

Focus: AAP Periodontal Classification



The New Era of Periodontal Treatment: How the Classification System Drives Results

by Anna Louise Tolan, RDH, FADIA • altolan.rdh@gmail.com

The latest status of periodontal disease in the United States is that a staggering 42% of adults over 30 years of age have some form of periodontal disease, with 8% of those being classified as severe (stage III or higher).¹ A systematic review and meta-analysis on implant disease status outcomes reported a weighted mean prevalence of peri-implant mucositis of 43% (range: 19% to 65%) and of peri-implantitis of 22% (range: 1% to 47%).² With these statistics in mind, applying the *Classification of Periodontal and Peri-implant Diseases and Conditions*³ is critical to treating oral disease and understanding its undeniable impact on overall health. The dental hygienist's role is to partner with the patient to assess, classify, diagnose, and treat periodontal and peri-implant disease to improve patient outcomes. Partnering with our patients and early detection of oral health deterioration are pivotal to treatment success. Once periodontal health has been classified, creating an engaging and personalized treatment plan becomes the guide to oral and overall health.



The 2018 classification system is a tool and the cornerstone of our work. It guides our assessments, diagnoses, and treatments, ensuring we provide the best care for our patients. This classification system is a framework taken from medicine to promote the seriousness of oral health through person-centred assessments, identification of disease, and its impact on a person's well-being. The evaluation requirements with defined terms and case definitions included allow dental hygienists to implement the classification system and, therefore, document the dental hygiene diagnosis statement. The result facilitates treatment planning, spotlighting individualized care, communication with our patients, and, most importantly, interdisciplinary collaboration with other medical and oral health professionals. This collaboration is not just beneficial; it's essential for providing comprehensive care to our patients and making us feel connected to a larger health care community.

ASSESSING THE PATIENT

Person-centred care is critical to informing the dental hygienist's assessment of periodontal and peri-implant diseases and conditions. A careful medical (e.g., diabetes), lifestyle (e.g., smoking), dental (e.g., reason for tooth loss), and dental hygiene history is the essential first step in identifying the patient's classification and subsequently establishing an effective treatment plan.

In addition, completing a full assessment, including radiographic bone loss (RBL), periodontal probing depths (PPD), and clinical attachment levels (CALs), is required. Once this information is gathered, we can start to classify our patients. Are they periodontally healthy or do they have inflammation? Does the patient exhibit inflammation with bone loss? If not, would they fall into the gingivitis category? Consider their medical history. Is there anything that would influence their body's reaction? A reactive process may lead to a Gingival Disease Non-Biofilm Induced categorization. Therefore, a thorough medical history is critical to determining the correct classification.³

A large percentage of the adult population in the United States presents with periodontitis.¹ Some will have a specific medical diagnosis that influences their oral tissues,

Continued...

Focus: AAP Periodontal Classification

The New Era of Periodontal Treatment...cont'd

which may mean they are in one of two categories: Periodontitis as a Manifestation of Systemic Disease or Systemic Disease or Conditions Affecting the Periodontal Supporting Structures. Additional issues are found in the Other Conditions Affecting the Periodontium category, such as Mucogingival Deformities, which we see in 88% of adults 65 years or older, and Periodontal Abscess, which accounts for 14% of all dental emergencies.^{3,4}

Implant peri-implantitis (presence of signs of inflammation and radiographic evidence of bone loss following initial healing), implant mucositis (presence of signs of inflammation around an implant without bone loss following initial healing), and implant health (absence of signs of inflammation around the implant) all have case definitions that aid in identifying an implant's status and additional considerations of hard and soft tissue deficiencies.⁵ Specific considerations for managing peri-implant disease are highly complex and less forgiving than periodontal disease. Due to the complexity, this article will focus solely on treating periodontal disease.⁶

STRUCTURING OF THE TREATMENT PLAN

When planning treatment, a person-centred approach is required to assess the patient's ability to tolerate specific therapies. Key considerations include the patient's overall health status; systemic health and current treatment and control for any diagnoses; medications that influence their periodontal health; and lifestyle factors such as smoking, cannabis use, and stress. In addition, the severity, stage, and grade of periodontal disease will impact treatment intensity and approach. For example, addressing early, moderate, and severe periodontal disease requires different skills, equipment, and expertise.⁷ Collaborating with patients through discussions about the impact of risk factors and the patient's willingness to participate through effort, time, and financial commitments is also an essential step in developing the treatment plan.

