

Linking Research to Clinical Practice

Periodontal and General Health: Clinical Recommendations

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The purpose of Linking Research to Clinical Practice is to present evidence based information to clinical dental hygienists so that they can make informed decisions regarding patient treatment and recommendations. Each issue will feature a different topic area of importance to clinical dental hygienists with A BOTTOM LINE to translate the research findings into clinical application.

Consensus Reports: Periodontal and General Health

All dental and medical professionals should be aware of current recommendations and treatment guidelines related to the association between periodontal and systemic health; however, the literature contains varying and sometimes conflicting information about these associations and their implications in terms of primary prevention. In 2013, a series of consensus reports were published jointly by the European Federation of Periodontology (EFP) and the American Academy of Periodontology (AAP) to inform dental and health professionals of their rigorous scientific analysis of evidence linking periodontal disease, to other systemic diseases. These reports summarize the outcomes of the 9th European Workshop on Periodontology sponsored by both groups in Segovia, Spain in 2012 where more than 70 experts conducted intense reviews of the evidence. The reports appear in the *Journal of Periodontology* and the *Journal of Clinical Periodontology*.¹⁻⁴ The EFP also published a manifesto calling upon all dental and health professionals to take action to fight the devastating oral and general health consequences for the individual and society through prevention, early diagnosis, and effective treatment of periodontal disease.⁵ The purpose of this article is to engage dental hygienists in this cause by summarizing the manifesto's clinical recommendations for treating patients at risk of, or presenting with, certain medical conditions.

Periodontitis is a chronic inflammatory disease with potentially negative consequences for general health. Patients with periodontal disease at risk for, or presenting with, certain systemic diseases are best served through interprofessional collaboration

between dental and medical professionals to provide coordinated multidisciplinary patient care, regardless of where an individual enters the health care system.

Diabetes Mellitus

Precise recommendations were made for oral health education that should be provided for all patients with diabetes. They should be informed about the following:

- Periodontal disease risk is increased by poorly controlled diabetes, and glycemic control may be more difficult to manage when periodontal disease is present
- Risk for diabetic complications such as cardiovascular disease and kidney disease is greater in individuals with periodontal disease than for those with periodontal health
- Other oral conditions (e.g., dry mouth, burning mouth, oral fungal infections, slow wound healing) are possible, and they should seek advice from their dental practitioner if these conditions arise
- Patients with risk factors for diabetes who have periodontitis who have not been diagnosed with diabetes should be informed of their risk and referred to a physician for medical evaluation, or assessed using a chairside HbA1c test

Specific guidelines for oral assessments included:

- Initial assessment of patients with type 1, type 2 and gestational diabetes (GDM) should include a thorough oral examination including a comprehensive periodontal examination. Even children and adolescents diagnosed with diabetes should

be advised of the need for annual oral health and periodontal examinations.

- After diagnosis of diabetes, regular periodontal examinations are needed according to intervals determined by dental professionals as part of the ongoing management of their diabetes. Even when periodontitis is not present at the onset of the diabetes diagnosis, an annual periodontal examination is recommended.

Diabetes patients presenting with any signs and symptoms of periodontitis require prompt periodontal evaluation and treatment. Successful periodontal interventions improve glycemic control. Patients with diabetes who have missing teeth should be encouraged to seek dental care to restore adequate function for proper nutrition.

Cardiovascular Disease

Clear recommendations regarding atherosclerotic cardiovascular disease (ACVD) were made as follows:

- Clinicians need to be aware of the increasing evidence that periodontitis is a risk factor for ACVD, independent of other risk factors, and to advise patients that periodontal inflammation puts their general health at risk
- Patients at risk for ACVD due to other factors such as hypertension, obesity, smoking, etc., should be referred for medical examination if they have not seen their physician in the past year
- Lifestyle-associated risk factors such as smoking cessation programs, nutritional counseling, and recommendations for regular exercise should be addressed within the context of comprehensive oral/periodontal treatment plans. Collaboration between dental hygienists and other health professionals and programs may improve both oral and general health.
- Patients can be informed that systemic inflammatory markers are reduced with periodontal treatment but should not draw other conclusions about the outcomes of periodontal therapy and ACVD
- Treatment of periodontitis in patients with a history of cardiovascular events should follow American Heart Association (AHA) Guidelines

Adverse Pregnancy Outcomes

Pregnancy is a time of marked physiological change that can affect the oral health of the expectant mother. An increase in gingival blood supply and a greater tendency towards gingival swelling and periodontal disease exists. Oral bacteria and their by-products travel through the blood stream to the liver

resulting in inflammatory and immune responses in the fetus. Oral health professionals need to be attentive to emerging of research evidence that shows the potential impact of poor periodontal health on the overall health of the pregnant woman and developing fetus.

- Periodontitis does not currently appear to be a true risk factor for adverse pregnancy outcomes in most populations; however, it may present a risk in some specific populations of patients. For example, those with a prior history of adverse pregnancy outcomes or with advancing periodontal disease during pregnancy may be at increased risk, although further studies are needed to identify those groups who may be at higher risk
- Special attention should be given to a woman's periodontal health prior to becoming pregnant if possible, as well as throughout pregnancy

Other Systemic Diseases

Additional studies are needed to strengthen the emerging evidence for associations between periodontal diseases and chronic obstructive pulmonary diseases (i.e., chronic bronchitis and emphysema), chronic kidney disease, rheumatoid arthritis, cognitive impairment, obesity, metabolic syndrome and some cancers. The only evidence to support a causal relationship associates respiratory microorganisms that colonize in oral biofilm which may subsequently cause hospital-acquired (nosocomial) pneumonia. Therefore, specific clinical recommendations were made only regarding nosocomial pneumonia, as follows:

- Staff and caregivers responsible for elderly and/or frail patients should be trained in the provision of basic oral hygiene twice daily for those patients incapable of self-care
- Staff in acute care environments should be trained in the use of antiseptic and manual methods for reducing the quantity of oral bacteria in ventilated patients

The Bottom Line

Collaboration between oral health professionals (dentists, periodontists, dental hygienists, dental nurses, and dental therapists), other health care professionals, researchers, health care policy makers, oral care product companies, the media, social organizations and patients is needed to effectively combat the devastating impact of periodontal disease as a major public health issue. The clinical recommendations made by the experts and published

in the EFP Manifesto Perio and Systemic Health are evidence based and should be implemented by all stakeholders.⁵

Summary

Dental hygienists are in a prime position to address the potential oral and general health effects of periodontal disease through oral health education, regular and comprehensive oral and periodontal assessments, effective periodontal treatment modalities, and interprofessional collaboration with other health professionals. Evidence indicates that periodontitis increases the risk of poor glycemic control in patients with diabetes mellitus, as well as the risk for diabetes complications. Patients should be informed of this risk and, if indicated, told that successful periodontal therapy improves glycemic control. Periodontitis also has been associated with ACVD, independently of other risk factors, and adverse pregnancy outcomes in some populations. Patients can be advised of this association and the advantage of periodontal therapy in reducing systemic inflammatory challenges. They should not be told that periodontal therapy prevents or improves

ACVD or reduces adverse pregnancy outcomes because those conclusions have not been scientifically proven to date. Additional emerging evidence seems to link periodontal disease with pulmonary infections and pulmonary disease, certain types of cancer, and rheumatoid arthritis. Dental hygienists and others can access the full version of the EFP Manifesto Perio and General Health at perioworkshop.efp.org/efp-manifesto, and references for the full consensus papers follow.

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