Gingivitis

Around 95% of people have some form of gingival inflammation, which could suggest that gingivitis is essentially a normal state.[2] However, the prevalence of gingivitis has previously been hard to pin down because its classification varies so widely.

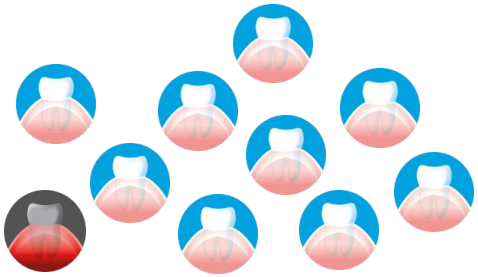
This variation led to a new classification of periodontal disease proposed in 2017 by the European Federation of Periodontology (EFP) and American Academy of Periodontology (AAP).[2]

Epidemiological figures for the prevalence of gingivitis vary from 6–94%[2]

New definition of gingivitis by EFP & AAP

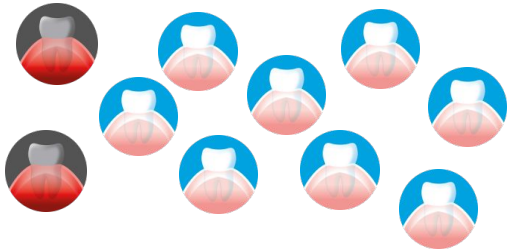
Percentage of bleeding sites:

Gingivitis is defined based on the percentage of bleeding sites, with anything above 10% classed as gingivitis.



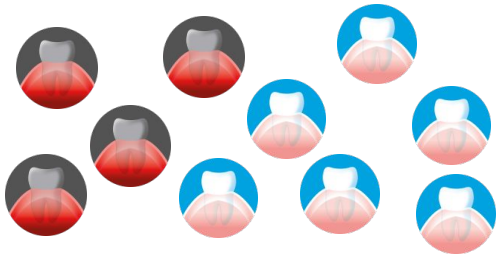
≤10%
bleeding sites with probing depths ≤3 mm

HEALTHY



10–30% bleeding sites

LOCALIZED GINGIVITIS



>30% bleeding sites

GENERALIZED GINGIVITIS

Diagnostic criteria for a gingivitis case[2]

There are two types of gingival disease:

- Dental plaque biofilm-induced gingivitis
- Non-dental plaque-induced gingival diseases

Dental plaque biofilm-induced gingivitis is defined at the site level as:

"… an inflammatory lesion resulting from interactions between the dental plaque biofilm and the patient's immune-inflammatory response, which remains contained within the gingiva and does not extend to the periodontal attachment (cementum, periodontal ligament and alveolar bone).

Such inflammation remains confined to the gingiva and does not extend beyond the mucogingival junction and is reversible by reducing levels of dental plaque at and apical to the gingival margin."[2]

Diagnostic criteria for a gingivitis case[2]

Depending on whether dental plaque biofilm-induced gingival inflammation occurs on an intact or reduced periodontium, or in someone diagnosed with periodontitis, gingivitis can be further classified as[2]:

- Gingivitis on an intact periodontium
- Gingivitis on a reduced periodontium in a non-periodontitis patient (e.g., recession, crown lengthening)
- Gingival inflammation on a reduced periodontium in a successfully treated periodontitis patient (note, this may actually be recurrent periodontitis)

For an intact periodontium and a reduced and stable periodontium, gingival health is defined as <10% bleeding sites with probing depths ≤3 mm.[2]

Someone with periodontal health may show one or two sites with some evidence of clinical gingival inflammation. Moreover, there may be localized mild and delayed bleeding on probing
at isolated sites that still falls within the spectrum of 'clinical health'.

In clinical practice, a case of gingival health on an intact periodontium would have none of these defined signs of gingivitis.[2]

Diagnostic criteria for a gingivitis case[2]

Diagnostic look-up table for gingival health or dental plaque-induced gingivitis in clinical practice

Intact periodontium	Health	Gingivitis
Probing attachment loss	No	No
Probing pocket depths (assuming no pseudo pockets)[a]	≤3 mm	≤3 mm
Bleeding on probing[a]	<10%	Yes (≥ 10%)
Radiological bone loss	No	No

Reduced periodontium Non-periodontitis patient	Health	Gingivitis
Probing attachment loss	Yes	Yes
Probing pocket depths (all sites & assuming no pseudo pockets)[a]	≤3 mm	≤3 mm
Bleeding on probing[a]	<10%	Yes (≥ 10%)
Radiological bone loss	Possible	Possible

Adapted from Chapple et al. 2018[2]

NB: In conditions where there is treatment but no cure, e.g., periodontitis, the post-treatment parameters that define stability/health or gingivitis may differ from the parameters for health/gingivitis in a non-periodontitis patient. The threshold for "clinical health" in a treated and stable periodontitis patient is therefore set at ≤ 4 mm.

