



## HYPOTHYROIDISM

### Different degrees of hypothyroidism are associated with increased risk of coronary heart disease and death

#### BACKGROUND

Hypothyroidism occurs when the thyroid gland does not produce enough thyroid hormone causing TSH levels to increase. Overt hypothyroidism, defined by TSH levels > 10, is associated with increased risk factors for coronary heart disease. These risk factors include increased cholesterol levels and higher blood pressure. Subclinical hypothyroidism is defined by a TSH level that is only slightly increased and, for this study, was divided into mild (TSH 3-6) and moderate (TSH 6-10). It is unclear if subclinical hypothyroidism carries the same risk for heart disease, since the changes in cholesterol and blood pressure are mild, at best. This study was done to see if subclinical hypothyroidism was associated with increased risks of coronary heart disease and death.

#### THE FULL ARTICLE TITLE:

McQuade C et al Hypothyroidism and Moderate Subclinical Hypothyroidism are associated with increased all-cause mortality, independent of coronary heart disease risk factors: a PreCIS Database Study. *Thyroid*. Vol 21, Number 8, 2011, 837-843.

#### SUMMARY OF THE STUDY

A total of 6240 patients from the database in the Preventive Cardiology section of the Cleveland Clinic

were chosen to be analyzed and monitored for 8 years for the development of coronary heart disease and death from all causes. A total of 1218 patients had mild subclinical hypothyroidism, 178 had moderate subclinical hypothyroidism and 79 were hypothyroid by the above TSH criteria. In patients with subclinical hypothyroidism, death was increased in the moderate group, but not in the mild group.

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

This study suggests that patients with TSH levels > 6 are at progressively greater risk for coronary heart disease and death. Those with mild subclinical hypothyroidism (TSH <6) do not appear to have an increased risk. While there is no data to show that treatment would decrease this cardiac risk, this is yet another study to suggest that treating patients with TSH levels > 6 may be beneficial, even in the absence of hypothyroid symptoms.

— Jerrold Stock, MD

#### ATA THYROID BROCHURE LINKS

Hypothyroidism: <http://thyroid.org/patients/patient-brochures/hypothyroidism.html>

#### 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 or not this should be treated.

**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.

**Thyroid Stimulating Hormone (TSH):** produced by the pituitary gland that regulates thyroid function; also the best screening test to determine if the thyroid is functioning normally.