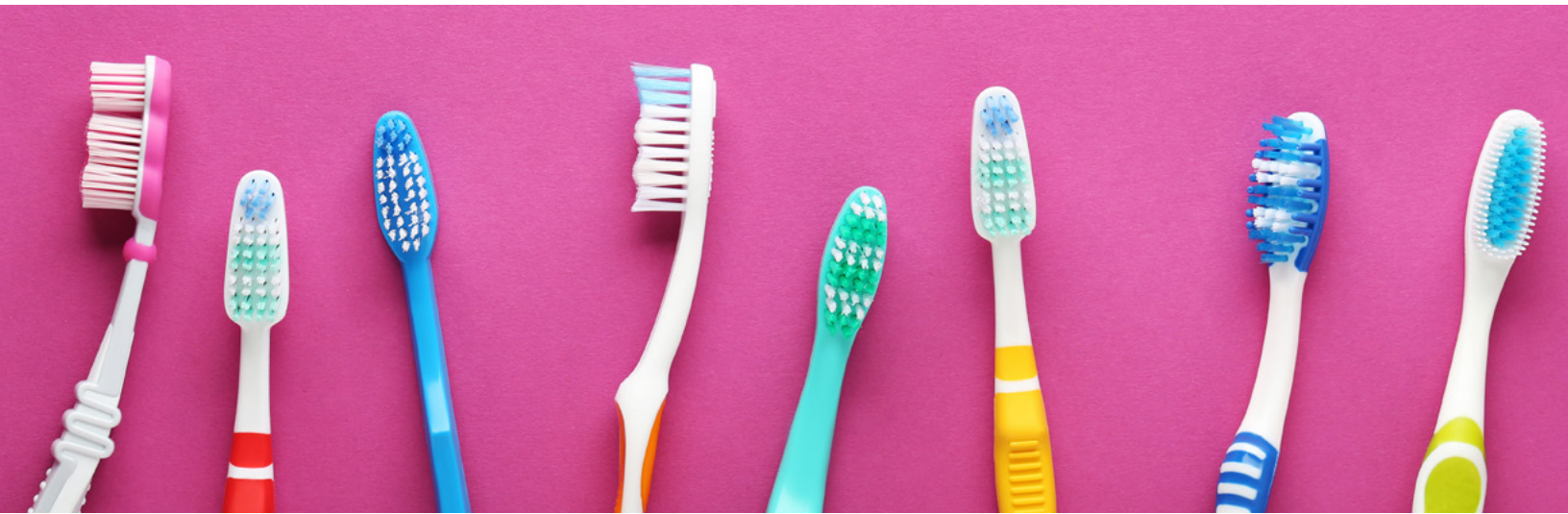




# The Power of Mouthrinse

A more comprehensive recommendation for daily oral hygiene to control dental plaque and gingivitis



If dental plaque is allowed to mature along the gingival margins of teeth, pathogenic bacteria release compounds that can cause inflammation leading to gingivitis. If left untreated, gingivitis may progress to periodontitis.<sup>1</sup> In a similar fashion, caries form when bacteria in mature plaque metabolize fermentable sugars and release acids that demineralize the hard tissues of the teeth.<sup>2</sup> This dental plaque can be removed or disrupted mechanically through brushing and flossing and by the chemotherapeutic agents in some mouthrinses and toothpastes. Within minutes of being removed, dental plaque begins to form again – recolonized by ambient bacteria in the mouth. All structures of the oral cavity including the buccal mucosa, gingiva, tongue, the hard and soft palates, tonsils, and teeth are all reservoirs for species of bacteria that contribute to the buildup of dental plaque and can lead to gingivitis, periodontitis, caries, and oral malodor.<sup>4</sup>

When giving oral hygiene instructions to patients, dental professionals have traditionally focused on improving toothbrushing and flossing habits for the mechanical removal or disruption of dental biofilm to maintain oral health, but often do not emphasize the benefit that mouthrinse can have on controlling plaque and gingivitis. Mouthrinse can reach areas in the oral cavity that may otherwise go untouched using mechanical means of plaque removal.<sup>5</sup>

