

ELEVATING THE STANDARD OF ORAL CARE

ORAL-SYSTEMIC LINKS AND ITS IMPLICATIONS

on overall health is an area of tremendous interest in dentistry. While evidence of the direct causal effects of various diseases is being researched, the importance of good oral hygiene playing a critical role in periodontal health is well documented. Thought Leaders in periodontics, prosthodontics, orthodontics, general practice, dental hygiene and academia met to develop conclusion statements through a comprehensive literature review at the first North American Oral Health Scientific Review Panel meeting on April 29th, 2019, at the Procter & Gamble R&D Center in Mason, Ohio.

The review highlighted the importance of evidence-based dentistry (EBD) and the role that properly designed, randomized, controlled clinical trials can play in measuring oral health outcomes. By incorporating evidence-based decision making, dental professionals can elevate the standard of oral care to significantly enhance their ability to diagnose, treat and motivate patients to achieve optimal oral health beyond the dental chair.

The scientific panel's Conclusion Statements on oral health represent the unified view of eminent Thought Leaders from across Canada and the US.

METHODS

An extensive search of 838 articles in PubMed-Medline databases using the PICO model was conducted by Prof. Liran Levin DMD, FRCD(C), FIATD, FICD (Scientific Chairman) and Danielle Clark (Scientific co-chair) RDH, BSc, MSc Univ of Alberta.

OSCILLATING-ROTATING POWERBRUSH

- 454 articles published from 2009 to 2018 that included oscillating rotating (OR), sonic and manual brushes.
- 123 papers' abstracts were screened.
- 21 full-text papers assessed.
- 7 excluded.
- 15 randomized, controlled trials comparing OR to other electric toothbrushes met the criteria and were included for qualitative synthesis.
- Study duration ranged from single use to 6 months.

STANNOUS FLUORIDE TOOTHPASTE

- 384 toothpaste articles published from 2015 to 2019.
- 23 full-text papers were screened.
- 16 randomized, controlled trials comparing stannous fluoride to other toothpastes met the criteria and were included for qualitative synthesis.
- 6 were included in meta-analysis.
- Study duration ranged from 2 to 24 weeks.

A set of publications was sent to each panel member prior to the meeting. The publications were reviewed, analyzed and discussed in a workshop at the North American Oral Health Scientific Review meeting.



Front Row: Dr. Salme Lavigne, Danielle Clark RDH, BSc, MSc., Dr. Dana van Elslande, Dr. Pamela Maragliano-Muniz Back Row: Dr. David Rice, Dr. Michael Kamatovic, Dr. Liran Levin, Dr. Warden Noble, Dr. Siavash Hassanpour, Dr. Aviv Ouanounou

CONCLUSION STATEMENTS

Oral diseases like caries and periodontal disease are preventable. In the last decade, evidence has been accumulating supporting several relationships between oral health and general health. The strongest of these associations are between periodontal inflammation and diabetes mellitus, cardiovascular diseases and aspiration pneumonia. Additional emerging evidence is accumulating for oral links with certain types of cancers, Alzheimer's disease, rheumatoid arthritis, and other systemic conditions. Although no causal relationships have been determined for most of the diseases, individuals at risk for these conditions must be diligent with their oral care.

When compared to manual toothbrushes or to other types of electric toothbrushes, Oscillating-Rotating toothbrushes present with clinical advantages in randomized controlled trials and systematic reviews in terms of plaque removal and reduction of gingival inflammation. This can lead to caries and periodontal disease prevention.

Recent developments in the formulation of a stabilized stannous fluoride toothpaste show better clinical results in randomized controlled trials when compared to other types of fluoridated toothpastes for reduction of gingival inflammation and plaque removal. This may help in prevention of caries and periodontal diseases.

A tailor-made regimen consisting of a proper toothbrush, toothpaste and adequate inter-dental cleaning tool should be proposed and recommended for each patient in order to prevent oral diseases and promote oral and general health.

ACKNOWLEDGEMENTS

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SELECTED PUBLICATIONS

OR POWERBRUSH:

- Buchel B et al. A 4-week clinical comparison of an oscillating-rotating power brush versus a marketed sonic brush in reducing dental plaque *Am J Dent* 2014;27(1):56-6.
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- Ccahuana-Vasquez R et al. An 8-Week Clinical Comparison of an Oscillating-Rotating Electric Rechargeable Toothbrush and a Sonic Toothbrush in the Reduction of Gingivitis and Plaque *J Clin Dent* 2018;29:27-32.
- Erbe C et al. A randomized clinical trial to evaluate the plaque removal efficacy of an oscillating-rotating toothbrush versus a sonic toothbrush in orthodontic patients using digital imaging analysis of the anterior dentition *Angle Orthodontist* 2018;DOI: 10.2319/080317-520.1.
- Goyal CR et al. A randomized 12-week study to compare the gingivitis and plaque reduction benefits of a rotation-oscillation power toothbrush and a sonic power toothbrush [802] *J Clin Dent* 2009;20:93-98.
- Klukowska M et al. 12-week clinical evaluation of a rotation/oscillation power toothbrush versus a new sonic power toothbrush in reducing gingivitis and plaque *Am J Dent* 2012;25:287-292.
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- Klukowska M et al. A Randomized 12-Week Clinical Comparison of an Oscillating-Rotating Toothbrush to a New Sonic Brush in the Reduction of Gingivitis and Plaque *J Clin Dent* 2014;25:26-31.
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- Williams KB et al. Comparison of rotation/oscillation and sonic power toothbrushes on plaque and gingivitis for 10 weeks [805] *Am J Dent* 2009;22:345-349.

SnF₂ TOOTHPASTE

- Friesen L et al. Comparative Antiplaque Effect of Two Antimicrobial Dentifrices: Laboratory and Clinical Evaluations *J Clin Dent* 2017;4 (Spec Iss B): B6-B11.
- Gerlach RW et al. Initial evidence of two-step dentifrice/gel sequence effects on health: Outcomes from three randomized controlled trials *Am J Dent* 2018;31 (Spec Iss A):7A-12A.
- Geidel A et al. Control of Plaque and Gingivitis by an Herbal Toothpaste - A Randomised Controlled Study. *Oral Health Prev Dent* 2017; 15: 407-413. doi: 10.3290/j.ohpd.a38975.
- Hagenfeld D et al. No differences in microbiome changes between anti-adhesive and antibacterial ingredients in toothpastes during periodontal therapy. *J Periodont Res.* 2019;1-9. DOI: 10.1111/jre.12645.
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