

Study: The best, worst and unproven tools to care for your teeth

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Do probiotics prevent gum disease? Is flossing necessary? Many patients are unable to confidently answer these questions and more due to the abundance of conflicting medical information. However, new research

led by the University at Buffalo aims to separate fact from fiction in determining which oral hygiene tools actually prevent gum disease.

The paper, published in the October issue of the *Journal of the International Academy of Periodontology*, examines the effectiveness of various oral hygiene devices.

The result: Only a handful of self-administered interventions provide additional protection against gingivitis and periodontitis beyond brushing one's teeth with a basic toothbrush. At the moment, all other oral hygiene interventions are only supported by [insufficient evidence](#), says Frank Scannapieco, DMD, Ph.D., principal investigator and chair and professor of oral biology in the UB School of Dental Medicine.

The findings, he says, will help dental practitioners and the public identify [best practices](#) for preventing gum [disease](#), which affects nearly half of adults 30 and older in the United States, according to the Centers for Disease Control and Prevention (CDC).

"Patients can be confident that the oral care tools and practices supported by research, as described in the paper, will prevent the initiation and progression of periodontal disease, if they are performed regularly and properly," says Scannapieco.

Additional investigators include Eva Volman, DDS, first author, UB alumna and resident dentist at the Eastman Institute for Oral Health; and Elizabeth Stellrecht, interim head of health sciences library services at UB.

"It is my hope that this piece consolidates the relevant evidence in a way that is comprehensive, readable and uniquely helpful to all oral health professionals as well as patients," says Volman.

The proven: basic toothbrush; interdental brush; water pick; chlorhexidine gluconate (CHX), cetylpyridinium chloride (CPC) and [essential oil](#) (Listerine) mouth rinses

Tooth brushing is the cornerstone of daily oral hygiene and is a reliable way to control [dental plaque](#), says Scannapieco. And according to the research, interdental brushes and water picks performed better than other interdental oral hygiene devices at reducing gingivitis, and both should be used in combination with daily tooth brushing to prevent gum disease.

Among the numerous mouth rinses examined, those based on CHX, CPC, and essential oils (such as Listerine) were proven to be effective at significantly reducing plaque and gingivitis.

While not effective at fighting gingivitis, toothpicks were useful for monitoring gum health, says Scannapieco. By gently prodding the gums with a toothpick and monitoring for bleeding, patients could detect signs of gum disease.

The bad: triclosan

Triclosan toothpastes and mouth rinses significantly reduced plaque and gingivitis, however, the compound is linked to the development of various types of cancers and reproductive defects. Triclosan has been removed from most popular toothpastes in the U.S.

The unproven: powered toothbrushes, dental floss, probiotics, dietary supplements and numerous mouth rinses

Electric-powered toothbrushes are no more effective at reducing plaque

and gingivitis than a basic toothbrush, found the researchers. And little evidence has been published in support of [dental floss](#)—the mainstay of interdental cleaning—to reduce plaque and gingivitis. But don't toss your floss just yet, says Scannapieco, as flossing is beneficial.

"While there are few studies available that specifically examined toothbrushes or floss alone, both are still essential. Floss is especially useful to remove interdental plaque for people who have tight space between their teeth. Floss also likely reduces the risk for cavities that form between the teeth," says Scannapieco.

The investigators found insufficient evidence that mouthwashes based on tea tree oil, green tea, anti-inflammatory agents, hydrogen peroxide, sodium benzoate, stannous fluoride, hexetidine or delmopinol reduced gingivitis.

The use of probiotics, although promising as a preventive strategy against gum disease, is unproven. The researchers found little evidence that supports the claim that dietary supplements improve gum health. The investigators also found insufficient evidence that professional plaque removal (known as scaling, the process of removing [plaque](#) with a scraper) prevents [gum disease](#).

More information: Eva I. Volman, Elizabeth Stellrecht, Frank A. Scannapieco, Proven Primary Prevention Strategies for Plaque-Induced Periodontal Disease – An Umbrella Review, *Journal of the International Academy of Periodontology* (2021). [www.perioiap.org/publications/ ... e-an-umbrella-review](http://www.perioiap.org/publications/...e-an-umbrella-review)

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