

Rapilose® OGTT Solution 300ml (“Rapilose®”)

Instructions For the Use of Rapilose® to Perform the Oral Glucose Tolerance Test (OGTT) to WHO Guidelines

The 75g Oral Glucose Tolerance Test (OGTT) is a relatively simple test, however, the following protocol should be complied with. The test is usually carried out to establish diabetes mellitus or impaired glucose tolerance when the fasting venous plasma glucose is $<7.0\text{mmol/l}$.

1. Patient Preparation

The test should only be carried out on patients who are on a stable diet, at a constant weight and with no acute illness. The patient should have maintained an adequate carbohydrate intake (125-150g/day) for three days prior to the scheduled OGTT. The patient is required to fast overnight before the test for a minimum nine hours with nothing by mouth except water (no medications, caffeine or tobacco).

Other factors can weaken the diagnostic power of the test and should be avoided as far as possible. These include severe inactivity over the preceding weeks, bed rest for several days, medical or surgical stress, fear of venepuncture, smoking during the test and certain drugs including thiazides, β -blockers, glucocorticoids and phenytoin.

2. Test Procedure

The test should be administered in the morning and the patient must rest during the test period.

- (a) Confirm the patient has fasted for a minimum nine hours.
- (b) Take a 2ml fasting blood sample into a fluoride/oxalate tube and mix well. Check that the tube is correctly labelled with patient’s details **and** the sample time. The fluoride inhibits the metabolism of glucose by the red blood cells, but only if the tube is well mixed. Otherwise a falsely low result may be found by the time the sample is measured.
- (c) Provide the patient with the **Rapilose®** pouch (equivalent to 75g of anhydrous glucose in a ready-to-drink format). The solution should be consumed within five minutes. The patient should not be allowed to leave the department premises and should rest quietly without exercise, food, drink or smoking. Sips of water are allowed. For children the dose is 1.75g of glucose per kg of body weight to a maximum 75g.
- (d) Two hours after the **Rapilose®** pouch was consumed take a second 2ml blood sample into a fluoride/oxalate tube and mix well. Check the tube is labelled with the patient’s details **and** correct sample time and send to the laboratory together with the initial sample requesting an OGTT.
- (e) The patient should be advised to have something to eat and drink before leaving the department.

3. Interpretation of the OGTT

The OGTT should be interpreted in accordance with the venous plasma glucose levels set out in Table 1 below.

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Table 1: Interpretation of OGTT Venous Plasma Glucose Levels

Venous Plasma Glucose Levels - Interpretation of WHO Oral Glucose Tolerance Test								
Diagnosis	Normal		Impaired Fasting Glycaemia (IFG)*		Impaired Glucose Tolerance (IGT)*		Diabetes Mellitus (DM)	
	Fasting	2hrs	Fasting	2hrs	Fasting	2hrs	Fasting	2hrs
Venous Plasma (mmol/l)	<6.1	<7.8	≥ 6.1 & <7.0	<7.8	<7.0	≥7.8	≥7.0	≥11.1
(mg/dl)	<110	<140	≥110 & <126	<140	<126	≥140	≥126	≥200
Management	No follow-up required		Annual fasting plasma glucose		Annual fasting plasma glucose		Treat according to standard protocols	

* Increased risk of future diabetes and cardiovascular morbidity

On rare occasions two OGTTs may need to be performed before diagnosis of diabetes can be confirmed.

4. Protocol for OGTT in Ante-Natal Patients

Exactly the same considerations and protocol apply as above. However, in pregnancy, gestational diabetes is confirmed if the two hour glucose level is 7.8 mmol/l or more.

Be aware, some pregnant women are likely to vomit if asked to consume liquids quickly.

5. Protocol for OGTT in Paediatric Patients

For paediatric applications adjust the dosage based on a child’s body mass. Table 2 below sets out the required Rapilose® dose to deliver the correct amount of anhydrous glucose to perform an oral glucose tolerance test in accordance with WHO guidelines. For children weighing 43kg and above, it is recommended that the full adult dose be administered.

Table 2: Rapilose® paediatric dosage calculator

Child's Weight (kg)	Glucose Required (g)	Rapilose® Equivalent Dose (ml)	Proportion Adult Dose (%)
1	2	8	3%
2	4	16	5%
3	5	20	7%
4	7	28	9%
5	9	36	12%
6	11	44	15%
7	12	48	16%
8	14	56	19%
9	16	64	21%
10	18	72	24%
11	19	76	25%
12	21	84	28%
13	23	92	31%
14	25	100	33%
15	26	104	35%

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Table 2: Rapilose® paediatric dosage calculator (continued)

Child's Weight	Glucose Required	Rapilose® Equivalent Dose	Proportion Adult Dose
(kg)	(g)	(ml)	(%)
16	28	112	37%
17	30	120	40%
18	32	128	43%
19	33	132	44%
20	35	140	47%
21	37	148	49%
22	39	156	52%
23	40	160	53%
24	42	168	56%
25	44	176	59%
26	46	184	61%
27	47	188	63%
28	49	196	65%
29	51	204	68%
30	53	212	71%
31	54	216	72%
32	56	224	75%
33	58	232	77%
34	60	240	80%
35	61	244	81%
36	63	252	84%
37	65	260	87%
38	67	268	89%
39	68	272	91%
40	70	280	93%
41	72	288	96%
42	74	296	99%
>43	75	300	100%