Glucose Tolerance

National Diabetes Data Group Criteria

Oral Glucose Tolerance Test
Non-Pregnant Adults

<table>
<thead>
<tr>
<th>Class</th>
<th>Fasting</th>
<th>Midtest</th>
<th>2 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDDG</td>
<td>&lt;115 mg/dL and &lt;200 mg/dL and &lt;140 mg/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IGT</td>
<td>&lt;140 mg/dL and ≥200 mg/dL and 140-199 mg/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes*</td>
<td>≥140 mg/dL on 2 or ≥200 mg/dL and ≥200 mg/dL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nondiagnostic: all other combinations of fasting, midtest, and 2-hour values

WHO

<table>
<thead>
<tr>
<th>Class</th>
<th>Fasting</th>
<th>Midtest</th>
<th>2 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal†</td>
<td>&lt;140 mg/dL</td>
<td>- and &lt;140 mg/dL</td>
<td></td>
</tr>
<tr>
<td>IGT</td>
<td>&lt;140 mg/dL</td>
<td>- and 140-199 mg/dL</td>
<td></td>
</tr>
<tr>
<td>Diabetes*</td>
<td>≥140 mg/dL</td>
<td>- and ≥200 mg/dL</td>
<td></td>
</tr>
</tbody>
</table>

* NDDG and WHO require both the fasting and 2-hour values to classify a subject, except when the fasting is ≥140 mg/dL, which by itself is diagnostic of diabetes.
† Although WHO does not define a “normal” GTT, the term is used here to include subjects who do not meet criteria for diabetes or IGT.

American Diabetes Association Criteria

Fasting plasma or serum glucose diagnostic of diabetes mellitus (DM):  
A fasting plasma/serum glucose >140 mg/dL on at least 2 occasions is diagnostic of DM. This is a specific but not a sensitive diagnostic test for DM. A glucose tolerance is superfluous for these patients.

Random plasma or serum glucose diagnostic of DM:  
A random plasma/serum glucose >200 mg/dL in the presence of classic signs and symptoms of DM is diagnostic of DM. This is a specific test for DM, but it is not a test you should wait for before making a diagnosis of DM. A glucose tolerance test is superfluous for these patients.

Glucose tolerance test (GTT) diagnostic of DM - non-pregnant adults:  
Fasting plasma glucose <140 mg/dL and 2 oral GTTs with the 2-hour plasma glucose >199 mg/dL, and 1 intervening value >199 mg/dL after 75 g glucose load.

GTT diagnostic of impaired tolerance - non-pregnant adults:  
Fasting plasma glucose <140 mg/dL and 2-hour plasma glucose between 140 and 200 mg/dL, and 1 intervening value >199 mg/dL after 75 g glucose load.

GTT diagnostic of gestational DM:  
Two or more of the following plasma glucose concentrations are met or exceeded after a 100 g glucose load:

- Fasting: 105 mg/dL
- 1 Hour: 190 mg/dL
- 2 Hour: 165 mg/dL
- 3 Hour: 145 mg/dL

GTT diagnostic of DM - children:  
Fasting plasma glucose >139 mg/dL and 2 oral GTTs with the 2-hour plasma glucose >199 mg/dL, and 1 intervening value >199 mg/dL. Use 1.75 g glucose per kg body weight up to maximum of 75 g of glucose.
**GTT/normal values - non-pregnant adults:**
Fasting plasma glucose <116 mg/dL, 2-hour plasma glucose <140 mg/dL, and no other intervening value >199 mg/dL. Plasma glucose concentrations above these values, but below those listed for diabetes or impaired tolerance, are NOT diagnostic for diabetes or impaired tolerance. The American Diabetes Association (ADA) recommends that the following terms NOT be used: latent, subclinical, or chemical diabetes; prediabetes; potential diabetes; adult-onset, maturity-onset, and juvenile-onset diabetes.

**Reference**