

# Antenatal thyroid screening fails to improve IQ in 3-year-olds

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Children of mothers screened and treated for reduced thyroid function during pregnancy show no signs of improved IQ compared to women who receive no treatment, new research has uncovered.

Scientists from Cardiff University's School of Medicine working with colleagues from The Wolfson Institute of [Preventive Medicine](#) at Barts and the London School of Medicine and Dentistry, Queen Mary University of London, and colleagues from Turin, Italy took [blood samples](#) from more than 20,000 women at about 13-weeks of pregnancy to test for [thyroid](#) function.

Women were randomly assigned to one of two groups. In the first, women with low [thyroid function](#) were given levothyroxine – a [thyroid hormone](#) – to take during the remainder of their pregnancy.

In the second, women with low thyroid function did not receive levothyroxine.

The children of the mothers with low thyroid function were tested by psychologists at the age of three to assess their [IQ](#).

"Previous research indicated an association between low maternal thyroid hormone levels in pregnancy and low IQ in children but it was not known whether early treatment with thyroid hormone could prevent the impairment," said Professor John Lazarus, from Cardiff University's Centre for Endocrine and Diabetes Sciences, who led the study.

"Our study showed no such preventive effect. There was no difference in IQ between children of women who received thyroid hormones and children of [women](#) in the group that didn't.

"This indicates that testing for low thyroid function in early pregnancy does not prevent impairment of childhood cognitive function."

Current UK guidelines do not recommend routine antenatal screening for hypothyroidism in pregnancy. The study adds further support for this recommendation.

"Earlier work suggested that as many as one in five children with lower IQs might be attributable to low thyroid status in the mother," said Professor Sir Nicholas Wald from the Wolfson Institute. "This earlier work raised the possibility that antenatal screening would be worthwhile. It is disappointing that the results of our randomised trial showed no benefit."

The research, published in *The New England Journal of Medicine*, was funded by The Wellcome Trust and Compagnia di San Paulo, Turin.

**More information:** Antenatal Thyroid Screening and Childhood Cognitive Function will be published on 9 February in *The New England Journal of Medicine*, Vol.366 No 6.

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Provided by Cardiff University

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