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Modern Periodontics

A comprehensive periodontal evaluation will help you exceed both professional and patient expectations in the provision of periodontal care.

By Marie C. Schweinebraten, DMD

This course was developed in part with an unrestricted educational grant from Colgate-Palmolive Company and in collaboration with the American Academy of Periodontology.



Introduction

The Colgate-Palmolive Company is pleased to provide an educational grant to support the second in this series of continuing education articles in collaboration with the American Academy of Periodontology. I am sure you will find the article "Modern Periodontics" an extremely valuable resource for your clinical practice. The importance of regular and thorough periodontal evaluation cannot be overemphasized. This article gives the dental hygienist details about what is required for optimal patient management in 2011 regarding each aspect of modern periodontal care, including a comprehensive checklist for use in patient evaluation. —Dr. Barbara Shearer, Scientific Affairs Manager, Colgate-Palmolive Company

Earn 2 CEUs

This CE Course is written for dentists, dental hygienists, and dental assistants.

Educational Objectives

After reading this course, the participant should be able to:

1. Discuss the role of American Academy of Periodontology's Comprehensive Periodontal Therapy statement in the treatment of periodontal diseases.
2. Identify the components of a comprehensive periodontal evaluation.
3. Detail how to establish a treatment plan.
4. List the possible treatment procedures used in periodontal care.
5. Define the key aspects of evaluating the success of periodontal therapy and establishing a periodontal maintenance program.

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The statement is not meant to dictate a standard of care, which traditionally places patients in categories and indicates a generalized treatment rather than addressing care on an individual basis. Practitioners should use this statement as a source to determine what treatment and therapy options are available to periodontal patients. Other factors may also be part of the overall treatment plan, such as financial considerations, for example, or patient apprehension.

Periodontics encompasses maintaining the health, function, comfort, and esthetics of all supporting structures and tissues in the mouth.¹ A practitioner's goals should include preserving and maintaining the natural dentition, dental implants, periodontium, and peri-implant tissues, ideally without the presence of inflammation. The first step to achieving these goals is a thorough periodontal evaluation.^{2,3}

The Comprehensive Periodontal Evaluation

In the past, a periodontal evaluation was often considered the simple recording of pocket depths around teeth. Many times, this consisted of a cursory examination with a periodontal probe without actual pocket depths being recorded. Today's evaluation is more comprehensive and includes a thorough intraoral clinical examination and radiographic evaluation, as well as consideration of a patient's current health status—including the presence or absence of a multitude of risk factors that are related to periodontal diseases.⁴ All should be assessed at least on an annual basis. Table 1 provides a list of the components of an effective periodontal evaluation.¹ Documenting the presence of plaque/biofilms, calculus, and gingival inflammation is vital to the eventual improvement of health status and the achievement of stability after treatment.

Other dental factors should also be assessed in order to achieve successful comprehensive treatment. The dental examination should include caries assessment, proximal contact relationships, the status of dental restorations and prosthetic appliances, and any other tooth-related or implant-related problems. An occlusal examination should be done, including notation of tooth mobility, occlusal patterns, and discrepancies, bruxism, and fremitus.

Radiographs should be current, with each tooth and/or implant seen in its entirety. Correct angulation will enhance accurate assessment of the quality and quantity of bone. Clinicians should also note the presence or absence of endodontic-periodontal lesions. A current understanding of periodontal-systemic relationships is essential. This includes evaluation of risk factors such as age, diabetes, smoking, cardiovascular disease, and familial history.⁵⁻⁹

The days of a simple, quick periodontal probing are gone. Today's expectations within the profession and those of many patients demand a thorough, albeit time-consuming, evaluation. Without this information, however, proper care cannot be given and periodontal health will not be stabilized.

Establishing a Plan

Goals can only be achieved by expanding treatment planning to include medical consultations if necessary. Diagnostic testing, including microbiological, genetic, or biochemical tests, may be needed. Open communication with the dentist who is providing restorative care is of the utmost importance, whether this means between the dental hygienist and the dentist in the office or between the general dentist's office and the periodontist. Remember, too, that treatment may include nonsurgical or surgical periodontal procedures, or in many instances, both.

Dental hygienists hold the key to a successful treatment plan in their hands. Many times, the patient's first contact with actual therapy is with the dental hygienist. Dental hygienists gain knowledge from conversations with patients that contributes to the success of treatment, reduces apprehension, and helps develop trust. Dental hygienists are integral to periodontal maintenance programs developed after active treatment, which should include ongoing re-evaluation.

Evaluation, diagnosis, treatment planning, and recommending follow-up care are essential and become part of the patient record. Once the patient accepts treatment, informed consent should be obtained prior to initiating treatment.¹ Patients should be provided with information that includes not only the proposed treatment, but also the diagnosis, etiology, alternative treatments, and prognosis of specific teeth. Risks and potential complications should be included as well. Each state has its own regulations for maintaining these records and they should be followed accordingly.

Treatment Procedures

Treatment should be dictated by the needs of the patient and the assessment by the practitioner. Many patients assume that periodontal therapy means surgical treatment, but advances in technology and a better understanding of the etiology of periodontal diseases have broadened the number of treatment approaches and modalities. Many of these procedures fall under the umbrella of dental hygiene. Patient education, oral hygiene training, and counseling of risk factors such as stress, medical status, and smoking, are effectively handled and reinforced through conversations with patients. When not incorporated into the surgical phase of therapy, removal of supragingival and subgingival bacterial plaque/biofilm and calculus through comprehensive, meticulous periodontal scaling and root planing is the primary responsibility of the dental hygienist.¹⁰ At times chemotherapeutic agents may be appropriate to reduce, eliminate, or change the quality of microbiologic pathogens or to alter the host response through local or systemic delivery.¹⁰ Dental hygienists provide periodontal maintenance after post-treatment evaluation, which includes review and reinforcement of oral hygiene procedures and counseling about risk factors. Often dental hygienists'



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rapport with patients opens doors and yields information that patients may be uncomfortable sharing with dentists, but which may be essential for stability and long-term success of treatment.

