



## HYPOTHYROIDISM

# A third of patients treated for hypothyroidism may not require thyroid hormone therapy

### BACKGROUND

Hypothyroidism is very common in the United States and patients are frequently diagnosed with hypothyroidism on routine lab tests. When including mild hypothyroidism, up to 25% of selected patient groups may meet this diagnosis. Indeed, thyroid hormone is one of the most commonly prescribed medications. The most common cause of hypothyroidism is Hashimoto's thyroiditis, an autoimmune disease where antibodies attack and destroy the thyroid. This usually results in lifelong treatment and, once started, patients often stay on thyroid hormone therapy indefinitely. There are also situations where the hypothyroidism may be short-lived and temporary, so long-term treatment is not needed. Thus, depending upon the circumstances of the initial diagnosis, patients may not need to stay on the medication. However, it is often difficult to determine which patients with hypothyroidism may actually be able to stop treatment.

This study was done to obtain information on when thyroid hormone can be successfully and safely stopped.

### THE FULL ARTICLE TITLE

Burgos N et al 2020 Clinical outcomes after discontinuation of thyroid hormone replacement—A systematic review and meta-analysis. *Thyroid*. Epub 2020 Nov 9. PMID: 33161885

### SUMMARY OF THE STUDY

This study reviewed 17 studies that examined the effect of stopping thyroid hormone. They excluded studies of patients with thyroid cancer, postpartum thyroiditis, and hypothyroidism from pituitary problems. Data included information on the patients (ie age, sex), reason for starting thyroid hormone, treatment duration, family history thyroid antibody status, TSH before and after stopping the medication, appearance on

thyroid ultrasound (if done) and clinical outcome. They determined the proportion of patients who remained euthyroid (not needing thyroid hormone replacement) after stopping thyroid hormone replacement.

Overall, 37% of patients remained euthyroid after stopping medication. When the reason for starting medication was analyzed it was apparent that patients who had overt (more significant) hypothyroidism at the onset were less likely to remain euthyroid off medication (only 11%) and most of these patients (82%) restarted thyroid hormone. Other things that predicted the need to restart thyroid medication in two of the studies were a heterogeneous appearance on ultrasound and a TSH greater than 8 mIU/L at initial presentation. In two other studies looking at the pediatric population, baseline TSH values above 9 mIU/L, younger age at diagnosis, and the presence of antithyroid antibodies were predictors of the need to resume thyroid hormone.

### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

While this isn't a perfect study because of the variability between the various studies used for the meta-analysis, it does point out that, depending upon the reason for starting thyroid hormone replacement, as many as 1/3 of patients do not need to stay on it indefinitely. In particular, it appears that patients with normal thyroid ultrasounds and negative anti-thyroid antibodies can be given a trial off medication and many will not need to restart it.

This is important for patients to be able to discuss with their physicians whether they need to remain on thyroid hormone replacement indefinitely.

— Marjorie Safran, MD



## HYPOTHYROIDISM, continued

### ATA THYROID BROCHURE LINKS

Hypothyroidism (Underactive): <https://www.thyroid.org/hypothyroidism/>

Thyroid Hormone Treatment: <https://www.thyroid.org/thyroid-hormone-treatment/>

### ABBREVIATIONS & DEFINITIONS

**Euthyroid:** a condition where the thyroid gland as working normally and producing normal levels of thyroid hormone.

**Hypothyroidism:** a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

**Overt Hypothyroidism:** clear hypothyroidism an increased TSH and a decreased T<sub>4</sub> level. All patients with overt hypothyroidism are usually treated with thyroid hormone pills.

**Thyroid hormone therapy:** patients with hypothyroidism are most often treated with Levothyroxine in order to return their thyroid hormone levels to normal.

**TSH: thyroid stimulating hormone** — produced by the pituitary gland that regulates thyroid function; also the best screening test to determine if the thyroid is functioning normally.

**Thyroid Ultrasound:** a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

