



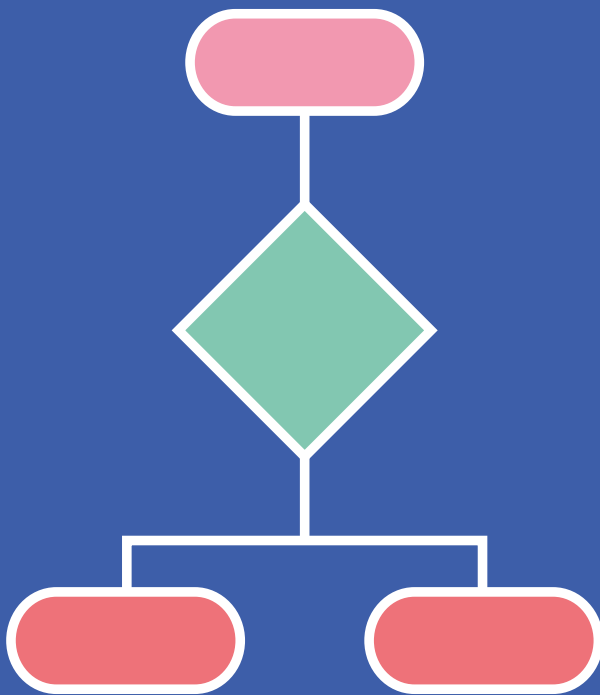
EFP

New Classification

of periodontal and peri-implant diseases

02. Periodontitis: clinical decision tree for staging and grading

Guidance for clinicians



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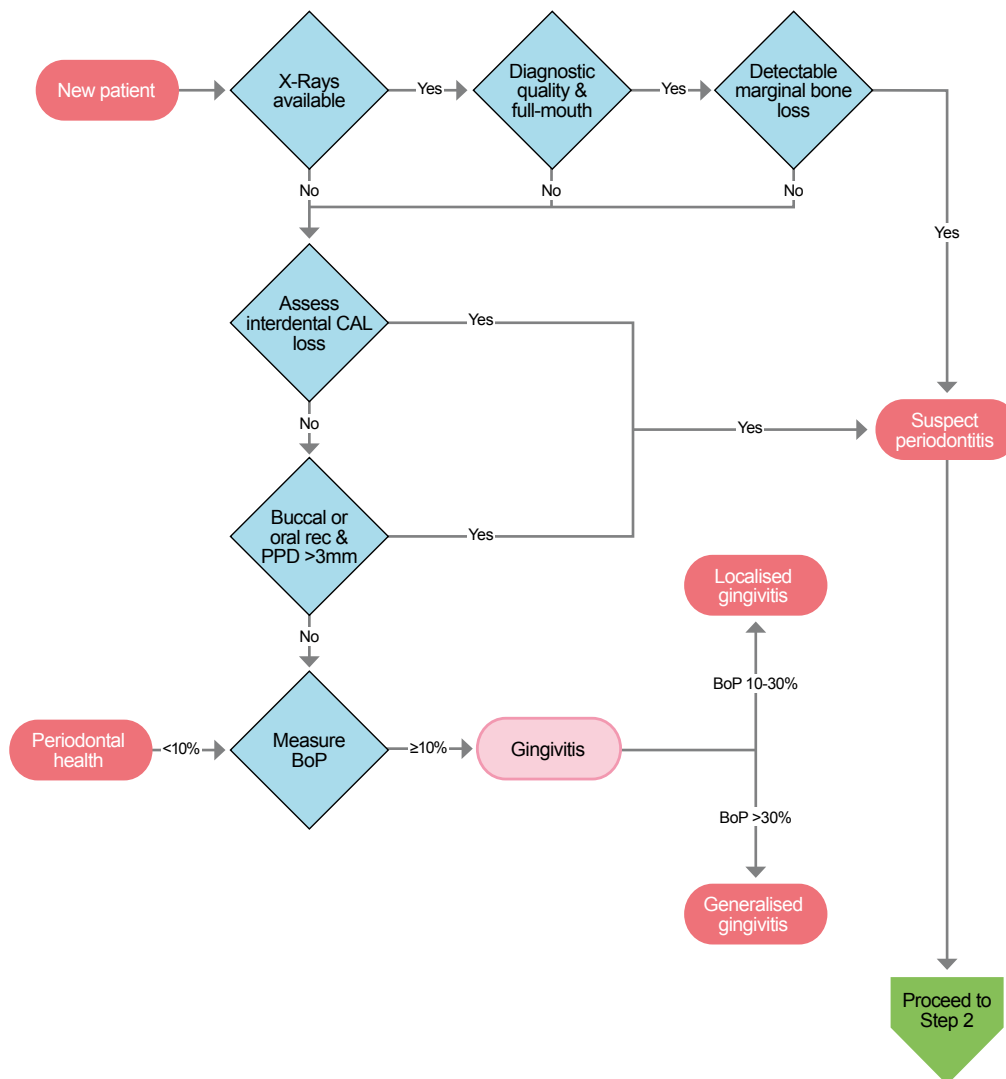


