



## HYPOTHYROIDISM

### Untreated subclinical hypothyroidism may not increase the risk of developing heart disease in the elderly

#### BACKGROUND

TSH levels rise above the normal range as hypothyroidism develops. Subclinical hypothyroidism is defined as an elevated TSH level with thyroid hormone levels in the normal range. Subclinical hypothyroidism is more common in the elderly than in those younger than 65. There is ongoing controversy about the benefits and risks of treating the elderly with subclinical hypothyroidism, especially when the TSH is only mildly elevated (between 4.5-10). Nevertheless, some research studies suggest an increased risk of heart disease in untreated patients as the TSH approaches 10 and above. For this reason overt hypothyroidism, defined as an increased TSH and decreased thyroid hormone levels, is usually treated. This study was performed to determine if coronary heart disease, congestive heart failure and death was more common in elderly patients with untreated subclinical hypothyroidism.

#### THE FULL ARTICLE TITLE

Hyland KA et al. Persistent subclinical hypothyroidism and cardiovascular risk in the elderly: the Cardiovascular Health Study. *J Clin Endo Metab*, Nov. 16, 2012 (Epub).

#### SUMMARY OF THE STUDY

This large study of 4863 individuals older than 65 was begun in 1989. TSH, free T<sub>4</sub> and T<sub>3</sub> levels were measured at baseline and every 2-3 years until 1996. The individuals were monitored over many years for the development of heart disease. Using the TSH level of 4.5 as the upper

limit, 14% of the 4863 subjects had subclinical hypothyroidism at baseline. There were no differences in other coronary heart disease risk factors such as: body weight, cholesterol, hypertension, diabetes or kidney disease between the subclinical hypothyroid group and individuals with normal TSH levels. The risk of subsequent development of heart disease in the subclinical hypothyroid individuals and normal subjects was the same.

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

Despite the limitations that some individuals were treated during the study for hypothyroidism, there were many individuals with subclinical hypothyroidism who were stable enough to not need treatment. This study suggests that subclinical hypothyroidism is not associated with an accelerated development of heart disease. This finding questions recent recommendations to treat individuals when the TSH level rises to 8-9 and forces treatment decisions to be made using clinical judgment by both the treating physician and the educated patient.

— Jerrold M. Stock, MD

#### ATA THYROID BROCHURE LINKS

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

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

#### ABBREVIATIONS & DEFINITIONS

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

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

**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.