test, Gestational, 3 Hour 100G	100 grams	4 samples Fasting 1 hour 2 hours 3 hours	<105 mg/dL[2] <190 mg/dL <165 mg/dL <145 mg/dL
GESTA2	Glucose Tolerance Test, Gestational, 2 Hour 75G	75 grams	3 samples Fasting 1 hour 2 hours	<92 mg/dL[3] <180 mg/dL <153 mg/dL

- over -

TRICORE

CHANGES TO ORAL GLUCOSE TOLERANCE TESTS, CONTINUED

Sample Type

Whole blood is traditionally collected into gray-top tubes that contain sodium fluoride/potassium oxalate to inhibit glycolysis, but it is inadequate as it does not stop glycolysis for the first two hours or more after sample collection. Glucose tolerance testing presents a special problem when the blood samples are held at the point of care until completion of the procedure, as is commonly performed. When the glucose concentration is eventually measured, its concentration can be decreased by 15-20%.

The preferred sample type is changing to whole blood collected into green-top plasma separator tubes that contain lithium heparin. Samples must be centrifuged within 60 minutes after collection to separate the plasma from the red blood cells which effectively stops glycolysis.

Gray-top tubes will continue to be accepted but their use is strongly discouraged.

---

[1] A glucose result of 140 mg/dL or greater is 70-88% sensitive and 69-89% specific for identifying gestational diabetes mellitus. A glucose result of 130 mg/dL or greater is 88-99% sensitive and 66-77% specific.

[2] Cutoffs shown are those established by the National Diabetes Data Group. The Carpenter-Coustan thresholds are:

- Fasting: <95 mg/dL
- 1 hr: <180 mg/dL
- 2 hr: <155 mg/dL
- 3 hr: <140 mg/dL

Regardless of criteria, two or more glucose results must exceed thresholds to establish a diagnosis of gestational diabetes mellitus.

[3] Cutoffs shown are those established by the International Association of the Diabetes and Pregnancy Study Groups. One or more glucose result must exceed a threshold to establish a diagnosis of gestational diabetes mellitus.