



## THYROID AND THE HEART

### Thyroid hormone levels and risk of atrial fibrillation

#### BACKGROUND

Thyroid hormone has direct effects on the heart. Hyperthyroidism increases the heart rate and can cause palpitations as well as abnormal heart rhythms. One such abnormal heart rhythm is atrial fibrillation, which is an irregular beating of the heart and can lead to heart failure and stroke. Both overt and subclinical hyperthyroidism increases the risk of developing atrial fibrillation. Interestingly, some studies suggest that subclinical hypothyroidism may also increase the risk of developing atrial fibrillation.

This study was done to determine whether thyroid tests within the normal range and subclinical hypothyroidism are associated with an increased the risk of developing atrial fibrillation.

#### THE FULL ARTICLE TITLE

Baumgartner C. et al. Thyroid Studies Collaboration. Thyroid function within the normal range, subclinical hypothyroidism and the risk of atrial fibrillation. *Circulation* 2017;Oct 23;pii: CIRCULATIONAHA.117.028753 [Epub ahead of print].

#### SUMMARY OF THE STUDY

This study was done by reviewing previous publications that had looked at thyroid tests and atrial fibrillation. There were 30,000 patient charts reviewed. The average age was 69 years and 52% of the patients were women. The follow up period was up to 17 years. Patients were not on any medications that could affect thyroid tests.

Patients who had higher levels of thyroid hormone within the normal range were found to have increased risk of developing atrial fibrillation. Age, gender and whether the patients had heart disease to begin with had no impact on these results. On the other hand, subclinical hypothyroidism did not increase the risk.

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

This study suggests that higher levels of the thyroid hormone even within the normal range increases the risk of developing atrial fibrillation. However, it is not known whether any treatment is indicated or if treatment would affect this risk. This study suggests that screening for thyroid disease may be beneficial in some instances.

—Vibhvasu Sharma, MD

#### ATA THYROID BROCHURE LINKS

Hyperthyroidism (Overactive): <https://www.thyroid.org/hyperthyroidism/>

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

#### ABBREVIATIONS & DEFINITIONS

**Hyperthyroidism:** a condition where the thyroid gland is overactive and produces too much thyroid hormone. Hyperthyroidism may be treated with antithyroid meds (Methimazole, Propylthiouracil), radioactive iodine or surgery.

**Subclinical Hyperthyroidism:** a mild form of hyperthyroidism where the only abnormal hormone level is a decreased TSH.

**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.

