# Antibacterial agent boosts toothpaste effectiveness

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Regular use of fluoride toothpaste containing triclosan, an antibacterial agent, and a copolymer, which helps prevent the triclosan from being washed away by saliva, reduces plaque, gingivitis, and bleeding gums and slightly reduces tooth decay compared to fluoride toothpaste without those ingredients, finds a new review in The Cochrane Library.

"We are very confident that adding triclosan and copolymer to a fluoride toothpaste will lead to additional benefits, in terms of less plaque, inflammation, bleeding, and tooth decay," said Philip Riley, a researcher at the University of Manchester in England, and a co-author of the study. But he added, "We don't know how important the effects are clinically."

Tooth decay and gingivitis are the main causes of tooth loss. Both are caused by plaque, the film of bacteria that builds up on teeth, and if left untreated, can lead to periodontitis, a more serious gum disease that can cause pain and loose teeth. A team from the Cochrane Oral Health Group reviewed 30 published studies of toothpastes containing triclosan and copolymer.

Their analysis of the combined data found a 22 percent reduction in plaque, a 22 percent reduction in gingivitis, a 48 percent reduction in bleeding gums, and a 5 percent reduction in tooth decay (cavities) compared to toothpaste with fluoride alone. However, they did not find significant evidence that triclosan/copolymer toothpaste reduced the incidence of periodontis more than toothpaste without the combination. No adverse reactions to triclosan or the copolymer were reported.

The findings of the review are not surprising, according to Clifford Whall, Ph.D., director of the American Dental Association's (ADA) Seal of Acceptance Program and Product Evaluations. The ADA's Council on Scientific Affairs has independently reviewed data on the safety and effectiveness of triclosan /copolymer for reducing cavities, plaque and gingivitis. The council concluded that there were sufficient clinical studies that showed these toothpastes reduced the incidence of cavities, the presence of plaque and gingivitis.

Most of the studies of toothpastes evaluated in the Cochrane report were directly or indirectly supported by companies that make toothpaste. Only three studies appeared to be independent, according to the reviewers. The independent or government-funded research community and industry should work together to research antibacterial agents in toothpastes, Riley noted. "But we would argue for complete independent control of the research, including study design, conducting the study, and ownership of the data."

**More information:** Riley P, Lamont T. Triclosan/copolymer containing toothpastes for oral health. *Cochrane Database of Systematic Reviews* 2013, Issue 12. Art. No.: CD010514. DOI: 10.1002/14651858.CD010514.pub2