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Short Note on Thyroid Antibody Tests

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Perspective

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INTRODUCTION

The level of thyroid antibodies in your blood is determined by this test. The thyroid gland is a small butterfly-shaped gland that is found near the throat. The thyroid produces hormones that control how your body uses energy. It also helps you maintain a healthy weight, body temperature, physical strength, and even your mood. Antibodies are proteins produced by the immune system in order to combat external invaders such as viruses and bacteria. Antibodies, on the other hand, can accidentally assault the body's own cells, tissues, and organs. This is referred to as an autoimmune reaction.

Thyroid antibodies attacking healthy thyroid cells can cause an autoimmune thyroid disease. If not treated, these illnesses can lead to major health concerns. Thyroid peroxidase antibody (TPO)—the most common autoimmune thyroid disease test; it can be seen in Graves' disease or Hashimoto thyroiditis. Thyroglobulin antibody (TGAb) is an antibody that targets thyroglobulin, the thyroid hormone's storage form. Thyroid antibodies come in a variety of forms. Thyroid tissue is destroyed by certain antibodies. Others induce the thyroid to produce excessive amounts of thyroid hormones. A thyroid antibody test will typically detect one or more of the following antibodies.

Thyroid peroxidase converts iodide ions to iodine atoms, which are then added to tyrosine residues on thyroglobulin to produce the thyroid hormones thyroxine (T4) and triiodothyronine (T3) [1]. The presence of TPO antibodies in your blood shows that the aetiology of thyroid disease is an autoimmune disorder, such as Hashimoto's disease or Graves' disease. In autoimmune illnesses, your immune system creates antibodies that wrongly assault normal tissue. Antibodies attacking the thyroid gland produce swelling, pain, and decreased thyroid function. The TPO gene codes for thyroperoxidase [2].

Your doctor may also issue an order. There is no TPO-bound intermediate in the "organification of iodine," which is the integration of iodine into thyroglobulin for the generation of thyroid hormone. Instead, iodination happens via reactive iodine species released from TPO [3]. Other tests may be performed, such as a blood test to determine your TSH level, which is produced by your pituitary gland. TSH controls the amount of thyroid hormone produced by your thyroid Tests to determine the amounts of free T4 and free T3 in the blood. Thyroid ultrasonography to check for thyroid gland changes. Thyroid scan and radioactive iodine uptake test to look for symptoms of Graves' disease Test results may differ depending on your age, gender, medical history, test method, and other factors. It's possible that your test results don't indicate an issue. Inquire with your doctor about the implications of your test results. Negative results mean that no antibodies against TPO, Tg, or TSH were found. You likely don't have a problem with your thyroid.If your results show antibodies against TPO or Tg, you may have Hashimoto thyroiditis.

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