While statistics about brushing, flossing, and rinsing frequency vary widely among different demographics, data collected from surveys in recent years suggest that overall, people brush their teeth more than they floss, and floss more than they rinse with mouthrinse.<sup>6,7,8</sup> Some of the most common barriers that keep people from flossing include pain, gingival bleeding, limitations of time, and difficulty manipulating floss due to crowding or dexterity limitations.<sup>8</sup> Notably, the barriers that keep people from using mouthrinse include failing to remember, believing it will not be beneficial, and not being told to use mouthrinse by their dentist or dental hygienist.<sup>8</sup> Surprisingly, most patients believe that using mouthrinse has important benefits and think that toothbrushing, flossing, and rinsing with mouthrinse together would be a superior routine for their daily oral care.<sup>8</sup>

For decades, LISTERINE® Antiseptic's antimicrobial formula has been highly effective at inhibiting the development of supragingival plaque and gingivitis.<sup>9,10,11,12,13</sup> New and exciting data shows just how powerful LISTERINE® Antiseptic is at controlling gingivitis and supragingival plaque. With so many patients neglecting to adopt the home-care recommendation to floss, additional proven options for controlling supragingival plaque are necessary for the oral health of patients.

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## LISTERINE® ANTISEPTIC RESEARCH AND FINDINGS

A recently published clinical trial showed that LISTERINE® Antiseptic is 4.6 times more effective than floss for sustained plaque reduction above the gumline.<sup>14\*</sup> (*\*Flossing by a dental hygienist. Sustained plaque reduction after dental prophylaxis. Not a replacement for brushing or flossing.*)

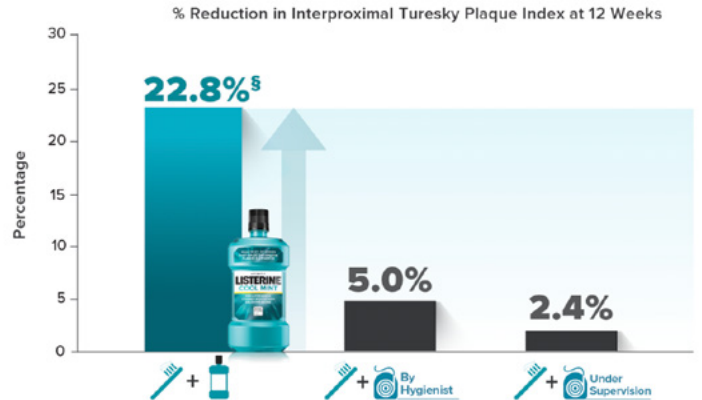
Data from the same study also indicated that LISTERINE® Antiseptic is 1.8 times more effective than floss for reduction in gingivitis.<sup>14</sup>

Participants who used LISTERINE® Antiseptic had a 76% reduction in gingival bleeding.<sup>14</sup>

The purpose of this study was to investigate the impact of rinsing with LISTERINE® Antiseptic twice daily and supervised daily flossing in comparison to a negative control group that used a 5% hydroalcohol rinse.<sup>14</sup> All participants received a dental prophylaxis before the clinical trial began and were divided into four groups: 1) toothbrushing and rinsing with 5% hydroalcohol control rinse; 2) toothbrushing and rinse with LISTERINE® Antiseptic; 3) toothbrushing and daily flossing by a dental hygienist; 4) toothbrushing and flossing under the supervision of a dental hygienist.<sup>14</sup> While under supervision on site, all participants brushed and then individual group treatments were performed.<sup>14</sup> Before, during, and after the study, all participants were evaluated for plaque, gingivitis, and gingival bleeding, and hard and soft tissue tolerance was assessed.<sup>14</sup> By the end of the study, it was determined that a routine of twice-daily rinsing with LISTERINE® Antiseptic:

