

Vitiligo & Thyroid Disease



What is Thyroid Disease?

Your Thyroid Gland produces two substances called triiodothyronine (T3) and thyroxine (T4), in response to a stimulus from the Pituitary Gland. T4 goes on to generate T3, and this in turn affects your metabolism and has an impact on what happens in all the cells in your body. When the Thyroid Gland is damaged or over-stimulated for any reason, Thyroid disease follows.

There are two types:

Hypothyroidism: this is the most common type of thyroid disease and occurs when your Thyroid Gland is *under-active* and cannot produce enough T3 for your body's needs. People with this condition must take replacement thyroxine for life.

Hyperthyroidism: this occurs when your Thyroid Gland is *over-active* and produces too many thyroid hormones. People with this condition can be treated in a variety of ways, but the most common is to take an anti-thyroid medication, usually for life.

There is a table of symptoms for both diseases overleaf.

What is the link?

Whilst it is known *what* happens in your skin if you have vitiligo (the disappearance of your melanocytes causes white patches of un-pigmented skin to appear), *why* this destruction of your pigment cells happens isn't fully understood.

However, a lot of experts believe that vitiligo is an auto immune disease, which means that it is caused by your own body attacking your melanocyte cells.¹

This appears to be confirmed by a link between vitiligo and other auto immune conditions. Amongst the auto-immune conditions associated with vitiligo is thyroid disease.²

What is my risk?

If you have vitiligo, you have a *2.5 times higher* risk of developing Auto Immune Thyroid disease than the general population, because of the auto-immune nature of both vitiligo and thyroid disease.

¹ I. C. le Poole and R. M. Luiten, "Autoimmune etiology of generalized vitiligo," *Current Directions in Autoimmunity*, vol. 10, pp. 227–243, 2008

² W.J Cunliffe, R. Hall, D.J. Newell and C.J. Stevenson. "Vitiligo, Thyroid Disease and Autoimmunity", *British Journal of Dermatology*, Volume 80, Issue 3, March 1968
Pages 135–139

The risk of developing elevated thyroid antibodies (which is the step before thyroid disease has developed) has been found to be greater than *5 times higher* than in the normal population.¹ In a U.K. study, patients with vitiligo were 34% more likely to have thyroid disease as well as their skin condition.³

When should I take action?

Be aware of the increased risk of thyroid disease for you if you have vitiligo. Symptoms can however be easily confused with other conditions. Use the Resources below and the checklist of symptoms that can be found here and on the British Thyroid Foundation's website, to see if you need to see your G.P and request a blood test.

Symptoms of HYPOTHYROIDISM (under active)	Symptoms of HYPERTHYROIDISM (over active)
<p>In brief, some of the symptoms for you to be aware of for hypothyroidism include:</p> <ul style="list-style-type: none"> • tiredness • weight gain • depression • being sensitive to the cold • dry skin and hair • muscle aches 	<p>In brief, some of the symptoms for you to be aware of for hyperthyroidism include:</p> <ul style="list-style-type: none"> • hyperactivity • mood swings – such as anxiety, irritability and nervousness • difficulty sleeping and feeling tired all the time • muscle weakness • needing to pass stools (faeces) or urine more frequently • excess fats in your stools – which can make them greasy and difficult to flush down the toilet • sensitivity to heat and excess sweating • unexplained or unexpected weight loss – despite having an increased appetite • infertility • loss of interest in sex

As you can see these symptoms can also be experienced with other conditions, so be aware it might not be thyroid disease causing them.

³ C.P. Mason, D.J Gawkrödger, Vitiligo presentation in adults, Clin Exp Dermatol. 2005 Jul;30(4):344-5.

What tests are done to check?

Your GP should be aware of the increased risk of thyroid disease for patients who already have vitiligo.

The test will be a thyroid function test. This looks at your levels of thyroid-stimulating hormone (TSH) and thyroxine (T4) in the blood. TSH is the hormone that automatically regulates your thyroxine and triiodothyronine in your body.

A high level of TSH and a low level of T4 in the blood could mean you have an underactive thyroid.

If your test results show raised TSH but normal T4, you may be at risk of developing an underactive thyroid in the future. In this case, you may need to return for a repeat blood test a few months later.

Resources:

Oxidative Stress and Immune System in Vitiligo and Thyroid Diseases
Roberta Colucci, Federica Dragoni, and Silvia Moretti

The NHS Choices website Hyper-thyroidism: <https://www.nhs.uk/conditions/overactive-thyroid-hyperthyroidism/>

The NHS Choices website Hypo-thyroidism: <https://www.nhs.uk/conditions/underactive-thyroid-hypothyroidism/>

The British Thyroid Foundation: <http://btf-thyroid.org>

