

# INPLASY

## Risk of Mortality Associated with Anti-thyroid Drugs, Radioactive Iodine, and Surgery for Hyperthyroidism: A Systematic Review and Network Meta-analysis

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Spiegel, BR; Peng, CH; Liu, PS; Flynn, D; Han, C; Ng, XN; Loh, CH; Huang, HK; Pearce, EN.

### Corresponding author:

Brianna Spiegel

spiegelb@bu.edu

### Author Affiliation:

Boston University Chobanian and Avedisian School of Medicine.

### ADMINISTRATIVE INFORMATION

**Support** - N/A.

**Review Stage at time of this submission** - Data extraction.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202470008

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 July 2024 and was last updated on 03 July 2024.

### INTRODUCTION

**Review question / Objective**  
Hyperthyroidism can be treated with anti-thyroid drugs (ATD), radioactive iodine (RAI), or surgery. We aimed to evaluate the long-term outcomes of these treatments through systematic review and network meta-analysis.

**Condition being studied** Hyperthyroidism (elevated levels of thyroid hormone).

### METHODS

**Search strategy** PubMed, EMBASE, Web of Science, and the Cochrane Library were searched from inception to March 20, 2024.

**Participant or population** Adults with hyperthyroidism.

**Intervention** Anti-thyroid drugs (ATD), radioactive iodine (RAI), or surgery.

**Comparator** Comparison between the treatment options (interventions) listed above.

**Study designs to be included** Cohort studies, clinical trials.

**Eligibility criteria** Eligible studies compared at least two treatments in adults with hyperthyroidism and reported outcomes of interest.

**Information sources** PubMed, EMBASE, Web of Science, and the Cochrane Library.

**Main outcome(s)** Primary outcome is all-cause mortality. Secondary outcomes are cancer mortality and MACE.

**Data management** Covidence online software.

**Quality assessment / Risk of bias analysis** Newcastle-Ottawa Scale.

**Strategy of data synthesis** Two reviewers will have independently screened, extracted data, and

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assessed risk of bias, with conflicts resolved by a third reviewer. Hazard ratios (HR) and confidence intervals (CI) will be extracted. A random effects network meta-analysis will be used to synthesize the effect sizes.

**Subgroup analysis** N/A.

**Sensitivity analysis** N/A.

**Country(ies) involved** USA, Taiwan, China.

**Keywords** Hyperthyroidism, Radioactive Iodine, Thyroidectomy, Anti-thyroid Drugs.

**Contributions of each author**

Author 1 - Brianna Spiegel.

Email: [spiegelb@bu.edu](mailto:spiegelb@bu.edu)

Author 2 - Carol Chiung-Hui Peng.

Author 3 - Peter Pin-Sung Liu.

Author 4 - David Flynn.

Author 5 - Cheng Han.

Author 6 - Xin-Ning Ng.

Author 7 - Ching-Hui Loh.

Author 8 - Huei-Kai Huang.

Author 9 - Elizabeth Pearce.