Surgical treatment in comprehensive care may include not only procedures to reduce or eliminate periodontal pockets and create an acceptable gingival form, but also soft tissue procedures, such as free gingival grafts or connective tissue grafts, as well as root resection, tooth hemisection, and other combined dental tissue and osseous procedures. Periodontal regenerative and reconstructive procedures may include bone grafts, root biomodification, ridge augmentation, implant site development, and sinus grafting. Surgical placement of dental implants can be a vital part of comprehensive treatment. Necessary occlusal therapy is not only adjustment, but may extend to tooth movement, splinting, or biteguard therapy. In many cases, periodontal treatment enhances orthodontic goals through frenulectomy, tooth exposure, fiberotomy, and gingival augmentation.

All levels of treatment must be part of considering patients' comprehensive care options. Dental hygienists should be aware of the various treatment options and the outcomes normally achieved. Again, communication between members of the dental team is essential to providing quality care for patients.

Table 1. The following factors should be recorded as part of a comprehensive periodontal evaluation.¹

- Pocket depths
- Furcation involvement
- Width of keratinized tissue
- Gingival recession
- Attachment levels
- Bleeding on probing
- Suppuration (discharge of pus)

Evaluation of Therapy

After completion of treatment, when all indicated therapeutic procedures have been performed, dental hygienists are important in the evaluation of therapy and determining the direction of a maintenance program. Patients' responses to therapy should be evaluated in addition to whether treatment objectives have been met. Patients should be counseled on why and how to perform an effective daily personal oral hygiene program, including managing their own personal risk factors associated with development and/or progression of periodontal diseases. Perhaps most important, appropriate professional maintenance programs, specific to individual circumstances, should be recommended to patients for long-term control of their condition, as well as the maintenance of dental implants if present.¹¹

When evaluating therapy, results may be adversely affected by various factors. These can include not only risk factors established before treatment, such as systemic disease or pulpal-periodontal problems, but also: uncorrectable anatomic, structural, or iatrogenic causalities; environmental influences; inability of patients to follow suggested treatment or maintenance programs; or unknown or undeterminable etiologies. Patients with medical compromises, those who refuse or delay treatment, or those who present with other limitations may be unable to undergo recommended procedures required to establish a completely healthy periodontium. In these situations, appropriate therapy to establish the best possible periodontal health is the treatment of choice.

Periodontal Maintenance Therapy

Although checklists are normally avoided, in the case of a periodontal maintenance appointment determining the appropriate care requires a thorough evaluation of patients' current periodontal status accompanied by an understanding of past treatment and conditions. Figure 1 provides a helpful checklist for evaluating patients. In order to achieve a current, valid picture of patient's periodontal health, specific assessments should be made. An update of medical and dental histories will determine if any additional risk factors have become part of the assessment, and also whether those considered at previous appointments are controlled, eliminated, or are still affecting periodontal health. Some patients are more susceptible to ongoing breakdown and should be identified with the goal of eliminating these risk factors or at least mitigating them. Risk factors in particular are a constantly changing aspect of periodontal health.¹² Not only does a patient's health status change, but his or her attitude, stress level, and environment fluctuate as well. As we can also see over the past several years, our knowledge of causative factors contributing to the disease process can change rapidly. New risk factors for periodontitis continue to emerge and it is the responsibility of dental hygienists to have an updated knowledge base to draw from during maintenance visits.¹³

When appropriate, clinicians should evaluate extraoral and intraoral periodontal and peri-implant tissues as well as dental hard tissues with diagnostic-quality radiographs. Assessment of oral hygiene status with reinstruction when indicated is the dental hygienist's responsibility, along with mechanical tooth cleaning to disrupt and remove dental plaque, biofilms, stain, and calculus.¹⁰ Local or systemic delivery of chemotherapeutic agents as an adjunct treatment for recurrent or refractory disease may be indicated.¹⁰ A designated interval for periodontal maintenance should also be established. Although a quarterly schedule is the most common, it may not be appropriate for every patient.¹ Educating patients on the rationale behind these increased visits is essential for good compliance. Dental hygienists can help motivate patients to comply with suggested schedules and collaborate with their periodontists to achieve optimal oral health.

Communication is the dental hygienist's most valuable tool in providing care. This especially applies to the maintenance visit, where patients should be kept informed of their periodontal status. They should be told of persistent, recurrent, refractory, or newly occurring periodontal or peri-implant disease. If changes in the prognosis of the dentition or any implants have occurred, patients should be informed of those changes, and whether any further treatment or retreatment is advisable in those sites. Since caries, defective restorations, and nonperiodontal mucosal diseases and conditions can affect oral health in many ways, if present they should be evaluated and discussed with patients. As during the initial examination, any dental or medical conditions noted that warrant referral or consultation should also be discussed with patients.

Summary

As the understanding of periodontal diseases grows and technology changes, it becomes more important for patients' periodontal health to be thoroughly evaluated on a regular basis. Diseases that were untreatable 10 years ago can be addressed successfully when assessed correctly, using not only clinical assessment but also current knowledge of periodontal risk factors, then addressing therapy with the most updated technology. For these reasons, comprehensive periodontal therapy changes also. AAP recognizes this and addresses current expectations for achieving optimal periodontal health in its statement on comprehensive care.¹ The statement is one more important tool to add to your armamentarium. Once the expectations of treatment are determined, it is up to you, the professional, to use this information to help provide the best periodontal care possible for your patients.



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