

TRAINING UPDATE

Lab Location: SGAH & WAH
Department: Phlebotomy

Date Distributed: 1/27/2015
Due Date: 2/23/2015
Implementation: 2/24/2015

DESCRIPTION OF PROCEDURE REVISION

Name of procedure:
Glucose Tolerance Tests SGAH.P08, WAH.P06 v1
Description of change(s):
<p>Section 5: add use of GTT Schedule <i>to steps C.2, 5 & 10</i></p> <p>This revised SOP will be implemented on February 24, 2015</p>

Document your compliance with this training update by taking the quiz in the MTS system.

Approved draft for training (version 1)

Non-Technical SOP

Title	Glucose Tolerance Tests	
Prepared by	Samson Khandagale	Date: 10/30/2009
Owner	Samson Khandagale	Date: 10/30/2009

Laboratory Approval		
Print Name and Title	Signature	Date
<i>Refer to the electronic signature page for approval and approval dates.</i>		
Local Issue Date:		Local Effective Date:

Review:		
Print Name	Signature	Date

TABLE OF CONTENTS

1. PURPOSE.....	2
2. SCOPE	2
3. RESPONSIBILITY.....	2
4. DEFINITIONS.....	2
5. PROCEDURE.....	3
6. RELATED DOCUMENTS	6
7. REFERENCES	6
8. REVISION HISTORY.....	7
9. ADDENDA AND APPENDICES	7

1. PURPOSE

To ensure all Glucose Tolerance Tests are collected as requested by the ordering physician.

2. SCOPE

This procedure applies to all Glucose Tolerance tests.

3. RESPONSIBILITY

Client Service staff are responsible for scheduling and ordering Glucose Tolerance tests.

Phlebotomy staff must understand and comply with collection procedure.

The Field Operations manager / supervisor are responsible for the content and review of the procedure.

4. DEFINITIONS

Glucola – flavored, non-carbonated preparation of corn syrup that contains a specific amount of glucose. Bottles may contain 50gm, 75gm, or 100gm of glucose. Serve chilled to enhance palatability.

Glucose Tolerance Test (GTT) - test used to determine if a patient’s blood glucose level is within normal range. Blood glucose testing can help diagnose and monitor diabetes, pre-diabetes, and hypoglycemia (low blood glucose).

LIS – Laboratory Information System

5. PROCEDURE

A. Test Scheduling

- Schedule the patient for testing in the morning as carbohydrate tolerance deteriorates as the day progresses. The patient should be ambulatory, on an unrestricted diet and fasting at least 10 hours prior to testing.
- The patient should not have had any upper GI series within 72 hours prior to the test as Barium interferes with the absorption of the glucose.

B. Equipment and Supplies

- Primary tube PST (Plasma Separator Tube). Alternate tubes: Gray top (potassium oxalate sodium fluoride) or SST (Tiger Top)
- Note: Whichever tube is used for first collection should remain consistent throughout the test.
- Venipuncture supplies (Needle 21-22 Gauge)
- Vacutainer Holder
- Alcohol
- Gauze
- Tourniquet
- Band Aids/tape
- Glucola (bottles that contain 50gm, 75gm, or 100gm)
- Glucose Tolerance Patient Weight and Glucose Volume Reference Chart

C. Test Ordering and Specimen Collection

1. Client Service staff:

Order the appropriate Glucose Tolerance Test in LIS using the appropriate order code. (Refer to the Glucose Tolerance Patient Weight and Glucose Volume Reference Chart for proper test codes)

Note: If the physician requests a specific dose of Glucose on the lab requisition, enter the dose in order comments in the LIS and notify the phlebotomist.

2. Phlebotomist:

Calls for and then identifies the patient by using established Patient Identification procedure. Phlebotomist collects a blood specimen according to test guidelines as described on the Glucose Tolerance Patient Weight and Glucose Volume Reference Chart. [Complete fasting draw portion of the Glucose Tolerance Testing Schedule.](#)

3. Phlebotomist hand carries the specimen to the specimen processing bench with instructions to run STAT and state that it is a Glucose Tolerance Specimen.

4. The technologist runs fasting test and results in LIS, then notifies Client Service / Phlebotomy staff that the result is available in LIS.

5. Phlebotomist checks results in LIS, [documents on the GTT Schedule](#) and proceeds as described [below](#). ~~on Glucose Tolerance Patient Weight and Glucose Volume Reference Chart~~

Fasting blood glucose result

If...	Then
<126 mg/dl	Follow Glucose Tolerance Patient Weight and Glucose Volume reference chart.
≥ 126 mg/dl	<p>DO NOT continue with the test. Notify the laboratory Pathologist who will then contact the patient’s physician. If the pathologist requests that Lab staff contact the physician, use the following message: <i>“We have been requested to call by the Pathologist. The American Diabetes Association criteria for diagnosis of diabetes indicates that the fasting serum glucose of ≥126 mg/dl repeated on one subsequent day, is sufficient evidence to diagnose diabetes. Unless the physician directs the lab to proceed with Glucose Tolerance, the test will be cancelled for your patient.”</i></p> <p>After speaking to the patient’s physician document in LIS:</p> <ul style="list-style-type: none"> • If the physician requests continuation of the test, the technical staff adds a message in the LIS to the fasting glucose result stating the “physician requested continuation of Glucose Tolerance testing” • The Client Service staff adds a comment to the LIS order that the physician will either continue or discontinue the GTT test. <p>If the GTT is discontinued, instruct the patient to follow up with their physician and cancel/ credit test.</p>

6. Phlebotomist gives patient loading dose of glucola. Serve chilled to enhance palatability.
 Loading Dose: Refer to the Glucose Tolerance Patient Weight and Glucose Volume Reference Chart unless otherwise instructed by the physician.

