



## Thyroid Antibodies

Date Created: 24.09.10

© Thyroid UK

If you would like to confirm that this is the latest version of this document please contact:

**THYROID UK**

**Registered Charity Number: 1125270**

**32 Darcy Road, St Osyth, Clacton on Sea, Essex CO16 8QF**

**E-Mail: [enquiries@thyroiduk.org](mailto:enquiries@thyroiduk.org)**

**Website: [www.thyroiduk.org](http://www.thyroiduk.org)**

**Your Notes**

Many of you have read about thyroid antibody testing, or seen it in your blood tests. Because it sounds pretty technical, some of us get a bit confused about the whole thing; so I thought I could explain things.

You know that the body produces antibodies as part of a normal immune response to foreign invaders, like viruses and bacteria. It happens that certain body proteins, going peacefully about their business, can get attacked by the immune system, even if they have done nothing wrong. When this happens the body cells being wrongly attacked can be damaged and destroyed. This can happen in a number of ways, but we of course are most interested in the thyroid.

The antibodies that appear most frequently are

- Antithyroid Peroxidase Antibody or TPO Ab (Ab is short for antibody) this is also known as Antithyroid Microsomal Ab
- Antithyroglobulin Antibody or TG Ab
- Thyroid Stimulating Immunoglobulin or TSI Ab

The first group, the TPO Ab, are found raised in Hashimoto's disease - otherwise known as autoimmune thyroiditis. Here the cells of the thyroid gland are attacked and slowly destroyed. Patients with these antibodies present either have Hashimoto's, or are going to have it with subsequent reduction of thyroid function. (Elevated levels are found in virtually all cases of Hashimoto's disease and they will also be raised in 65% of patients with Graves' disease).

The next group is the TG Ab. These levels rise as well as the TPO Ab levels in autoimmune thyroiditis, but to a lesser degree.

The third group, the TSI Ab, exert their effect by targeting the TSH (thyroid stimulating hormone) receptors in the thyroid gland, and activate them abnormally, thus stimulating the thyroid gland to overproduce thyroid hormones. This of course is Graves' disease and these Thyroid Stimulating Immunoglobulins are the chief cause of it.

Although this may all sound logical and clear, life being what it is means that both the thyroid stimulating immunoglobulin antibodies and the antithyroid peroxidase antibodies may both be present in an autoimmune (Hashimoto's) thyroiditis *and* in Graves' disease in some degree at least.

Some family members may all have raised levels (or titres) of all three antibody types, yet not have any clinical symptoms. This may well be that the thyroid is not too badly affected so far, and can compensate for the present. Nevertheless, these family members are at risk, perhaps later on, and should have follow up checks every six months or a year or so.

Any level of antibody titre should be regarded as at least potentially suspicious of future illness. The actual levels found on testing however depend on the laboratory and the methods of testing. In general however, for Thyroglobulin Antibodies, the reference range should be anything less than 200 mU/ml or Ab Index no higher than 0.9, and for the Antithyroid Peroxidase Antibodies, anything less than 150 mU/ml or Ab Index no higher than 0.9. It is perfectly possible to establish a firm correlation between the levels of antibodies present and the severity of the illness.

## Your Notes