In structuring a treatment plan, we can consult the latest research on treating stage I to stage III periodontitis. The *Treatment of Stage I–III Periodontitis—The EFP S3 Level Clinical Practice Guideline* is a four-step, incremental approach to periodontal therapy. These steps must be completed at all stages of periodontal disease.⁸

TREATMENT PLAN



STEP 1: Create a person-centred care approach involving lifestyle education, modification, and inflammation reduction.

This communication and trust-building step must be successful in the treatment plan's sequence. The patient and the clinician form a team to improve supragingival biofilm control. Risk factors are identified and behavioural interventions begin. Structuring the debridement component's treatment plan considers many factors outlined in a section ahead.⁷

.....



STEP 2: Perform non-surgical periodontal therapy (NSPT). A meticulous debridement of all surfaces must be completed. If needed, additional therapies may be

considered after re-evaluation. Cause-related treatment aims to reduce, ideally eliminate, the subgingival biofilms and calculus; the signs and symptoms of inflammation guide where instrumentation is indicated.

What type of outcomes should we expect from NSPT? Periodontal probing depths (PPD), initially 4 mm to 6 mm, with effective treatment may be reduced by 1.5 mm. PPD with pockets greater than 7 mm may be reduced by as much as 2.6 mm. Pocket closure happens 74% of the time, and a decrease in bleeding on probing (BOP) is 64%. Attachment gain is 50% of the change in probing depth.⁸ These outcomes provide a clear picture of the effectiveness of NSPT and what patients can expect from the treatment.⁸

Focus: AAP Periodontal Classification

TREATMENT PLAN



STEP 3: Evaluate the case and consider complex treatment that may involve periodontal surgery. In the evaluative process, we must identify unresponsive sites.

The purpose is to analyse the effectiveness of our treatment. Accessing deep pockets and working sight unseen with even the best instrument selection has limitations. In patients with moderately deep PPD of 4 mm to 5 mm, repeated subgingival instrumentation may be needed. A trial of adjunctive therapies is limited to a careful person-centred selection. Patients who have completed Steps 1 and 2 and have residual pockets equal to or greater than 6 mm with Stage III periodontitis should be referred to a periodontist for evaluation and surgical interventions. However, inadequate self-care and non-compliance with the treatment plan will preclude a patient from surgical treatment.⁸ This reality demonstrates that the dental hygienist's role is critical in education, motivation, and therapy in treating periodontal disease.⁷ If the expertise of a specialist is not available or is not an option, further debridement with or without a flap is recommended. A high-quality restart of steps 1 and 2 treatment with short intervals of supportive periodontal care (SPC), including meticulous subgingival instrumentation, is needed.⁸

.....



STEP 4: Create a plan for long-term, person-centred SPC to achieve management of inflammation. It is most effective when respecting patients' needs,

perspectives, and beliefs. Interventions will include education, self-care coaching, behavioural change, sub- and supragingival debridement, and regular checkups to prevent relapse. SPC visits should be scheduled at intervals according to the patient's risk profile. Compliance with SPC is critical for long-term periodontal stability and can improve the patient's periodontal status. If there is evidence of active disease, it's vital to return to Step 1. The goals of limiting the rate of tooth loss and providing periodontal improvement, such as stability and risk factor control, are enormous undertakings for the partnership of patient and clinician.⁸