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STEP 1 New patient

When seeing a patient for the first time, we should first ask if there is a full-mouth radiograph of adequate quality. If yes, we should assess whether there is detectable marginal bone in any area of the dentition. If bone loss (BL) is detectable, the patient is suspected of having periodontitis. At the same time, irrespective of radiographic records, we must clinically explore the patient and assess interdental clinical attachment loss (CAL). If CAL is detectable, the patient is a possible case of periodontitis. If interdental CAL is not detected, we must evaluate the presence of buccal recessions with probing pocket depths (PPD) greater than 3mm. If such recessions are present, the patient is a possible periodontitis case. If there are no buccal PPD greater than 3mm, we must evaluate full-mouth bleeding on probing (BoP). If this is present in more than 10% of the sites, the patient is diagnosed with gingivitis and if present in less than 10% of sites, the patient is diagnosed with periodontal health.



Periodontitis: clinical decision tree for staging and grading

Based on:

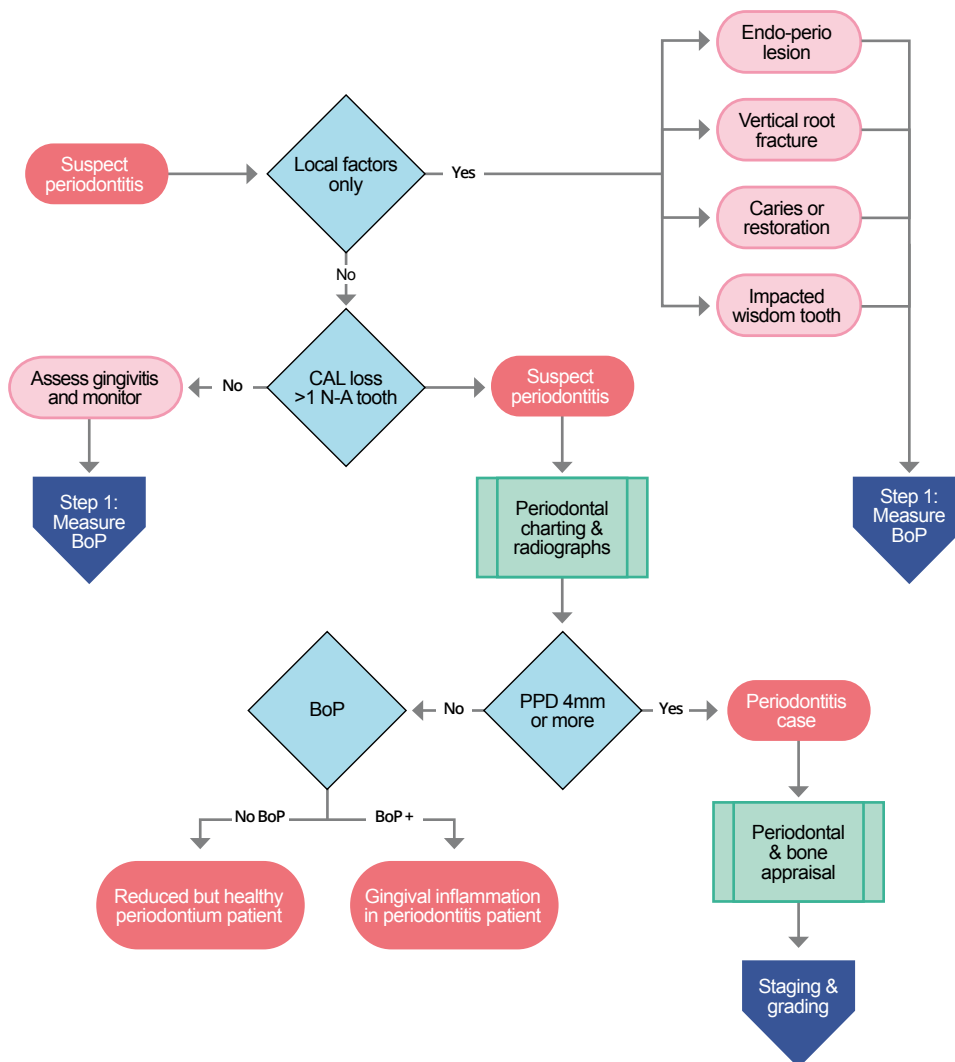
Tonetti, MS & Sanz M.