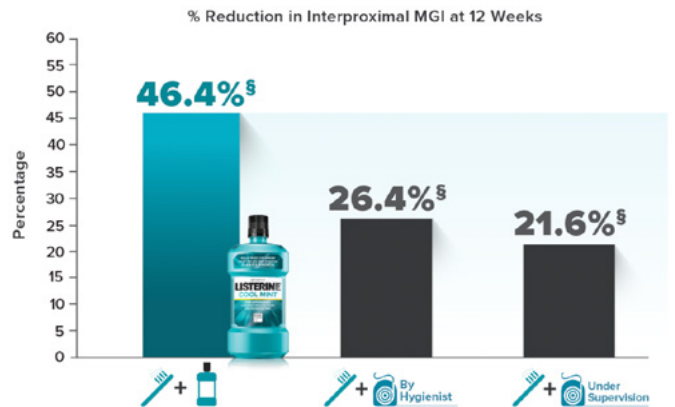
- Was 4.6 times more effective than daily flossing for sustained supragingival plaque reduction<sup>14\*</sup>;
  - *\*Flossing by a dental hygienist. Sustained plaque reduction after dental prophylaxis. Not a replacement for brushing or flossing.*
- Reduced gingivitis 1.8 times more than daily flossing;<sup>\*\*</sup> and<sup>14</sup>
  - *\*Flossing by a dental hygienist.*
- Decreased gingival bleeding by 76%<sup>14</sup> compared to control or brushing alone.

### 4.6x MORE EFFECTIVE THAN FLOSS FOR SUSTAINED PLAQUE REDUCTION<sup>†</sup>



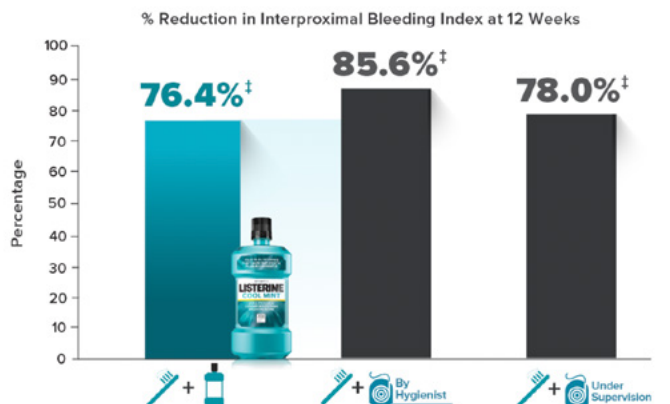
<sup>†</sup>Flossing by a dental hygienist. Sustained plaque reduction after dental prophylaxis.  
<sup>§</sup>P<0.001; comparing each investigational product vs Brushing + 5% hydroalcohol mouthrinse (negative control).

### 1.8x MORE EFFECTIVE THAN FLOSS FOR GINGIVITIS REDUCTION<sup>†</sup>



<sup>†</sup>Flossing by a dental hygienist.  
<sup>§</sup>P<0.001; comparing each investigational product vs brushing + 5% hydroalcohol mouthrinse (negative control).

### 76% REDUCTION IN MEAN BLEEDING INDEX



<sup>‡</sup>P<0.001; comparing each investigational product vs brushing + 5% hydroalcohol mouthrinse (negative control).

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## HOW IT WORKS

LISTERINE® Antiseptic's formula contains a fixed combination of four essential oils — eucalyptol, menthol, methyl salicylate, and thymol.<sup>15</sup> The clinical effectiveness of LISTERINE® Antiseptic against dental plaque and gingivitis is “attributable to the rapid kill and plaque permeabilizing properties of the formulation.<sup>14</sup>” In just 30 seconds, LISTERINE® kills 99.9% of the bacteria that cause plaque and gingivitis, but it is the sustained impact that decreases plaque buildup over time.<sup>10,15,16,17,18</sup> The sustained biofilm control is attributed to the decrease in the population of bacteria and also interferes with bacterial adhesion and coaggregation because of the antimicrobial properties of the mouthrinse.<sup>15,16,17,18,19</sup>

Over time, this reduction in the microbial mass of dental plaque leads to improvements in the gingival health of patients. These data suggest that dental professionals should recommend LISTERINE® Antiseptic as part of a comprehensive daily oral home-care routine.<sup>14,20</sup>

## APPLICATION FOR DENTAL PROFESSIONALS

These findings are meaningful for dental professionals and patients. Dr. Marie Jackson, a general dentist based in Montclair, New Jersey, and a fellow in the Academy of General Dentistry, says that these data in this study backs up what she already knew instinctively. Dr. Jackson also notes how well LISTERINE® Antiseptic demonstrated a sustained reduction in dental plaque.

“Thinning of the biofilm, the reduction of the microbial mass — these are things that we want for our patients, but I had never seen data put together in a way that was digestible and backed up what I was already pushing for patients,” Dr. Jackson says.

