What is the Thyroflex?

The Thyroflex is a medical device that is used to detect thyroid function based on one’s reflex speed. Testing involves striking the brachioradialis tendon of the forearm with a spring-loaded reflex hammer and measuring the speed of physical reaction—the upward and subsequent downward motion of the hand—through a motion sensor placed just below the knuckles. Both the reflex hammer and the motion sensor are connected to a computer, which utilizes a specific program to analyze the results and determine thyroid function based on data gathered from several trials.

How are reflexes and thyroid levels correlated?

Reflex testing to determine thyroid function is nothing new. Before blood tests were available, physicians would examine the rate of relaxation of the calf muscle following a strike to the Achilles tendon. If a slow rate of relaxation was observed and a patient exhibited symptoms such as dry skin, brittle hair, sensitivity to cold, constipation, or inability to lose weight, a positive diagnosis of hypothyroidism was made. This delay in reflexes became known as Woltman’s Sign, named after neurologist Henry William Woltman, MD (1889-1964). The phenomenon of slowed rate of muscle contraction and hypothyroidism relates to the depressed levels of myosin ATPase (an enzyme important for energy and muscle contraction). This mechanism underlies the decreased heart rate that is associated with hypothyroidism as well (2). The slowed relaxation rate is believed to be due to the rate of calcium re-accumulation in a certain part of the cell following muscle contraction, which is less rapid in those with hypothyroidism (1). The reflex results reflect the amount of thyroid hormone that the muscles have absorbed, a valuable metric considering that 75% of triiodothyronine (T3) is stored in the muscle. Today, the brachioradialis tendon is used instead of the Achilles for reasons of convenience and patient comfort.

Thyroflex Test Reliability

The Thyroflex was developed by Dr. Daryl Turner, PhD and Dr. Konrad Kail, ND in response to the pressing need for a better diagnostic tool for thyroid dysfunction. The common blood tests (TSH, T3, and T4) had been found to lack specificity, leaving a large proportion of patients with significant symptoms but no diagnosis. Rather ironically, this enhanced specificity was achieved through the traditional use of reflex measurement. Unlike is the case with other diagnostic methods, a positive Thyroflex result can almost certainly be attributed to thyroid function alone (assuming the patient has no history of nerve damage). The Thyroflex has been estimated to be 98% accurate (3-4).

Your physician will utilize this test in conjunction with your lab results and reported symptoms to determine and monitor your course of treatment.
What to expect:

The test will involve a series of taps on your forearm with the reflex hammer. The contact will not break the skin, but may cause slight discomfort. Rest assured, any discomfort will be brief and temporary.

Interpreting results:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Time Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperthyroidism</td>
<td>≤ 51 ms</td>
</tr>
<tr>
<td>Normal</td>
<td>52-136 ms</td>
</tr>
<tr>
<td>Green (Optimal)</td>
<td>52-100 ms</td>
</tr>
<tr>
<td>Yellow</td>
<td>101-119 ms</td>
</tr>
<tr>
<td>Orange</td>
<td>120-136 ms</td>
</tr>
<tr>
<td>Red</td>
<td>≥ 137 ms</td>
</tr>
</tbody>
</table>

The normal range for this test is 52-136 ms — Your score is ___________.

The optimal range is 52-100 ms.

If your score is 101-119 ms, you might benefit from supplementation.

If your score is 120-136 ms, there is a strong possibility that would benefit from thyroid supplementation.

*Note: these value interpretations are based on general ranges; your physician will consider results from your thyroid questionnaire as well as your lab values when making a final assessment.

References


