

Dental Hygiene

Focus: AAP Periodontal Classification



AAP Classifications: 7 Years on the Scene, 7 Check-in Points for Clinicians

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The American Academy of Periodontology (AAP) first introduced the new classification system for periodontal and peri-implant diseases and conditions in 2017 and what a ride it has been for clinicians! Change, especially to this degree, is not always easy. Since the 1999 classifications, substantial new information has emerged,¹ so needless to say, there have been some learning curves along the way. The AAP classifications now support a multidimensional view of periodontitis,^{2,3} including the severity (staging) and progression of the disease (grading).

The goal of this article is to provide clinicians with AAP classification reminders or “check-in points” for clinical calibration purposes. The seven points highlighted in this article are worth reviewing and clarifying, as they tend to be the most often overlooked or unrecognized.

1. DON'T FORGET THE COMPLEXITIES

The AAP staging chart outlines complexities to be considered alongside severities, such as interdental clinical attachment levels (CALs) (Figure 1). For example, a client presents with greatest periodontitis CALs of 3 mm to 4 mm, which would indicate Stage II. However, the client also presents with 6 mm probing depths in the posteriors, so there is a rationale to assign this client to Stage III.

Take a close look at the staging chart to see if any of the complexities listed are to be considered when determining the stage.³

2. THE IMPORTANCE OF RADIOGRAPHS (PERIAPICALS) FOR GRADING PURPOSES

Radiographs are a critical part of our assessments. Periapicals are needed to confirm the grade because clinicians need to view the entire length of the root to

Staging and Grading Periodontitis

The 2017 World Workshop on the Classification of Periodontal and Peri-implant Diseases and Conditions resulted in a new classification of periodontitis, characterized by a multidimensional staging and grading system. The charts below provide an overview. Please visit www.perio.org/2017workd for the complete suite of evidence, supporting papers, and consensus reports.



PERIODONTITIS: STAGING					
Staging intends to classify the severity and extent of a patient's disease based on the measurable amount of destroyed and/or damaged tissue as a result of periodontitis and to assess the specific factors that may attribute to the complexity of long-term case management.					
Initial stage should be determined using clinical attachment level (CAL) if CAL is not available, radiographic bone loss (RBL) should be used. Teeth lost due to periodontitis may modify stage definition. One or more complexity factors may shift the stage to a higher level. See www.perio.org/2017workd for additional information.					
Periodontitis	Stage I	Stage II	Stage III	Stage IV	
Severity	Interdental CAL (at site of greatest loss)	1–2 mm	3–4 mm	≥5 mm	≥6 mm
	RBL	Coronal third (13%)	Crown third (25%–35%)	Extending to middle third of root and beyond	Extending to middle third of root and beyond
	Tooth loss (due to periodontitis)	NO TOOTH LOSS	NO TOOTH LOSS	≤1 tooth	≥2 teeth
Complexity	Local	<ul style="list-style-type: none"> Max. probing depth ≤4 mm Mostly horizontal bone loss 	<ul style="list-style-type: none"> Max. probing depth ≤4 mm Mostly horizontal bone loss 	<ul style="list-style-type: none"> In addition to Stage I complexity: <ul style="list-style-type: none"> Probing depths ≥6 mm Vertical (osseous) ≥3 mm Furcation involvement (Class I or II) Widespread ridge defects 	<ul style="list-style-type: none"> In addition to Stage II complexity: <ul style="list-style-type: none"> Need for complex rehabilitation due to: <ul style="list-style-type: none"> Mandatory dysfunction Secondary occlusal trauma Tooth mobility degree ≥2 Severe ridge defects Site collapse, drifting, flaring ≤20 remaining teeth (≥10 remaining quads)
Extent and distribution	Add to stage as descriptor	For each stage, describe all of the following: <ul style="list-style-type: none"> Localized (≤30% of teeth involved) Generalized (>30%) Motivator score pattern 			