[a] Assumes a light probing pressure of 0.2 to 0.25 N.

Diagnostic criteria for a gingivitis case[2]

Diagnostic look-up table for gingival health or dental plaque-induced gingivitis in clinical practice

Successfully treated stable periodontitis patient	Health	Gingivitis in a patient with a history of periodontitis
Probing attachment loss	Yes	Yes
Probing pocket depths (all sites & assuming no pseudo pockets)[a]	≤4 mm (no site ≥ 4 mm with BOP)	≤3 mm
Bleeding on probing[a]	<10%	Yes (≥ 10%)
Radiological bone loss	Yes	Yes

Adapted from Chapple et al. 2018[2]

NB: A successfully treated periodontitis patient in whom sites of gingival bleeding appear remains at high risk of disease recurrence at those sites and of progressive attachment loss. Therefore, gingivitis is defined as bleeding at a shallow site of ≤ 3 mm rather than ≤ 4 mm, as is the case in gingival heath. Where the probing depth is 4 mm or higher with bleeding, this is no longer a “closed pocket”.

[a] Assumes a light probing pressure of 0.2 to 0.25 N.

Clinical diagnosis

The signs of gingival inflammation are erythema, oedema, pain (soreness), heat, and loss of function.[2]

These may appear clinically as[2]:

- Swelling, seen as loss of knife-edged gingival margin and blunting of papillae
- Bleeding on gentle probing
- Redness
- Discomfort on gentle probing

The symptoms someone may report include[2]:

- Bleeding gums (metallic/altered taste)
- Pain (soreness)
- Halitosis
- Difficulty eating
- Appearance (swollen red gums)
- Reduced oral-related quality of life

Monitoring and providing feedback

These signs and symptoms of gingivitis are varied and may not always be noticed by the patient. It may help if you feed back to your patient about any signs you see of inflammation and encourage them to self-monitor for any of these symptoms. It can also be helpful to explain to the patient how oral care interventions are required to treat the cause of the condition, not just these signs.

This monitoring by both you and your patient should be an ongoing process to see whether there have been any changes between appointments. This might indicate whether a person's oral hygiene regime is effective, providing an opportunity for feedback to help them to maintain that behaviour. Or whether you may need to support the patient to make some changes.

Communicating a gingivitis diagnosis

The EFP/AAP suggest that, clinically, there is no need to classify the severity of gingivitis. But the patients you are treating may find it helpful to know the severity of their condition.[2] This can be done in several simple ways and may be more effective if shown visually.

You may find the following visual measures helpful to communicate a gingivitis diagnosis to someone you are treating.

mild <10% of the gum affected

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moderate 10–30% affected

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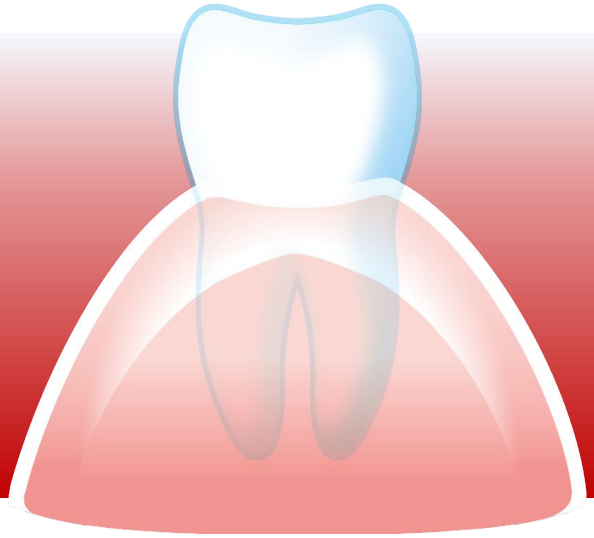
severe ≥30% sites affected



0–19% bleed = Stage 1

20–39% bleed = Stage 2

40–59% bleed = Stage 3

60–79% bleed = Stage 4

80–100% bleed = Stage 5

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