PRACTICAL CONSIDERATIONS FOR TREATMENT PLANNING

Time management and planning greatly affect treatment success, and numerous influences exist. One of these elements may be a critical puzzle piece for an individual case. Begin with the patient's medical history and the fragility of their health or ability to tolerate a long appointment related to a back problem, transportation, child care or financial issues. The initial debridement can be completed over one to several appointments and achieve similar outcomes. Therefore, the number of appointments scheduled is individualized, addressing each patient's needs.⁸ The next on the list are elements we must take into consideration before committing to the treatment plan: number of teeth in the patient's oral cavity; periodontal evaluation (PPD, CALs, furcation involvement, sensitivity levels related to recession); alignment of teeth; amount and type of supra- and subgingival calculus; existing restorative; the client's threshold for the procedure; the need to address the patient's comfort and potential anxiety; and the cooperation, collaboration, and commitment from the patient. Keeping all these elements in mind, how long does it take to debride thoroughly? If active disease is detected by applying the classifications, a mindset of initial debridement is critical, whether generalized or localized to a specific site. Definitive debridement takes time. Calculate no less than seven minutes at a tooth; perhaps more will be required to respect PPD and morphology. Areas of control still demand 2 to 3 minutes of attention for each tooth.⁹ When treatment planning, do not take these elements lightly. Breathe, analyse, and then design a treatment plan with the appropriate number of appointments and time allotted. Then, the rationale for addressing a new phase of treatment with measurable goals to diminish the bacterial challenge, establish an environment that prevents re-infection, eliminate or modify risk factors, and minimize the impact of systemic disease will be documented and included.⁸ Take the time necessary to optimize the care given. No patient was ever sad about not needing the sixth visit because the calculus was surrendering, and more teeth were completed at each visit than expected.

Continued...

Focus: AAP Periodontal Classification

The New Era of Periodontal Treatment...cont'd

Treatment modality options are expanding. However, the research shows nothing is better than traditional debridement with a blended approach.¹⁰ Glycine powder air polishing (GPAP) and ultrasonics are tools in our armamentarium. The re-evaluation component should occur following treatment of all stages of periodontal therapy to assess the restoration of periodontal health. The re-evaluation should occur at 6 weeks to 3 months post-therapy.¹⁰ If the patient returns to periodontal health, the next step is selecting a person-centred interval for SPC. If there is still inflammation, BOP, and deep pockets, additional treatment is necessary, and a referral to a periodontist is the next phase.

STAGE 1

Stage I Periodontitis is characterized by PPD equal to or less than 4 mm, CAL 1 mm to 2 mm, and/or radiographic bone loss of less than 15%. NSPT protocol is an effective treatment plan that includes revising self-care and re-evaluating treatment outcomes. The dental hygienist comfortably manages Stage I periodontitis treatment, and the patient will graduate to SPC and periodontal re-evaluations to avoid an episode of active disease.^{7,8}

STAGE 2

Stage II Periodontitis has areas of PPD less than or equal to 5 mm, CAL of 3 mm to 4 mm, horizontal bone loss between 15% and 33%, and potential Class I furcation involvement. The dental hygienist may initially treat this but may require the services of a periodontist on a site-by-site situation. This decision is based on the periodontal re-evaluation of the patient's response to treatment and ability to access complex oral self-care (e.g., morphology) areas effectively.^{7,8}

STAGE 3

Stage III Periodontitis has areas of PPD equal to or greater than 6 mm, CAL equal to or greater than 5 mm, evidence of radiographic bone loss of more than 33%, missing teeth as a result of periodontal disease, and a risk assessment that includes rate of progression, smoking, and diabetes.⁷ This increase in progression requires additional dental hygiene expertise, experience, and instrumentation. In addition, patient participation is critical to embracing lifestyle modification, self-care, and eliminating or managing risks. The armamentarium for Stage III or IV includes a 15 mm probe, extended shank explorer, longer-shanked scalers, universal, Gracey, and specialty curettes. Expanding our knowledge of advanced techniques and specialty instruments will empower successful debridement.¹¹ Education and post-care instructions at each appointment are essential to ensure the tissue is guided to heal in a way that is more favourable for the patient to maintain, reducing the opportunity for relapse. Constantly re-evaluating our patient outcomes will allow for critical thinking. We apply adjunctive treatment strategies and techniques best suited to each person's needs, document rationale, and provide continuity of care to achieve the best possible results. If, following NSPT, there are still sites that don't respond favourably, a referral to a periodontist should be considered as these patients may benefit from resective or regenerative procedures.^{7,8}

Focus: AAP Periodontal Classification

STAGE 4

Stage IV Periodontitis often presents like Stage III yet is differentiated by the extent of missing teeth (equal to or greater than 5 teeth) lost to periodontitis and disease greater than expected based on the amount of accumulation, age, and risk factors. In this situation, extensive treatment is required. A multidisciplinary team could include an orthodontist, endodontist, and prosthodontist overseen by a periodontist.^{7,8}

Our experience, expertise, and confidence in classifying and treating periodontal disease grows daily. Embracing and incorporating the classification system into practice will elevate the oral health of all. Create individualized treatment plans by analysing all the data, identifying the classification, and considering practical elements. Collaborating with patients and mindfully accumulating the evidence required to develop, educate, and implement a treatment plan, including a series of appointments with the time necessary for therapy, ultimately elevates the patient's experience and outcomes.

