

Introduction

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This is a paper for discussion. This does not represent the views of the Committee and should not be cited.

1. The COT has been asked to review the existing data on fluoride in relation to neurotoxicity and effects on bone and on the thyroid, in the context of UK exposure levels through dental products, drinking water, and other exposure sources.
2. Further details on specific search concepts for particular authoritative reviews are presented below.

ANSES (2025)

3. Key endpoints covered: neurodevelopmental and thyroid effects,
4. Database: PubMed,
5. Literature search date: March 2024,
6. Chemical search terms: ("sodium fluoride" OR Fluoride OR NaF),
7. Endpoint search terms:
 - (cognition OR neurotoxicity),

- (thyroid OR thyroxine OR T4 OR triiodothyronine OR T3 OR "Thyroid-stimulating hormone" OR thyrotropin OR TSH OR hypothyroxinemia OR "thyroid hormones").

EFSA (2025)

8. Key endpoints covered: neurotoxicity, and bone and thyroid effects.

9. Databases: PubMed and Web of Science (WoS).

10. A total of 13 sub-searches^[1] were conducted, covering the following areas (8 for human studies and 5 for experimental animal studies):

- **Initial search 2022_Human studies:**
 - Updated search 2024_Human studies.
- **Initial search 2022_Animal studies:**
 - Updated search 2024_Animal Studies.
- **Targeted search on prospective human cohort studies on developmental neurotoxicity:**
 - before 2005 DNT search (human).
- **Targeted search on bone fractures and bone mineral density until 2003:**
 - Before 2003 bone health search (human).
- **Targeted search on effects on thyroid and exposure during pregnancy:**
 - Before 2005 Thyroid search (human),
 - Animal studies captured in the human targeted search on bone fractures and bone mineral density until 2003,
 - Before 2005 DNT search (animal),
 - Before 2005 thyroid search (animal).

^[1] Key searches are marked in bold, and discussed further below.