

# The Truth About Flossing

Recently the lay press extrapolated a change in the 2010 US government's Dietary Guidelines for Americans, that specified, "...A combined approach of reducing the amount of time sugars and starches are in the mouth, drinking fluoridated water, and brushing and flossing teeth, is the most effective way to reduce dental caries."<sup>1</sup> The previous flossing recommendation had been in effect since 1979. The newer 2015 recommendations were brought into compliance with US law, which requires that all recommendations put forth by US government health guidelines must be based upon scientific evidence.

This change is the result of an inquiry, through the Freedom of Information Act, from the Associated Press (AP) asking the Health and Human Services, and Agriculture Departments for the scientific evidence supporting the health benefits for using dental floss. The government acknowledged that the effectiveness of flossing in controlling dental caries had never been adequately researched, and therefore, the recommendation would no longer be made. Therefore, because of the law, the recommendation has been changed. However, the change was recklessly simplified to suggest that dental flossing is no longer necessary.

The question regarding the benefits of flossing in managing periodontal disease and dental caries was examined by Sambunjak et al. in a 2012 article titled, "Flossing for the management of periodontal diseases and dental caries in adults."<sup>2</sup> The systematic review examined the benefits of toothbrushing with and without dental flossing in patients' age  $\geq 16$ . The authors concluded, "...results showed that at the 3 time points studied (1, 3 and 6 months), there was a statistically significant benefit in the reduction of gingivitis by using floss plus toothbrushing, compared to toothbrushing alone". Additionally, "Along with demonstrating a statistical significance, there is a clear indication of an important clinical benefit [to flossing]. Patients are often rightly concerned about 'bleeding gums' and this review shows that flossing is effective in reducing gingivitis and the tendency for gums to bleed." Therefore, "...patients will have an improved gingival condition and an improved quality of life." The authors were not able to conclude that flossing reduced dental caries because the dental caries question was not asked in any of the studies.<sup>2</sup>

It has been well accepted that bacterial growth found in dental plaque can lead to inflammation that may cause alveolar bone loss and therefore subsequent loss of teeth.<sup>3,4</sup> The effectiveness of dental floss was evaluated in a 1979 *Journal of Dental Research* publication that found that flossing by a dental hygienist using either unwaxed or waxed dental floss was effective in reducing gingival inflammation.<sup>5</sup> When clinically examining specific groups such as the young, aged,

those with a poor diet, medically compromised, and patients with dry mouth it is often discovered that not flossing can be both dentally and financially catastrophic. Izuora et al.<sup>6</sup> concluded that to reduce dental loss in patients with diabetes, regular flossing must be a significant component of oral health care.

It should be noted that Goyal et al.<sup>7</sup> found that using a water irrigation device (eg, Waterpik Water Flosser) with manual toothbrushing was 29% more effective ( $P < 0.001$ ) in removing plaque from teeth than using waxed string floss with a manual toothbrush.

The AP has it right in that we cannot conclude that flossing prevents caries, but they should not have extrapolated the change in the recommendation to indicate there is no health benefit to flossing. Many in the public will continue to floss because they just feel better when they do. However, some patients will not understand the complexity of the reason for the recommendation change and simply be happy that they now have a "legitimate excuse" for not flossing.

Responsible journalism is a must. Sensational headlines may attract viewers or sell newspapers, but such generalized advice can lead to problems. It is unfortunate that following the advice presented on a television news program or in the newspaper may be detrimental to one's oral health.

As clinicians, we must encourage our patients to continue toothbrushing with some method of flossing.

James L. Rutkowski, DMD, PhD  
Editor-in-Chief

## REFERENCES

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