**Critically Appraised Topic (CAT)**

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| **Project Team:** |
| **3B-5** |
| **Project Team Participants:** |
| **Caroline Lynch, Luke Bjorklund, David Donoso, and Dana Elchami** |
| **Clinical Question:** |
| **In adolescent patients, how does reduced fluoride affect caries rates?** |
| **PICO Format:** |
| **P:** |
| **Adolescent patients** |
| **I:** |
| **Fluoride use/therapy** |
| **C:** |
| **No therapy** |
| **O:** |
| **Reduced caries incidence rate** |
| **PICO Formatted Question:** |
| **In adolescent patients, does the use of fluoride as compared to no fluoride reduce the caries incidence rate?** |
| **Clinical Bottom Line:** |
| **Fluoride therapy is proven to reduce caries incidence rates** |
| **Date(s) of Search:** |
| **10/30, 11/2, 11/4** |
| **Database(s) Used:** |
| **PubMed** |
| **Search Strategy/Keywords:** |
| **Fluoride, water fluoridation, fluoridated toothpaste, adolescents, caries incidence** |
| **MESH terms used:** |
| **Adolescent, dental caries, fluoride, caries control, topical fluoride, fluoridated toothpaste, caries incidence, child** |
| **Article(s) Cited:** |
| <https://pubmed.ncbi.nlm.nih.gov/27472005/>  <https://pubmed.ncbi.nlm.nih.gov/20091655/>  <https://pubmed.ncbi.nlm.nih.gov/26075879/>  <https://pubmed.ncbi.nlm.nih.gov/28702056/> |
| **Study Design(s):** |
| **Systematic Review, Meta Analysis** |
| **Reason for Article Selection:** |
| **Relevance to clinical question/ case** |
| **Article(s) Synopsis:** |
| **Fluoride therapy whether via water fluoridations, dentifrice, or rinses is proven to decrease caries incidence rates in adolescent patients.** |
| **Levels of Evidence:** (For Therapy/Prevention, Etiology/Harm)  See <http://www.cebm.net/index.aspx?o=1025>  **1a** – Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control Trials (RCTs)  **1b** – Individual RCT  **2a** – Systematic Review of Cohort Studies  **2b** – Individual Cohort Study  **3** – Cross-sectional Studies, Ecologic Studies, “Outcomes” Research  **4a** – Systematic Review of Case Control Studies  **4b** – Individual Case Control Study  **5** – Case Series, Case Reports  **6** – Expert Opinion without explicit critical appraisal, Narrative Review  **7** – Animal Research  **8** – In Vitro Research |
| **Strength of Recommendation Taxonomy (SORT) For Guidelines and Systematic Reviews**  See article **J Evid Base Dent Pract 2007;147-150**  **A** – Consistent, good quality patient oriented evidence  **B** – Inconsistent or limited quality patient oriented evidence  **C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening |
| **Conclusion(s):** |
| **Ample evidence exists to demonstrate the positive outcomes associated with fluoride use. With cases like ours, this evidence can be helpfult to educate anti-fluoride parents.** |