[Implementation of the New Classification of Periodontal Diseases: Decision-making Algorithms for Clinical Practice and Education.](#)

Journal of Clinical Periodontology, 2019.

STEP 2 Patient suspected of periodontitis

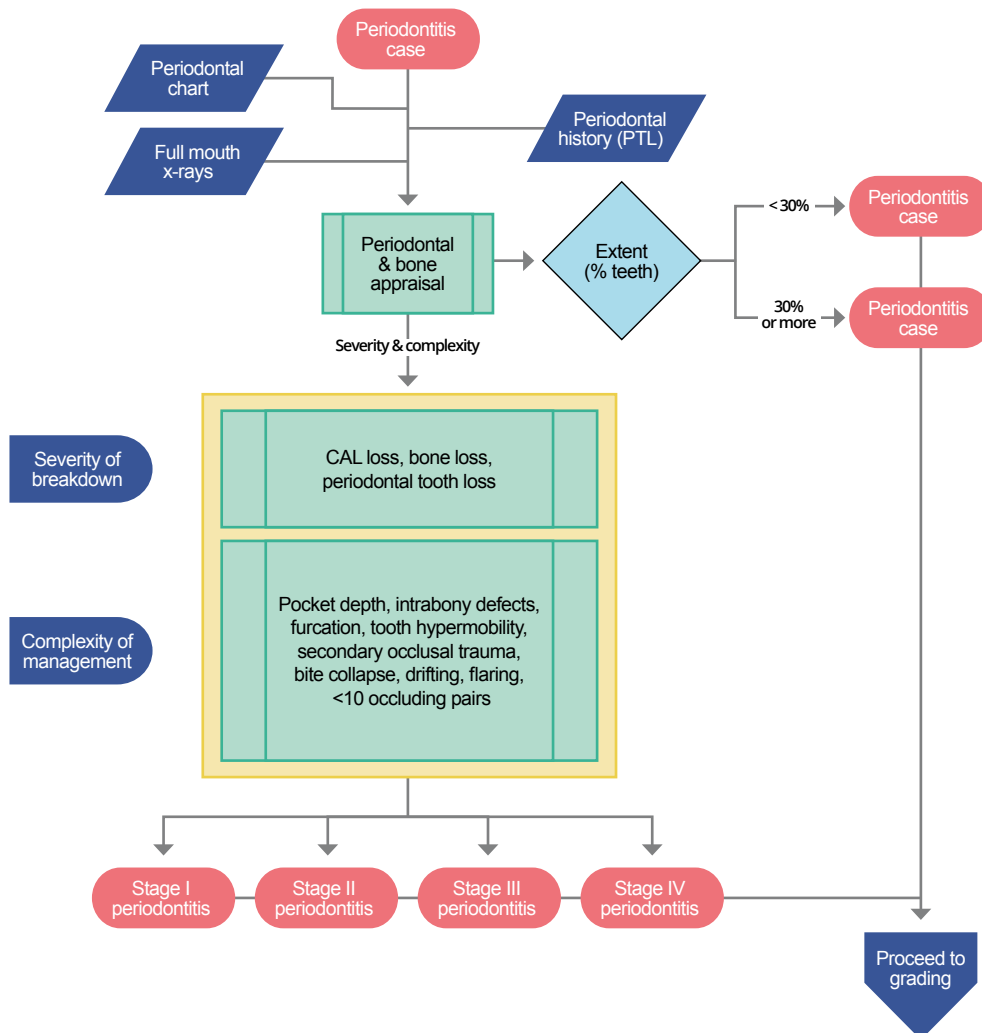
When the presence of interdental CAL in the oral examination has identified the patient as a suspected case of periodontitis, we need to ascertain whether this CAL is caused by local factors only – endo-perio lesions, vertical root fractures, caries, restorations, or impacted third molars. If not, we need to ascertain that the interdental CAL is present in more than one non-adjacent tooth. If this is the case, we have a periodontitis patient and we need to make a comprehensive periodontal diagnosis through periodontal charting and full-mouth radiographs. If the periodontal charting does not show PPD of 4mm or more, we need to evaluate full-mouth BoP. When BoP is higher than 10%, the diagnosis is gingival inflammation in a periodontitis patient; when it is lower than 10%, the diagnosis is a patient with a reduced but healthy periodontium. If the periodontal charting shows PPD of 4mm or more, the diagnosis is a periodontitis case that needs to be assessed according to stage and grade.



