SUBJECT: Oral Glucose Tolerance Test (OGTT)

General Information

In 2010 the American Diabetes Association (ADA) endorsed a revision of the 1979 National Diabetes Data Group (NDDG) criteria for the diagnosis of diabetes.

To diagnose diabetes using ADA criteria, the patient must meet at least one of any of the three following criteria on two separate days:

1. Display symptoms of diabetes mellitus (e.g. polyuria, polydipsia, unexplained weight loss) plus random plasma glucose ≥200 mg/dl or
2. FPG ≥126 mg/dl (7.0 mmol/l): Fasting is defined as no caloric intake for at least 8 h or
3. 2-h plasma glucose ≥200 mg/dl (11.1 mmol/l) during an oral glucose tolerance test (OGTT): The test should be performed as described by the World Health Organization using a glucose load containing the equivalent of 75 g anhydrous glucose dissolved in water or
4. A1C ≥6.5%: The test should be performed in a laboratory using a method that is National Glycohemoglobin Standardization Program (NGSP) certified and standardized to the Diabetes Control and Complications Trial (DCCT) assay.

In the absence of unequivocal hyperglycemia with acute metabolic decompensation, these criteria should be confirmed by repeat testing on a different day.

Patient Preparation for OGTT

1. Patient must fast the night prior to the test which is performed in the morning. Minimum fasting required is eight (8) hours - maximum sixteen (16) hours. Nothing with food value, liquid or solid is allowed.

2. Drugs that affect glucose tolerance test should be discontinued for three (3) days prior to test (hormones, oral contraceptives, hypoglycemic agents, salicylates, nicotinic acid, diuretics).

3. No coffee, tea or anything with food value and no smoking permitted during test. No alcohol allowed the night prior to the test.

4. Patient may drink water before and during test according to thirst.
5. Test should be cancelled in case of unexpected fever, acute illness or food ingestion.

6. Patient should not exercise or become unduly excited during test.

Procedure for OGTT

1. Place the order in Cerner for the testing requested by the physician’s prescription:
   - Glucose Tolerance 1 HR Test
   - Glucose Tolerance 2 HR Order Set
   - Glucose Tolerance 3 HR Order Set

2. For a 1-HR test the patient does not have to be fasting.

3. For a 2-HR or 3-HR test, the patient is to be fasting (ie. NPO for at least 8 hours with the exception of water). The phlebotomist must ask the patient if they are fasting and when food was last consumed. The test will not be ordered unless the patient is confirmed to have fasted. Otherwise, the patient will be instructed to fast and return for testing another day and the physician will be notified.

4. Oral glucose dose (Dexola/Glucola) will be given to the patient per physician order or as follows if not specified by the clinician:
   a) 1-HR give 50g glucose solution
   b) 2-HR give 75g glucose solution
   c) 3-HR give 100g glucose solution

5. Phlebotomist will follow routine venipuncture procedure for collection of specimens as directed, either by the orderset (which will specify collection times and specimen collection container type on the printed bar-coded labels) or as ordered by the physician on the prescription.

6. If the physician specifies a protocol which differs from that in section 5, the test is performed as directed and an order comment is entered in Cerner PathNet.

Evaluation of Results of OGTT:

Reference ranges are provided with the patient laboratory report.

Reference

Standards of Medical Care in Diabetes 2010, Diabetes Care 33:S4-S10, January 2010.