▲ **Figure 1.** Periodontitis staging chart. Retrieved and reproduced with permission from the American Academy of Periodontology. Take a close look at the staging chart (www.perio.org/wp-content/uploads/2019/08/Staging-and-Grading-Periodontitis.pdf)

accurately determine how much interproximal alveolar bone has been lost.^{3,4}

Grading focuses on the progression of the client's periodontitis.⁴ How quickly has the client's periodontitis progressed throughout their lifetime? Has the disease progressed at a slow, moderate or rapid rate? One way to confirm the progression of the disease is to determine the amount of loss through radiographs; either by comparing recent radiographs to previous radiographs on file (direct evidence),⁴ or by utilizing recent radiographs and applying the following simple calculation: % of bone loss/age (indirect evidence).⁴

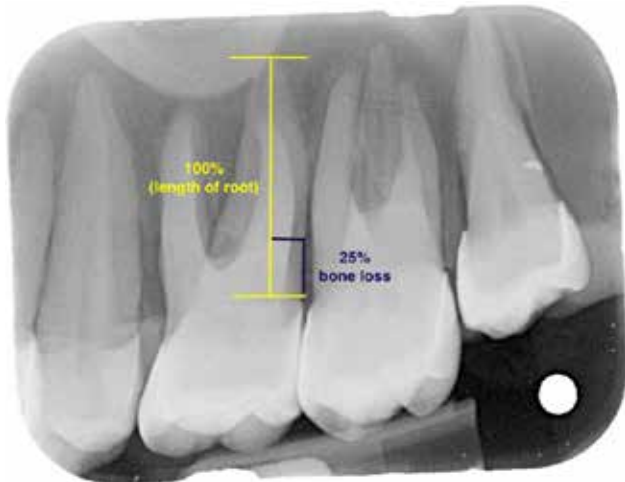
For example, if a full mouth series is exposed that day, the clinician would assess all the periapicals to determine the greatest area of bone loss. If the greatest area of bone

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AAP Classifications: 7 Years on the Scene...cont'd

loss is confirmed to be 25% at the 26 distal (Figure 2) and the client is 65 years old, the calculation to determine the grade would be as follows²: $25/65 = 0.38$ (Grade B).



▲ **Figure 2.** Illustration of 25% bone loss on the 26 distal

3. ACCURATELY RECORDING GINGIVAL MARGINS

Documenting the gingival margins (GMs) during a comprehensive periodontal assessment involves more than just recording areas of recession. GMs are recorded as either a positive (+) GM or a negative (-) GM. Recession is recorded as a positive (+) because the GM is *apical* to the cemento-enamel junction (CEJ)⁵ (Figure 3A). If the gingival tissue is *coronal* to the CEJ, this is recorded as a negative (-) GM⁵ (Figure 3B).

For example, intact papillae that fill the interdental spaces are often recorded as -2 mm or -3 mm.⁵ The clinician would measure from the interproximal CEJ to the height of the papilla. If the papilla is blunted, then the interproximal GM might be -1 mm, as an example. A completely blunted papilla, where the GM sits at the CEJ, would be recorded as 0 mm.

The GMs must be accurately recorded, because if they are not, then the CALs cannot be accurately calculated,⁵ which can result in inaccurate staging of a client with periodontitis.

4. PERIODONTITIS CALs VS NON-PERIODONTITIS CALs

When it comes to staging a client with periodontitis, not all CALs are considered the same. Only periodontitis CALs, or CALs from disease, are used for staging.⁶ It is important to remember that CALs can be the result of other factors as well, such as bruxism/clenching (traumatic occlusal forces), malocclusion, orthodontics, crown lengthening, abrasion or thin gingival phenotypes.^{5,6,7} These factors would often contribute to



▲ **Figure 3A.** Recession on tooth 23 (+GM)



▲ **Figure 3B.** Interproximal papilla that completely fills the interdental space (-GM)

what is known as “on a reduced periodontium.”^{3,6,8}

For example, a 5 mm probing depth on the 16 mesial might yield a 2 mm CAL. This would be a periodontitis CAL, because this CAL is present at a periodontitis site. In contrast, a 1 mm probing depth on the 43 facial might yield a 3 mm CAL. This would be considered a non-periodontitis CAL, because this CAL is present at a non-periodontitis site. At this site, there is a healthy probing depth that has 2 mm of recession.

