



## HYPOTHYROIDISM IN PREGNANCY

### How often does screening detect overt hypothyroidism during pregnancy?

#### BACKGROUND

Thyroid hormone in the mother during pregnancy is essential for normal brain development in the baby. Overt hypothyroidism (both low T<sub>4</sub> levels and high TSH levels) occurring in the mother and not adequately treated during pregnancy is associated with developmental delay and other brain issues in the baby. While there are multiple international clinical practice guidelines providing differing recommendations on thyroid disease screening and treatment in pregnancy, treatment of overt hypothyroidism whenever discovered is strongly recommended. The investigators in this study examined how often pregnant women without risk factors or symptoms of thyroid disease were found to have overt hypothyroidism on blood test screening in early pregnancy. Specifically, they wanted to determine if a sufficient number of women would be detected by screening and whether routinely screening all pregnant women for thyroid disease is warranted.

#### THE FULL ARTICLE TITLE

Pop V et al. The attitude toward hypothyroidism during early gestation: time for a change of mind? *Thyroid*. 2014 Oct;24(10):1541-6. doi: 10.1089/thy.2014.0007. Epub 2014 Aug 7.

#### SUMMARY OF THE STUDY

Investigators in this study examined how often pregnant women without symptoms of thyroid disease, who underwent screening with TSH testing were found to have overt hypothyroidism. Overt hypothyroidism was defined by a TSH measurement of > 10 mIU/L and the blood test was measured at 10 to 12 weeks of pregnancy in the same region of the Netherlands. All women were white. Data was combined from 1354 women screened in 2002, 1602 women screened in 2005, and 1243 women screened in 2013, all from the same region. Upon combining data from three time periods in the same region of the Netherlands, the authors found that 26 women out of a total of 4199 (0.62%) had overt hypothyroidism.

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

Based on this study, the authors estimated that the total number of women with overt hypothyroidism who would not be detected universal thyroid hormone screening in all pregnancies would be as follows: 1000 in the Netherlands, 4500 in the United Kingdom, and 25,000 in the United States. These data suggest that these numbers of potentially missed cases of overt hypothyroidism would potentially justify universal screening of all pregnant women with thyroid blood testing in early pregnancy.

The topic of universal screening of all women is complex and will likely continue to be actively discussed among expert panels. Current recommendations advise women with current or prior thyroid disease or those at risk for thyroid disease who are contemplating pregnancy or pregnant should talk to thyroid hormone testing. Further, TSH testing is reasonable in the following situations: age older than 30 years, prior history of abnormal thyroid function, prior head and neck radiation, family history of thyroid disease, symptoms of under- or over-active thyroid, enlarged thyroid, known positive Thyroid Peroxidase Antibody (marker of autoimmune thyroid disease), history of infertility, history of miscarriage or preterm delivery, iodine deficiency in the population, use of certain medications affecting thyroid function and morbid obesity. As always, women considering pregnancy or those who are pregnant should discuss with their physicians about whether thyroid hormone testing may be right for their situation.

— Anna Sawka, MD

#### ATA THYROID BROCHURE LINKS

Thyroid and Pregnancy: <http://www.thyroid.org/thyroid-disease-and-pregnancy>

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



## **HYPOTHYROIDISM IN PREGNANCY**, continued

### **ABBREVIATIONS & DEFINITIONS**

**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.

**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 Peroxidase Antibodies:** these are antibodies that attack the thyroid instead of bacteria and viruses, they are a marker for autoimmune thyroid disease, which is the main underlying cause for hypothyroidism and hyperthyroidism in the United States.

**Autoimmune thyroid disease:** a group of disorders that are caused by antibodies that get confused and attack the thyroid. These antibodies can either turn on the thyroid (Graves' disease, hyperthyroidism) or turn it off (Hashimoto's thyroiditis, hypothyroidism).