STEP 3a

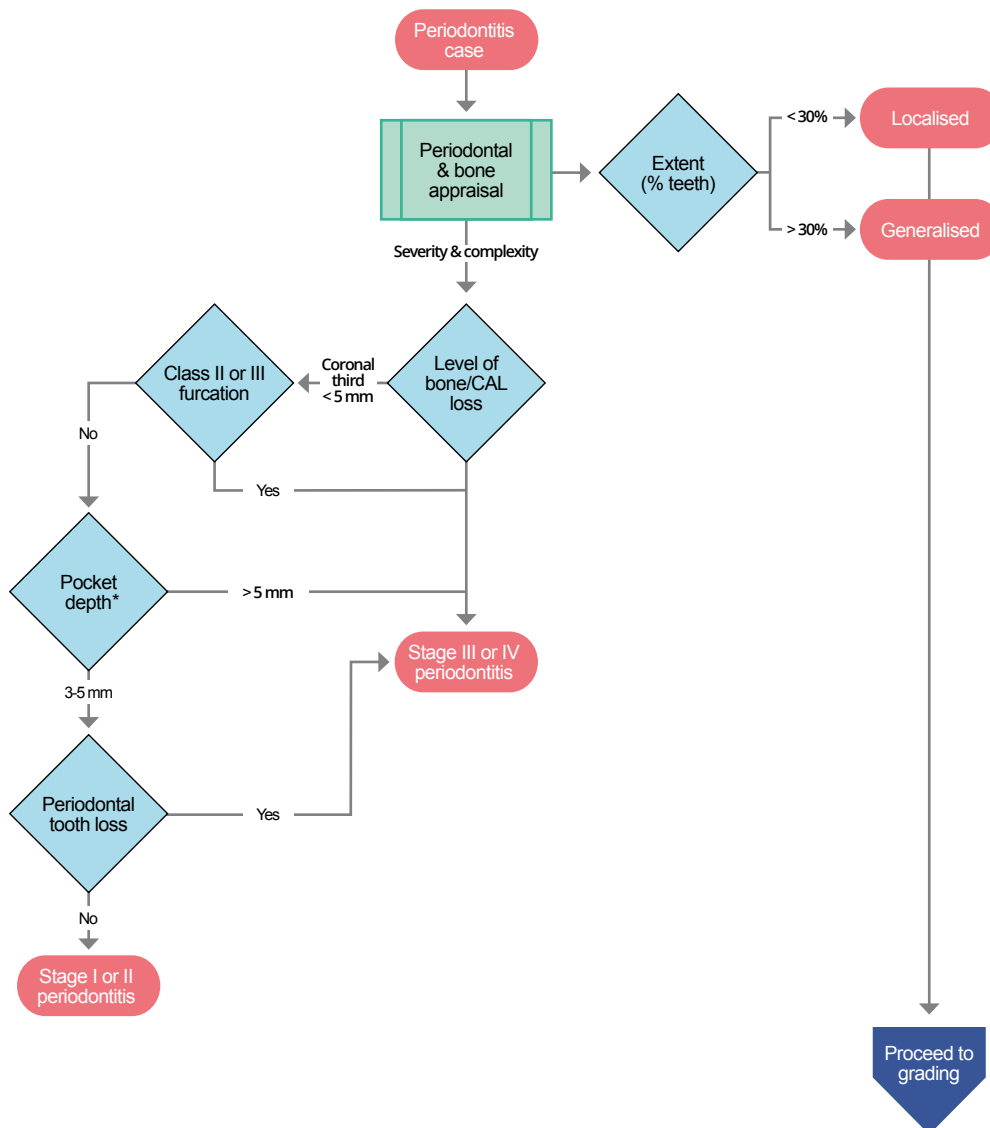
Patient is a periodontitis case whose stage needs to be established