Remember: There is a rule to assess buccal/lingual sites. For buccal/lingual sites to be considered periodontitis the rule is as follows: ≥ 3 mm CAL with ≥ 3 mm probing depth at ≥ 2 non-adjacent teeth.³

5. MOLAR/INCISOR PATTERN

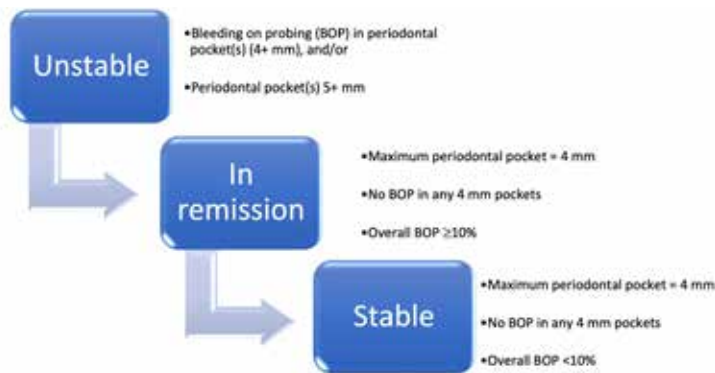
It's not generalized, and it's not localized; it is a special entity all on its own. Molar/incisor pattern used to be referred to as juvenile or aggressive periodontitis, but now the focus is on the distinct patterning of periodontitis, regardless of age.⁹ For example, a client presents with periodontitis CALs throughout the posterior, and the clinician notices through their periodontal assessment that the incisors present with periodontitis as well. This would be a molar/incisor pattern distribution.

Remember: There is a rule for molar/incisor pattern. There can be other sites throughout the dentition affected by periodontitis as well. However, the requirement for a molar/incisor pattern is rapid vertical bone loss in the area of the molars and/or the incisors.¹⁰

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6. UNSTABLE, IN REMISSION OR STABLE?

Realistically speaking, unstable is the state in which many clients are when they first begin periodontal therapy. Over time, the goal is to achieve stability. If a client presents with bleeding on probing in any periodontal probing depths (4+ mm), they are considered unstable because bleeding on probing indicates active disease.⁸ Additionally, if a client presents with any periodontal probing depths of 5+ mm, they are also considered unstable.⁸ A client who presents as stable will not have probing depths greater than 4 mm, these 4 mm sites are without bleeding, and the overall bleeding on probing percentage for stability will be <10%.⁸ In remission is similar to stability, except that the overall bleeding on probing percentage presents as ≥10%.⁸ Figure 4 describes unstable, in remission, and stable states.



▲ **Figure 4.** Progression towards stability in a client with periodontitis showing reduction in periodontal pockets and bleeding

7. CLINICAL HEALTH, GINGIVITIS OR PERIODONTITIS

Once the clinician has completed their comprehensive periodontal assessment, they can decide as to whether the client presents with clinical health, gingivitis or periodontitis.^{6,8} For the AAP classification statement, the client will fall into one of these three categories, not a combination. Therefore, only one statement is assigned.⁶

For example, a client could present with localized areas of clinical health, generalized areas of gingivitis, and localized areas of periodontitis.² This client would be classified as periodontitis and would be staged and graded. Clinicians are to classify and treatment plan according to the most severe classification,⁶ which in this case would be periodontitis. As a result, the statement might look something like this: Localized Periodontitis, Stage II, Grade B, Unstable. The clinician does not disregard the fact that other areas present as clinical health and gingivitis. However, this is a client with periodontitis, so the classification is periodontitis.

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