



## HYPOTHYROIDISM

### Treatment of subclinical hypothyroidism and the effect on chronic kidney disease

#### BACKGROUND

Subclinical hypothyroidism is defined as an elevated TSH in the presence of normal T<sub>4</sub> levels. There is a debate in the endocrine community about whether or not to treat subclinical hypothyroidism, especially when no significant symptoms are present. Overt hypothyroidism (increased TSH with a low T<sub>4</sub> level) can be associated with changes in kidney function that resolve with thyroid hormone therapy. This study was done to see if treatment with thyroid hormone in patients with subclinical hypothyroidism and chronic kidney disease has any effect on their kidney function.

#### THE FULL ARTICLE TITLE

Shin DH et al. Preservation of renal function by thyroid hormone replacement therapy in chronic kidney disease patients with subclinical hypothyroidism. *J Clin Endocrinol Metab.* June 20, 2012 [Epub ahead of print].

#### SUMMARY OF THE STUDY

A total of 309 patients were studied. The glomerular filtration rate (GFR) is the most sensitive test of kidney function. The authors looked at the changes in GFR in patients with and without thyroid hormone replacement.

In the 309 patients studied, 180 (58.3%) were treated with thyroid hormone whereas 129 (41.7%) were not treated. Kidney function remained stable in patient treated with thyroid hormone whereas those patients who were not treated demonstrated a decrease in their kidney function.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study suggests that thyroid hormone treatment maintained kidney function in patients with chronic kidney disease who had subclinical hypothyroidism. This is another argument to treat patients with subclinical hypothyroidism.

— Heather Hofflich, DO

#### ATA THYROID BROCHURE LINKS

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

Thyroid Function Tests: <http://www.thyroid.org/blood-test-for-thyroid/>

Hypothyroidism: <http://www.thyroid.org/what-is-hypothyroidism/>

#### ABBREVIATIONS & DEFINITIONS

**Subclinical hypothyroidism:** a mild form of hypothyroidism where the only abnormal hormone level is an increased TSH. There is controversy as to whether this should be treated or not.

**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.

**Thyroxine (T<sub>4</sub>):** the major hormone produced by the thyroid gland. T<sub>4</sub> gets converted to the active hormone T<sub>3</sub> in various tissues in the body.

**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.