Oral Glucose Tolerance Test (OGTT)

Indication: **Diagnosis of Diabetes Mellitus**

Methods and Criteria for Diagnosing Diabetes Mellitus

Symptoms of diabetes plus:
- Random venous plasma glucose concentration ≥11.1 mmol/L or
- Fasting venous plasma glucose concentration ≥7.0 mmol/L or
- Plasma glucose concentration ≥11.1 mmol/L 2 hours after 75g anhydrous glucose (or equivalent) in an oral glucose tolerance test (OGTT)

In the absence of symptoms, diagnosis requires confirmation by at least one additional glucose result on another day.

If neither random nor fasting venous plasma glucose results are diagnostic of diabetes mellitus, but either are ≥ 6.1mmol/L, an OGTT should be performed and the 2 hour OGTT value should be used.

Contraindications:
None.

Pre-Procedure:
- Unrestricted carbohydrate diet for 3 days prior to the test.
- **Fast from 22:00 hours the previous night.** (fast > 10 hours)
  - Water allowed.
- Morning medication is omitted and taken when test completed.

Procedure:
- Arrange morning appointment.
- Check that patient has been fasting since 10:00pm night before the test.
  - Explain procedure.
- Fasting blood sample collected by venepuncture. (collect in a 2.7ml yellow tube).
- Give patient 410mls of Lucozade from a standard Lucozade bottle. (70kcal/100mmls.) Equivalent of 75g anhydrous glucose.
  - Patients should consume the glucose load within 5 minutes.
  - Second blood sample is taken at +120 minutes. Blood sample tube & clinical chemistry form should be clearly labelled with this time. (e.g. +120 = 10.40)
- Patient should be seated & remain within the department throughout test. No smoking is allowed.
- Patient should be offered light breakfast when test has been completed and reminded to take medication if applicable.
- Blood samples sent to lab on completion of test.
- If any glucose is lost by vomiting, test should be discontinued.

Interpretation:

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Fasting</th>
<th>120 min</th>
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</thead>
<tbody>
<tr>
<td>Diabetes mellitus</td>
<td>≥ 7.0</td>
<td>≥ 11.1</td>
</tr>
<tr>
<td>Impaired glucose tolerance (1GT)</td>
<td>&lt; 7.0</td>
<td>and</td>
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<tr>
<td>Impaired fasting glycaemia (1FG)</td>
<td>≥ 6.1 and &lt;7.0</td>
<td>and</td>
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<tr>
<td>Different values apply for other types of blood sample</td>
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Reference:
- WGH Clinical Biochemistry Handbook
- RIE Clinical Biochemistry Handbook

Reviewed by Dr J A McKnight, June 2000. Updated May 2008 K Gough