To establish the stage of an individual case of periodontitis, the following information is needed: full mouth x-rays, a periodontal chart, and a periodontal history of tooth loss (PTL). First, we assess the extent of the disease, by assessing whether the CAL/BL affects less than 30% of the teeth (local) or 30% or more (generalised). Then, we define the stage of the disease by assessing severity (using CAL, BL, and PTL) and complexity (by assessing PPD, furcation and intrabony lesions, tooth hypermobility, secondary occlusal trauma, bite collapse, drifting, flaring, or having fewer than 10 occluding pairs of teeth).



STEP 3b Stages III and IV versus I and II

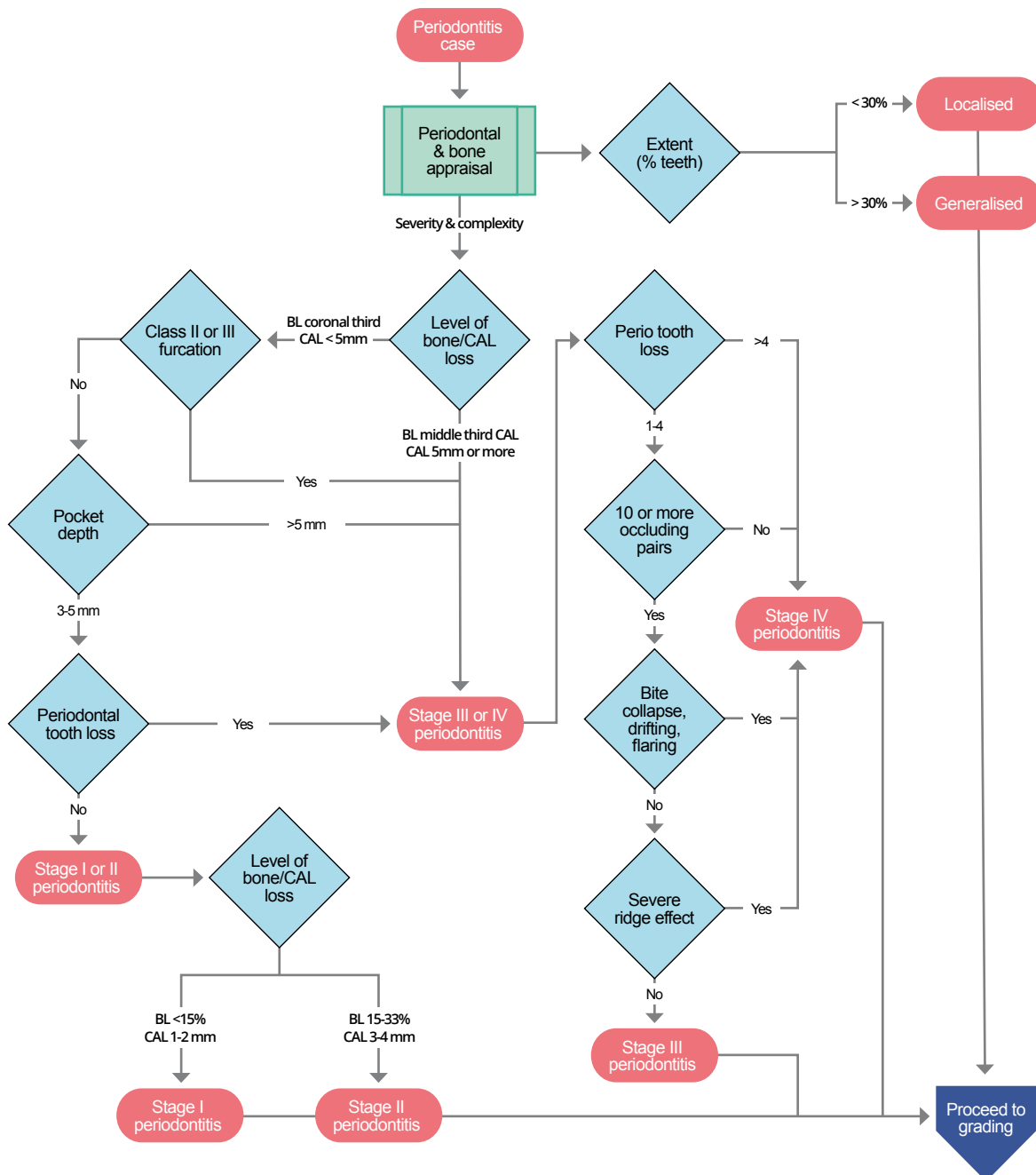
If CAL is greater than 5mm or if the BL affects the middle third of the root or beyond in more than two adjacent teeth, the diagnosis is either Stage III or IV. If CAL is 5mm or less in fewer than two teeth, we should look for furcation lesions (degrees II and III). If these are present, the diagnosis is either Stage III or IV. If absent, we should check PPD and if these are greater than 5mm in more than two adjacent teeth, the diagnosis is either Stage III or IV. If PPD are between 3-5 mm, we should assess PTL. If there is PTL, the diagnosis is either Stage III or IV. If not, the diagnosis is Stage I or II. Regarding pocket depth, clinical judgement should be applied to use this criterion to upgrade from Stages I & II to Stage III. For example, in the presence of pseudo pockets, the periodontitis case should stay as Stage II.