There seems to be little emphasis placed on the efficacy of mouthrinses such as LISTERINE® Antiseptic during clinical and didactic training in dental and dental hygiene schools. Some dental professionals may recommend them for temporary uses. These approaches, while beneficial in

those circumstances, underemphasize their effectiveness in a daily oral care routine. “The efficacy of LISTERINE® Antiseptic should be common knowledge in dentistry,” Dr. Jackson emphasized. “It is proven data and we should be using it for our patients’ benefit.”

LISTERINE® Antiseptic could be especially beneficial to patients who struggle with flossing. Dr. Jackson notes that for patients who have active gingivitis or limited dexterity, LISTERINE® Antiseptic will be a valuable aide in their oral care routine. “It is probably the easiest way to make a change for those patients — literally, just rinse for 30 seconds twice daily.”

Dental professionals should recommend LISTERINE® Antiseptic while still emphasizing the importance of flossing as an important part of a home-care routine. Flossing plays an important role in the mechanical removal of dental biofilm and debris — especially when it comes to reaching below the gumline. While LISTERINE® was shown to be effective at decreasing gingival bleeding by 76.4% compared to brushing alone, participants who flossed daily or were flossed daily by a dental hygienist during a 12-week study showed a decrease of 78.0% and 85.6% in gingival bleeding, respectively, compared to brushing alone.<sup>14</sup> Recommendations to use floss and LISTERINE® Antiseptic should not be presented as either/or, but recommended together with brushing as a three-part oral hygiene routine for patients to complete daily at home.

LISTERINE® Antiseptic has proven to be especially beneficial for patients who have lower manual dexterity.<sup>21</sup> In the Milleman clinical trial, which investigated the effects of various combinations of supervised mechanical and chemotherapeutic regimens on the prevention and reduction of plaque, gingivitis, and gingival bleeding, including dexterity and behavior, it was shown that “individuals with lower levels of manual dexterity were shown to benefit from the addition of [LISTERINE® Antiseptic] to a regimen of toothbrushing and flossing.<sup>21</sup>”

Along with the improvement in the health of the interproximal gingiva, the twice daily use of LISTERINE® Antiseptic significantly lessened the manual dexterity variable.<sup>21</sup> This information will be beneficial to a dental practice's elderly patients or those who have conditions like arthritis that are associated with lower manual dexterity. Dr. Jackson eagerly shares this information with these patients in her practice who have a hard time reaching certain areas with floss and specialized dental aids, "If they can use LISTERINE® Antiseptic which is independent of their manual dexterity, that makes a big difference.

The new research about LISTERINE® Antiseptic can help dental professionals improve patient care, starting in the operatory. Dr. Jackson is excited to utilize her office's intraoral cameras and bleeding points on periodontal charting as opportunities to help patients understand why using LISTERINE® Antiseptic twice daily will benefit their oral health. She also has some simple yet effective ideas to demonstrate how easily patients can integrate the mouthrinse into their home-care routine. For example, she'll often have her patients set a 30-second timer on their

phone while swishing in her office at the end of a prophylaxis, and then send them home with samples so they can do it easily at home. Dr. Jackson urges, "We need to make sure we are teaching patients how to use LISTERINE® Antiseptic effectively. We need to follow up to make sure they are using it, show them the benefits of using it visit-to-visit, and show them how to use it so it can be effective. It is the little, simple things that will make a difference."

LISTERINE® is a longtime leader in providing data-driven, clinically meaningful products consistently shown to be beneficial in controlling plaque and gingivitis. Used for over 100 years and studied in more than 50 clinical studies and peer-reviewed publications, LISTERINE® products have been demonstrated to be safe and highly effective, and accessible. Dental professionals should consider how their patients' oral health could change if they started to use LISTERINE® Antiseptic twice daily – including the control of gingivitis and bleeding. Dental professionals around the world should be recommending brushing, flossing, and a twice-daily, 30-second rinsing with LISTERINE® Antiseptic for a comprehensive, three-part oral home-care routine.



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NEW RESEARCH REVEALS

LISTERINE® ANTISEPTIC IS  
**4.6x MORE EFFECTIVE THAN FLOSS**  
FOR SUSTAINED SUPRAGINGIVAL  
PLAQUE REDUCTION\*



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\*Flossing by a dental hygienist. Sustained plaque reduction after dental prophylaxis.

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