7. Patient must consume glucola within 5 minutes. The phlebotomist informs the patient that glucose levels will be drawn at specific times. (One, Two, Three, Four or Five hour draws as ordered by physician).

8. The phlebotomist provides patient with a GTT instruction sheet that includes the time for additional blood draws and states the following:
 - No eating or drinking anything (other than water) - water / ice chips should be limited
 - No chewing gum
 - No smoking
 - No sleeping
 - Notify lab staff if any adverse reaction occurs
 - Stay in the laboratory reception area during the test
 - Do not leave the hospital

Note: Limit activities. Result integrity will be compromised due to over exertion causing un-natural metabolizing of glucola.

Form revised 3/31/00

9. At the specified collection times, call patient to return for collection.
 - Re-identify patient prior to each collection following the Patient Identification procedure.
 - Collect the next blood glucose level at the predetermined time, label each sample with time, tech code and verify that the corresponding bar code labels are placed on the sample and received in LIS.
 - Instruct patient to return in one hour increments for subsequent draws until conclusion of test.

10. If at any time the patient develops hypoglycemic reactions (nervousness, weakness, hunger, tachardia, sweating, headache, blurred vision, double vision, mental confusion, incoherent speech, bizarre behavior, loss of consciousness, convulsion) after the glucose load, proceed as follows:
 - Notify medical Director for outpatients, and attending nurse for inpatients
 - Immediately draw blood for a STAT glucose, if ordered, by pathologist.
 - Record signs and symptoms on the ~~Glucose Tolerance Test Log Sheet~~ [GTT Schedule](#).
 - Follow instructions given by the Medical Director
 - Discontinue test.

Glucose Tolerance Patient Weight and Glucose Volume Reference Chart

POSTPRANDIAL GLUCOSE TESTS							
Name of Test	Test Code	Glucola Bottle Size	# of Samples	Collect Samples and Label Tubes			Comment
				Fasting	1 hr	2 hr	
GTT, 1 hour (meal)	GTT1T	none	2	Yes	X		Collect 1 hour after a meal
GTT, 1 hour	GTT1T	50 gm	2	Yes	X		Collect 1 hr after ingestion
GTT, 2 hour (meal)	GTT2T	None	2	Yes		X	Collect 2 hours after a meal
GTT, 2 hour	GTT2T	75 gm	2	Yes		X	Collect 2 hours after ingestion
Postprandial, Non-fasting 1 hour (meal) SGAH only	GLUCN	None	1	No	X		Collect 1 hour after meal
Postprandial, Non-fasting 2 hour (meal)	GLUCN	None	1	No		X	Collect 2 hours after a meal

GLUCOSE TOLERANCE TESTS ON PREGNANT PATIENTS							
Name of Test	Test Code	Glucola Bottle Size	# of Samples	Collect Samples and Label Tubes			
				Fasting	1 hr	2 hr	3 hr
GTT, Gestational Screen	GTT1P	50 gm	1	No	X		
GTT, Gestational, 2 hour (SGAH PNC only)	GGT1T	50 gm	1	No		X	
GTT, Gestational, 3 hour	GTT3P	100 gm	4	Yes	X	X	X

Form revised 3/31/00

GLUCOSE TOLERANCE TESTS (MEN, NON-PREGNANT WOMEN OR CHILDREN WEIGHING GREATER THAN OR EQUAL TO 95 POUNDS)									
Name of Test	Test Code	Glucola Bottle Size	# of Samples	Collect Samples and Label Tubes					
				Fasting	1 hr	2 hr	3 hr	4 hr	5 hr
GTT, 2 hour	GTT2T	75 gm	2	Yes		x			
GTT, 3 hour	GTT3T	100 gm	4	Yes	x	x	x		
GTT, 5 hour	GTT5T	100 gm	6	Yes	x	x	x	x	x

GLUCOSE TOLERANCE TESTS FOR PATIENTS WEIGHING UNDER 95 POUNDS

Use the information in the above table, **except that the amount of Glucola is reduced.** Using the chart below and the patient's weight, determine number of ounces to be provided from a **75 gram bottle.** The 75 gram bottles have volume graduations (lines) on the label. Use these graduation lines to pour out the appropriate number of ounces of Glucola for the patient.

Weight of Patient in Pounds	Ounces of Glucola (From 75 g Glucola in a 10 ounce bottle)
24 to 32 pounds	3 ounces
33 to 42 pounds	4 ounces
43 to 51 pounds	5 ounces
52 to 61 pounds	6 ounces
62 to 70 pounds	7 ounces
71 to 80 pounds	8 ounces
81 to 89 pounds	9 ounces
90 to 95 pounds	10 ounces (whole bottle)

6. RELATED DOCUMENTS

- Quest Diagnostics Directory of Services
- Patient Identification, Phlebotomy procedure
- [Glucose Tolerance Testing Schedule \(AG.F97\)](#)
- [Glucose Tolerance Testing Patient Instructions \(AG.F272\)](#)

7. REFERENCES

- Follow-up Report on the Diagnosis of Diabetes Mellitus, The Expert Committee on the Diagnosis and Classification of Diabetes Mellitus, Diabetes Care, Vol 26 No 11 November 2003

8. REVISION HISTORY

Version	Date	Reason for Revision	Revised By	Approved By
		Supersedes SOPs P010.001, P011.001, P025.001		
000	12/29/14	Section 4: remove annual review Section 5: add use of GTT Schedule Section 6: add forms Section 9: remove patient instructions Footer: version # leading zero's dropped due to new EDCS in use as of 10/7/13	L Barrett	S Khandagale

9. ADDENDA AND APPENDICES

None