



## THYROID AND PREGNANCY

### Should there be universal screening for detection of thyroid disease in pregnancy?

#### BACKGROUND

Thyroid hormone is essential to normal brain development in the developing baby during pregnancy. The baby is completely dependent on getting thyroid hormone from the mother through the 1st trimester. Hypothyroidism in the mother during pregnancy has been associated with adverse effects on the baby and complications during pregnancy. Because of this, many physicians advocate testing all pregnant women for thyroid problems early in pregnancy, while others recommend testing for thyroid problems only in women that have certain risk factors for thyroid problems, such as a family history or an enlarged thyroid. This study is the latest of several studies that have examined the effects of screening all pregnant women for thyroid problems to determine if it is beneficial and worthwhile.

#### THE FULL ARTICLE TITLE:

Lazarus JH et al. Antenatal thyroid screening and childhood cognitive function. *N Engl J Med* 2012;366:493-501.

#### SUMMARY OF THE STUDY

Blood samples were obtained from 21,486 pregnant women who participated in this study. After blood samples were drawn, 10,924 women were randomly assigned to a group who were immediately tested for FT<sub>4</sub> and TSH and were treated with levothyroxine if the screening results showed evidence of hypothyroidism. The remaining 10,922 women served as a control group

whose blood samples were tested at a later date. Approximately 5% of the pregnant women tested had biochemical evidence of hypothyroidism. Despite the early treatment of hypothyroidism in the screened patients (beginning at a median of ~13 weeks of pregnancy), there were no significant differences between the screening and control groups with respect to gestational age at delivery, rates of preterm birth, birth weight or IQ and psychological assessments in the children.

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

This study suggests that universal screening of all pregnant women is not beneficial. Further, this study provides support for current guidelines of screening for thyroid disease only in women with risk factors for thyroid problems. Since the present study resulted in starting therapy only at ~13 weeks of pregnancy, additional studies will be needed to determine if starting levothyroxine in women with hypothyroidism earlier in the first trimester of pregnancy will decrease the risk of pregnancy complications or adverse effect in the children.

— Frank Cranz, MD

#### ATA THYROID BROCHURE LINKS

Hypothyroidism: [http://thyroid.org/patients/patient\\_brochures/hypothyroidism.html](http://thyroid.org/patients/patient_brochures/hypothyroidism.html)

Thyroid and Pregnancy: [http://thyroid.org/patients/patient\\_brochures/pregnancy.html](http://thyroid.org/patients/patient_brochures/pregnancy.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.

**Levothyroxine:** the major hormone produced by the thyroid gland and available in pill form as Levoxyl™, Synthroid™, Levotheroid™ and generic preparations.

**Thyroxine (T<sub>4</sub>):** the major hormone secreted by the thyroid gland. Thyroxine is broken down to produce Triiodothyronine which causes most of the effects of the thyroid hormones.

**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.