* Clinical judgement should be applied to use this criterion to upgrade from Stages I & II to Stage III. For example, in the presence of pseudo pockets, the periodontitis case should stay as Stage II.

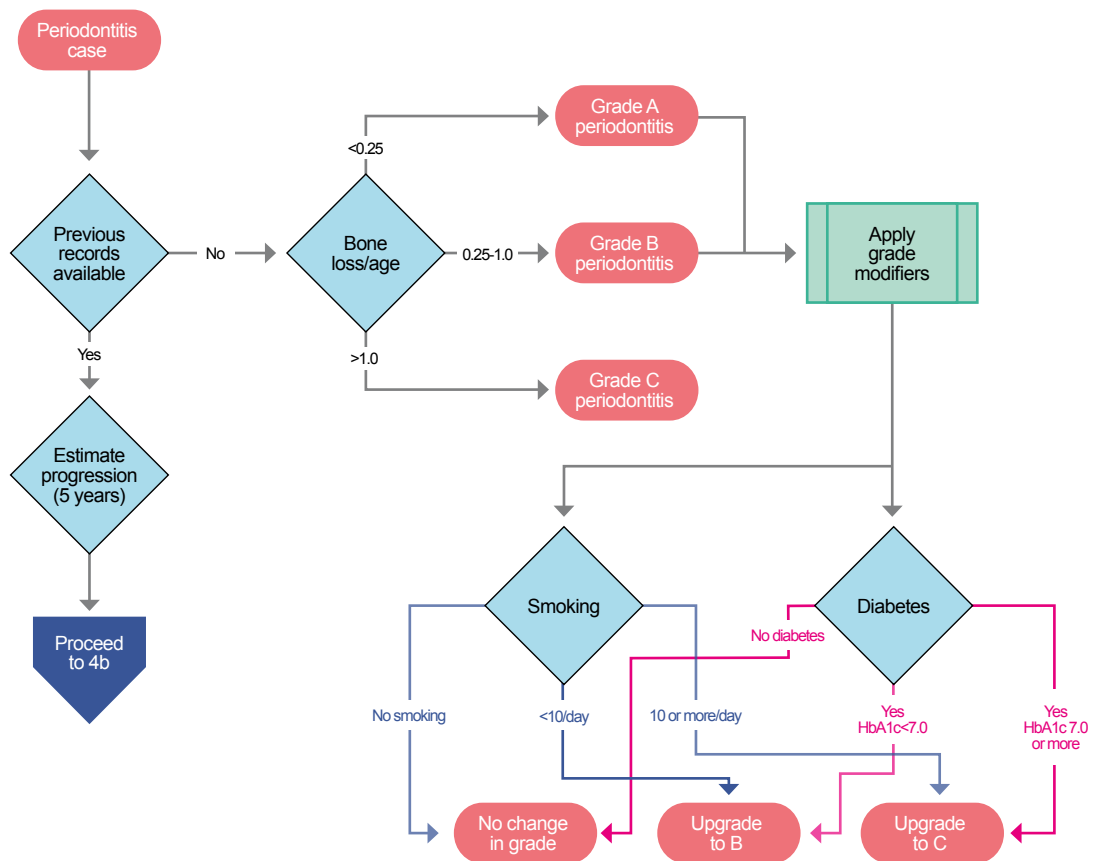
STEP 3c Stages I, II, III, and IV

Stages I and II are based on the level of CAL and BL. The diagnosis is Stage I if: (a) BL is less than 15% and (b) CAL is between 1-2mm. The diagnosis is Stage II if: (a) BL is between 15% and 33% and (b) CAL is between 3-4mm. The diagnosis is Stage III if: (a) BL affects the middle third of the root or beyond, (b) CAL is 5mm or more, (c) PTL is four teeth or fewer, (d) 10 or more occluding pairs are present, and (e) in the absence of bite collapse, drifting, flaring, or a severe ridge defect. The diagnosis is Stage IV if: (a) BL affects the middle third of the root or beyond, (b) CAL is 5mm or more, (c) PTL is more than