The *Classification of Periodontal and Peri-Implant Diseases and Conditions* is a critical framework that empowers dental hygienists to provide comprehensive, personalized care. We can positively impact patient outcomes through early detection, accurate classification, and systematic treatment planning. When dealing with periodontal disease, collaboration between the clinician and patient is paramount to achieving lasting health. We ensure a thorough, patient-centred approach by considering each patient's unique health status, lifestyle, and risk factors and selecting the appropriate time, treatment modalities, and instruments. As the dental hygiene profession evolves, embracing the classification system enhances our ability to deliver top-tier interdisciplinary care and ultimately promote oral and overall patient health.

References

1. Gum disease: By the numbers. NIH MedlinePlus Magazine [Internet]. Bethesda (MD): National Library of Medicine; 2024 [cited 2024 Sept 6]. Available from: magazine.medlineplus.gov/article/gum-disease-by-the-numbers
2. Derks J, Tomasi C. Peri-implant health and disease. A systematic review of current epidemiology. *J Clin Periodontol*. 2015;42:S158–S171.
3. Caton JG, Armitage G, Berglundh T, Chapple ILC, Jepsen S, Kornman KS, et al. A new classification scheme for periodontal and peri-implant diseases and conditions—Introduction and key changes from the 1999 classification. *J Periodontol*. 2018;89(Suppl 1):S1–S8. Available from: onlinelibrary.wiley.com/doi/full/10.1111/jcpe.12935
4. Cortellini P, Bissada N. Mucogingival conditions in the natural dentition: Narrative review, case definitions, and diagnostic considerations. *J Periodontol*. 2018;89(Suppl 1):S204–S213. Available from: aap.onlinelibrary.wiley.com/doi/10.1002/JPER.16-0671
5. Renvert S, Persson GR, Pirih FQ, Camargo PM. Peri-implant health, peri-implant mucositis, and Peri-implantitis: Case definitions and diagnostic considerations. *J Periodontol*. 2018;89(Suppl 1):S304–S312. Available from: onlinelibrary.wiley.com/doi/full/10.1111/jcpe.12956
6. European Federation of Periodontology. Peri-implant Disease: Treatment [Internet]. ©2024 [cited 2024 Sept 12]. Available from: efp.org/for-patients/dental-implants/peri-implant-disease-treatment/
7. Harrel SK, Rethman MP, Cobb CM, Sheldon LN, Sottosanti JS. Clinical decision points as guidelines for periodontal therapy. *Dimensions Dent Hyg*. 2022;20(6):28,31–33. Available from: dimensionsofdentalhygiene.com/article/clinical-decision-points-guidelines-periodontal-therapy/
8. Sanz M, Herrera D, Kebschull M, Chapple I, Jepsen S, Berglundh T, et al. Treatment of stage I-III periodontitis—The EFP S3 level clinical practice guideline. *J Clin Periodontol*. 2020;47(Suppl 22):4–60. Available from: pmc.ncbi.nlm.nih.gov/articles/PMC7891343/
9. Fritz P, Lavoie DM, Ward WE, Birek P. Oral decontamination through definitive sanative therapy: Peace in the periodontal regions. *Oral Health Magazine*, October 1, 2010. Available from: oralhealthgroup.com/features/oral-decontamination-through-definitive-sanative-therapy-peace-in-the-periodontal-regions/
10. Cobb CM, Sottosanti JS. A re-evaluation of scaling and root planing. *J Periodontol*. 2021;92(10):1370–1378. Available from: aap.onlinelibrary.wiley.com/doi/10.1002/JPER.20-0839
11. Hodges KO. Extend your reach during nonsurgical periodontal therapy. *Dimensions Dent Hyg*. 2021;19(10):22–25. Available from: dimensionsofdentalhygiene.com/article/extend-your-reach-during-nonsurgical-periodontal-therapy/