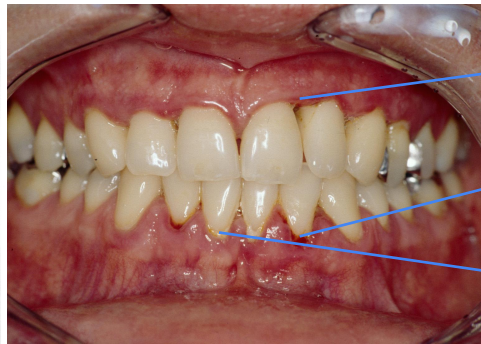


# Periodontitis

Periodontitis is defined as 'microbially-associated, host-mediated inflammation that results in loss of periodontal attachment.'<sup>3</sup>

It is characterized by gum recession, the destruction of tissue that supports the tooth such as connective tissue or periodontal ligaments, and the destruction of the alveolar bone. Consequences include bone loss, loose teeth, and eventually tooth loss.



Bone demineralisation/loss

Chronic inflammatory infiltrate

Maturing inflammation

Plaque accumulation

Changes to the gum and bone following inflammation in periodontitis are irreversible. Therefore, ongoing management for life is necessary to prevent disease recurrence.<sup>4</sup> Supporting someone in this ongoing management requires a good relationship, which can be developed through effective communication.

## Defining a periodontitis case<sup>5,6</sup>

Definitions of periodontitis have been streamlined from the 1999 framework so that 'chronic' and 'aggressive' cases are grouped together and simply known as periodontitis.

A staging and grading system can then be used for further characterisation. Periodontitis is described as Stage I to IV, depending on the severity of disease on presentation and how complex it will likely be to manage. It is also graded from A to C on its perceived rate of progression.

## Defining a periodontitis case<sup>6</sup>

### Summary of framework for staging and grading of periodontitis

		Disease severity and complexity of management			
		Stage 1: Initial periodontitis	Stage 2: Moderate periodontitis	Stage 3: Severe periodontitis	Stage 4: Advanced periodontitis with extensive tooth loss and potential for dentition loss
Severity	Interdental CAL at site of greatest loss	1–2 mm	3–4 mm	≥5 mm	≥5 mm
	Radiographic bone loss	Coronial third (>15%)	Coronial third (15–33%)	Extending to middle or apical third of the root	Extending to middle or apical third of the root
Evidence or risk of rapid progression, anticipated treatment response, and effects on systemic health	Grade A Grade B Grade C	Individual stage and grade assignment			

Adapted from Tonetti et al. 2018<sup>6</sup>

## Defining a periodontitis case<sup>6</sup>

### Periodontitis stage

Periodontitis stage		Stage 1	Stage 2	Stage 3	Stage 4
Severity	Interdental CAL at site of greatest loss	1–2 mm	3–4 mm	≥5 mm	≥5 mm
	Radiographic bone loss	Coronial third (<15%)	Coronial third (15–33%)	Extending to middle or apical third of the root	Extending to middle or apical third of the root
	Tooth loss	No tooth loss due to periodontitis		Tooth loss due to periodontitis of ≤4 teeth	Tooth loss due to periodontitis of ≥5 teeth
Complexity	Local	Maximum probing depth ≤4 mm	Maximum probing depth ≤5 mm	In addition to stage 2 complexity: Probing depth ≥6 mm	In addition to stage 3 complexity: Need for complex rehabilitation due to:
		Mostly horizontal bone loss	Mostly horizontal bone loss	Vertical bone loss ≥3 mm Furcation involvement Class 2 or 3 Moderate ridge defect	Masticatory dysfunction Secondary occlusal trauma (tooth mobility degree ≥2) Severe ridge defect Bite collapse, drifting, flaring Less than 20 remaining teeth (10 opposing pairs)
Extent and distribution	Add to stage as descriptor	For each stage, describe extent as localised (<30% of teeth involved), generalised, or molar/incisor pattern			

Adapted from Tonetti et al. 2018<sup>6</sup>

## Defining a periodontitis case<sup>6</sup>

### Periodontitis grade

Periodontitis grade			Grade A: Slow rate of progression	Grade B: Moderate rate of progression	Grade C: Rapid rate of progression
Primary criteria	Direct evidence of progression	Longitudinal data (radiographic bone loss or CAL)	Evidence of no loss over 5 years	<2 mm over 5 years	≥2 mm over 5 years
	Indirect evidence of progression	Percentage bone loss/age  Case phenotype	<0.25  Heavy biofilm deposits with low levels of destruction	0.25–1.0  Destruction commensurate with biofilm deposits	>1.0  Deconstruction exceeds expectation given biofilm deposits; specific clinical patterns of rapid progression and/or early onset disease
Grade modifiers	Risk factors	Smoking	Non-smoker	Smoker <10 cigarettes/day	Smoker ≥10 cigarettes/day
		Diabetes	Normoglycemic/ no diagnosis of diabetes	HbA1c <7.0% in patients with diabetes	HbA1c ≥7.0% in patients with diabetes
Risk of systemic impact of periodontitis	Inflammatory burden	High sensitivity CRP	<1 mg/L	1–3 mg/L	>3 mg/L
Biomarkers	Indicators of CAL/ bone loss	Saliva, gingival crevicular fluid, serum	?	?	?

Adapted from Tonetti et al. 2018<sup>6</sup>

## Defining a periodontitis case<sup>6</sup>

In clinical care, someone is now defined as a periodontitis case if<sup>5,6</sup>:

- interdental clinical attachment loss is seen in two or more non-adjacent teeth, **or**
- buccal or oral clinical attachment loss and pocketing of at least 3 mm has been found in two or more teeth.

## Risk factors for periodontitis

Several factors increase a person's risk of periodontitis. For patients, what is important is understanding which of these are under their control and which are not.

Helping a patient to identify the factors they control may be the first step in creating a plan to improve their oral hygiene regime.

### Controllable risk factors:

- Poor plaque control
- Smoking
- Stress
- Obesity
- Poor nutrition (both caloric intake and quality of nutrition)
- Systemic diseases (e.g., diabetes)
- Physical inactivity

### Uncontrollable risk factors:

- Quality of the immune response
- Ageing
- Genetics
- Hormonal influences (pregnancy)

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