OBESITY

Guidelines for Determining BMI & Waist Circumference

Body Mass Index [BMI] = weight (kg) / height² (m²) = weight (lbs) x 703 / height² (in²)

Waist circumference

To measure waist circumference, locate the upper hip bone and the top of the iliac crest. Place a measuring tape in a horizontal plane around the abdomen at the level of the iliac crest. Before reading the tape measure, ensure that the tape is snug, but does not compress the skin, and is parallel to the floor. The measurement is made at the end of a normal expiration.

Classification of Weight

Table 4 – Classification of overweight and obesity by BMI, waist circumference, and associated disease risk for type 2 diabetes, hypertension, and CVD

<table>
<thead>
<tr>
<th>BMI (kg/m²)</th>
<th>Obesity Class</th>
<th>Disease risk (relative to normal weight and waist circumference)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;18.25</td>
<td>Underweight</td>
<td>Low-risk</td>
</tr>
<tr>
<td>18.5-24.9</td>
<td>Normal</td>
<td>Low-risk</td>
</tr>
<tr>
<td>25.0-29.9</td>
<td>Overweight</td>
<td>Increased High-risk</td>
</tr>
<tr>
<td>30.0-34.9</td>
<td>Obesity</td>
<td>Very high High-risk</td>
</tr>
<tr>
<td>35.0-39.9</td>
<td>Extreme obesity</td>
<td>Extremely high High-risk</td>
</tr>
</tbody>
</table>

Clinical judgment must be used in interpreting BMI. In the presence of edema, high muscularity, muscle wasting, and individuals who are limited in stature, BMI may not be accurate. The relationship between BMI and body fat content varies with age, gender, and possibly ethnicity, because of differences in the composition of lean tissue, sitting height, and hydration state. Women may have more body fat for a given BMI than men. However, these circumstances do not markedly influence the validity of BMI in classifying patients as overweight or obese.

Note: Increased waist circumference can also be a marker for increased risk even in persons of normal weight.

Next, LTL diagnostic tools are applied for different test purposes. For a person with zero or one risk factors, the test results are as follows:

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Normal</td>
</tr>
<tr>
<td>One risk</td>
<td>Elevated</td>
</tr>
<tr>
<td>Two risks</td>
<td>Severe</td>
</tr>
</tbody>
</table>

Diabetes Mellitus (Type 2)

- Casual plasma glucose (≥200 mg/dL) indicates diabetes.
- Fasting plasma glucose (≥126 mg/dL) indicates diabetes.
- Oral glucose tolerance test (OGTT) glucose is ≥200 mg/dL.

Cholesterol

- Total cholesterol (TC) levels are as follows:
  - Low risk: <200 mg/dL
  - Moderate risk: 200-239 mg/dL
  - High risk: ≥240 mg/dL

- HDL cholesterol (HDL-C) levels are as follows:
  - Low risk: <40 mg/dL
  - Moderate risk: 40-59 mg/dL
  - High risk: ≥60 mg/dL

- LDL cholesterol (LDL-C) levels are as follows:
  - Low risk: <100 mg/dL
  - Moderate risk: 100-129 mg/dL
  - High risk: ≥130 mg/dL

- Triglycerides (TG) levels are as follows:
  - Low risk: <150 mg/dL
  - Moderate risk: 150-179 mg/dL
  - High risk: ≥180 mg/dL