Oral Glucose Tolerance Test

INTRODUCTION

Diabetes is the fastest growing chronic condition in Australia[1]. Around 1.7 million Australians have diabetes[1]. This includes all types of diagnosed diabetes (1.2 million known and registered) as well as silent, undiagnosed type 2 diabetes (up to 500,000 estimated)[1]. Diabetes rates have tripled in the past 20 years[2]. There are a staggering 280 new cases diagnosed each day, at a rate of one diagnosis every five minutes[1].

TESTING FOR DIABETES MELLITUS

Oral glucose tolerance test (OGTT) is one of a number of recognised tests used in the diagnosis of diabetes. (Other tests include glycated haemoglobin (HbA1c) and fasting and/or random blood glucose test.)

Preparation

On the night before the test, it is important that the patient eats a normal dinner, but refrains from eating, chewing gum or drinking fluids (except water) for at least 8hrs prior to the test. The patient should not fast for more than 12 hours, nor should they physically exert themselves prior to or during the test (including brisk walking to the clinic).

The patient will be required to record their height and weight and to provide a list of any recent and current medicines that are being taken.

Acute illness within 3-4 days of the test can temporarily affect glucose tolerance.

During an oral glucose tolerance test (OGTT) a 75g oral glucose load is administered after an overnight fast. A blood sample is collected 2 hours after the glucose load. TML Pathology also collects a sample 1 hour post glucose load to confirm normal absorption of the glucose, however this sample plays no diagnostic role in the non-pregnant state.

The table displays diagnostic values for non-pregnant patients. Refer to the Gestational Diabetes brochure for diagnosing gestational diabetes in pregnant patients.

Fasting Glucose	2hr Glucose	
<6.1 mmol/L	<7.8 mmol/L	Diabetes unlikely. Normal glucose tolerance indicated.
6.1–6.9 mmol/L	<7.8 mmol/L	Impaired fasting glucose indicated.
<7.0 mmol/L	7.8–11.0 mmol/L	Impaired glucose tolerance indicated.
≥7.0 mmol/L	≥11.1 mmol/L	Diabetes confirmed.

TEST LIMITATIONS

OGTT requires proper pretest preparation, including an appropriate diet for 3 days before the test and a satisfactory period of overnight fasting.[3] The glucose load is poorly tolerated by a number of people and repeat tests have poor patient compliance.[3] The use of glycated haemoglobin (HbA1c) measurement as an alternative diagnostic test overcomes many of these concerns.[3]

ALLERGIES

As part of this test your patient is required to drink a glucose solution which contains the following food additives:
- 330 - ascorbic acid
- 211 - sodium benzoate
- 202 - potassium sorbate
- Sulphites

If your patient is allergic to any of the above do not proceed with the test.

HOW TO ORDER

Request 'OGTT'.

Please indicate gestational state if the request is for a pregnant patient.

TURNAROUND TIME

This test is performed daily with results available the next day.

COST

This test is bulk-billed subject to Medicare guidelines and criteria being met. If Medicare guidelines and criteria aren't met, an out-of-pocket fee may apply.

FURTHER INFORMATION

Please contact your Medical Liaison Officer.

1. Australia Health and Ageing. Diabetes Australia. www.diabetesaustralia.com.au/diabes-in-australia
2. Australia Institute of Health and Welfare. Australia Health Report 2012, page 303
3. d'Emden et al. The role of HbA1c in the diagnosis of diabetes mellitus in Australia. Med J Aust 2012; 197: 220-221

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