four teeth, (d) there are fewer than 10 occluding pairs, or (e) when there is bite collapse, drifting, flaring, or a severe ridge defect.



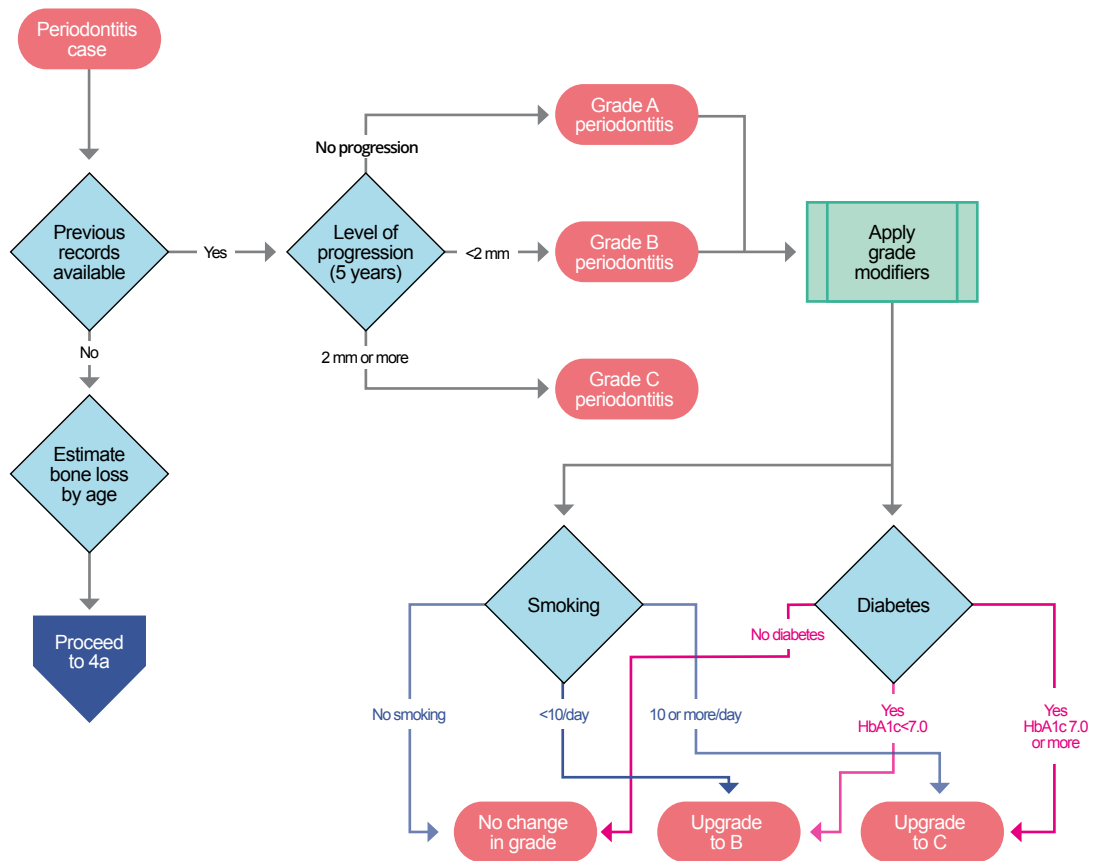
STEP 4a Grading when there are no existing records

When previous periodontal records are not available, the bone loss/age (BL/A) ratio should be calculated from the full-mouth radiographs. If BL/A is between 0.25 and 1.0, the diagnosis is Grade B periodontitis. If less than 0.25, the diagnosis is Grade A periodontitis: if higher than 1.0, the diagnosis is Grade C periodontitis. Grades A and B can be modified if the patient smokes or is diabetic. A patient who smokes 10 or more cigarettes per day will be changed to Grade C, while one who smokes fewer than 10 cigarettes will be upgraded to B. Similarly, a diabetic patient with HbA1c below 7.0 will be upgraded to B and one with HbA1c of 7.0 or more upgraded to C.



