



TITLE: Routine Prenatal Thyroid-Stimulating Hormone Testing: Evidence-Based Guidelines

DATE: 14 November 2016

RESEARCH QUESTION

What are the evidence-based guidelines for routine screening of thyroid-stimulating hormone in prenatal women?

KEY FINDINGS

Four evidence-based guidelines were identified regarding routine screening of thyroid-stimulating hormone in prenatal women.

METHODS

This report makes use of a literature search developed for a previous CADTH report. The original literature search was conducted in May 2010 on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, and guidelines. Where possible, retrieval was limited to the human population. The initial search was also limited to English-language documents published between January 1, 2005 and May 3, 2010. For the current report, database searches were rerun on November 7, 2016 to capture any articles published since the initial search date. The search of major health technology agencies was also updated to include documents published since May 2010.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

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SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Pregnant women (subpopulations of interest: Indigenous women, women in remote, rural, or resource limited settings)
Intervention	Universal or target prenatal screening for thyroid stimulating hormone
Comparator	No comparator; screening versus other types of screening methods; no screening
Outcomes	Guidelines and recommendations regarding appropriate screening for TSH, guidelines and recommendations regarding screening Indigenous women, guidelines and recommendations regarding screening in rural or remote settings, guidelines and recommendations regarding the clinical competencies of those performing screening
Study Designs	Evidence-based guidelines

TSH = thyroid-stimulating hormone

RESULTS

Four evidence-based guidelines were identified regarding routine screening of thyroid-stimulating hormone in prenatal women.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Four evidence-based guidelines were identified.¹⁻⁴ Three guidelines do not recommend universal screening of pregnant women for thyroid dysfunction due to insufficient evidence to support its routine use.^{1,3,4} The members of the Endocrine Society guideline group⁴ were not able to come to consensus regarding screening and presented two options. Some members recommended universal thyroid screening for all pregnant women by the ninth week of pregnancy and some members did not recommend for or against universal screening but did indicate that high risk women should be identified and screened.⁴ The European Thyroid Association indicates that targeted screening may miss a large number of women with thyroid dysfunction but they did not provide a recommendation specific to universal screening.²

Due to the lack of evidence for or against routine thyroid screening, screening efforts should be focused on those pregnant women who are determined to be at high risk of thyroid dysfunction.^{1,3,4} Risk factors for hypothyroidism in this population include:³

- History of thyroid dysfunction or prior thyroid surgery
- Age greater than 30 years
- Symptoms of thyroid dysfunction or the presence of goiter
- Residing in an area of known moderate to severe iodine sufficiency
- Thyroperoxidase antibody positivity
- Type 1 diabetes or other autoimmune disorders
- History of miscarriage or preterm delivery
- History of head or neck radiation

- Family history of thyroid dysfunction
- Morbid obesity (body mass index greater than 40 kg/m²)
- Use of amiodarone or lithium, or recent administration of iodinated radiologic contrast
- Infertility

REFERENCES SUMMARIZED

Guidelines and Recommendations

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See: Thyroid Dysfunction, page xv and section 8.10: Thyroid dysfunction, page 195
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See: Thyroid Function Screening in Pregnancy
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See: Screening for Thyroid Dysfunction during Pregnancy

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APPENDIX – FURTHER INFORMATION:

Systematic Reviews and Meta-Analyses

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Non-Randomized Studies

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Clinical Practice Guidelines – Methodology Not Specified

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See: 4: Thyroid, page 6
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See: Category 4: Pregnancy, page 3
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'Pregnant' mentioned throughout

Review Articles

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