STEP 4b Grading when there are existing records

When the patient's periodontal records are available, the rate of periodontitis progression over the previous five years should be calculated. If progression is less than 2mm, the diagnosis is Grade B periodontitis. If there has been no progression in five years, the diagnosis is Grade A periodontitis. When the progression has been 2mm or more, the diagnosis is Grade C periodontitis. Grades A and B can be upgraded to a higher grade if the patient smokes or is diabetic. A patient who smokes 10 or more cigarettes per day will be changed to Grade C, while one who smokes fewer than 10 cigarettes will be upgraded to B. Similarly, a diabetic patient with HbA1c below 7.0 will be upgraded to B and one with HbA1c of 7.0 or more upgraded to C.





Further reading

[Proceedings of the World Workshop on the Classification of Periodontal and Peri-implant Diseases and Conditions](#), co-edited by Kenneth S. Kornman and Maurizio S. Tonetti. *Journal of Clinical Periodontology*, Volume 45, Issue S20, June 2018.

Proceedings include:

- Papapanou PN, Sanz M, et al. [Periodontitis: Consensus report of workgroup 2 of the 2017 World Workshop on the Classification of Periodontal and Peri-implant Diseases and Conditions](#), S162-S170.
- Herrera D, Retamal-Valdes B, Alonso B, Feres M. [Acute periodontal lesions \(periodontal abscesses and necrotising periodontal diseases\) and endo-periodontal lesions](#), S78-S94.
- Fine DH, Patil AG, Loos BG. [Classification and diagnosis of aggressive periodontitis](#), S95-S111.
- Needleman I, Garcia R, Gkraniias N, et al. [Mean annual attachment, bone level, and tooth loss: A systematic review](#), S112-S129.
- Billings M, Holtfreter B, Papapanou PN, Mitnik GL, Kocher T, Dye BA. [Age-dependent distribution of periodontitis in two countries: Findings from NHANES 2009 to 2014 and SHIP-TREND 2008 to 2012](#), S130-S148.
- Tonetti MS, Greenwell H, Kornman KS. [Staging and grading of periodontitis: Framework and proposal of a new classification and case definition](#), pages S149-S161.

Tonetti, MS & Sanz M. [Implementation of the New Classification of Periodontal Diseases: Decision-making Algorithms for Clinical Practice and Education](#). *Journal of Clinical Periodontology*, 2019.

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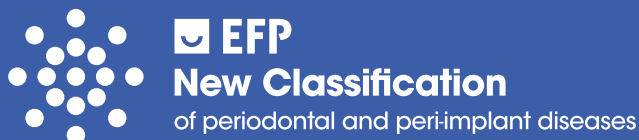
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Maurizio Tonetti is clinical professor of periodontology at the Faculty of Dentistry of Hong Kong University and executive director of the European Research Group on Periodontology (ERGOPerio). He is the editor-in-chief of the *Journal of Clinical Periodontology* and a member of the EFP executive committee.



New Classification of periodontal and peri-implant diseases and conditions

The New Classification is the product of the World Workshop on the Classification of Periodontal and Peri-implant Diseases and Conditions, held in Chicago in November 2017. The World Workshop was organised jointly by the American Academy of Periodontology (AAP) and the European Federation of Periodontology (EFP) to create a consensus knowledge base for a new classification to be promoted globally. The New Classification updates the previous classification made in 1999. The research papers and consensus reports of the World Workshop were published simultaneously in June 2018 in the EFP's *Journal of Clinical Periodontology* and the AAP's *Journal of Periodontology*. The new classification was presented formally by the two organisations at the EuroPerio9 congress in Amsterdam in June 2018.



About the EFP

The European Federation of Periodontology (EFP) is an umbrella organisation of 35 national scientific societies devoted to promoting research, education, and awareness of periodontal science and practice. It represents more than 14,000 periodontists and gum-health professionals in Europe alone. In addition to 31 European members, the EFP has recently welcomed four international associate members from Asia, the Middle East, and Latin America.

www.efp.org
www.efp.org/newclassification

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