

PERIODONTAL PROBE

KEYWORDS

- ☐ DIAGNOSIS
- ☐ GINGIVITIS
- ☐ PERIODONTAL DISEASES
- ☐ PERIODONTAL PROBE
- ☐ PERIODONTITIS

AREA

- ☐ BIOMEDICAL

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Patent Type

Patent for invention

Ownership

Sapienza University of Rome 100%

Inventors

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Industrial & Commercial Reference

The reference commercial sector is dentistry, with use in the screening of periodontal diseases.

Time to Market

TRL 2 – technology concept formulated. The invention has not yet been prototyped.

Availability

Exclusive and non-exclusive Research, Development and Experimentation License.

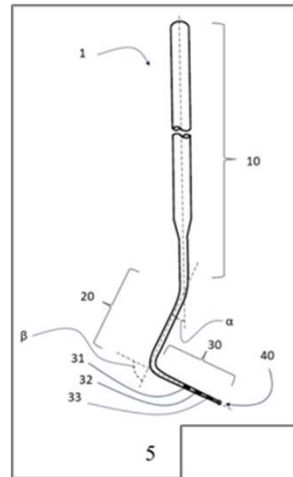


Fig. 1 The periodontal probe.

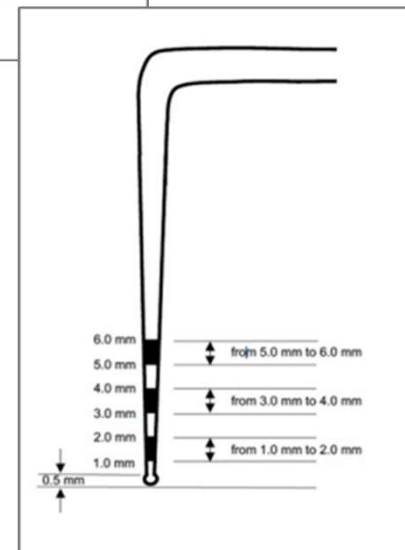
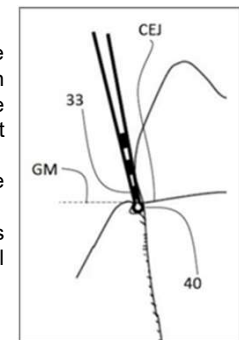


Fig. 2 Third portion of the periodontal probe with three colored bands and spherical end.

Abstract

Periodontal probe for assessing the level of severity of periodontitis comprising: a first portion for holding the periodontal probe; a second portion downstream of the first portion; a third portion downstream of the second portion, comprising at least three colored bands and a spherical portion downstream of the three colored bands in which the three bands are spaced apart between them by a distance measured with respect to the base of the spherical portion and along a direction parallel to the central axis of the third portion, of which the three bands have a constant width equal to said distance.

Fig. 3 Use of the periodontal probe in sites where the gingival margin is at the same level of the cementum-enamel junction and there is a healthy gingival sulcus.



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Technical Description

Advantageously, the three colored bands present in the third portion of the probe allow the identification, according to the 2018 Classification of Periodontal Diseases, of a first level of Periodontitis (Stage I) with an inter-proximal clinical attachment loss (CAL) between 1 mm and 2mm, a second level of Periodontitis (Stage II) with an inter-proximal CAL between 3 mm and 4 mm, a third level of Periodontitis (Stage III-IV) with an interproximal CAL equal to or greater than 5mm.

The clinician therefore only needs to observe the position of the colored bands in relation to the cementum-enamel junction of the tooth, to define the dental elements that contribute to determining the stage of periodontitis for each patient.

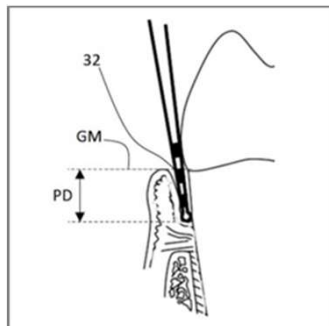


Fig.4 Use of the periodontal probe in sites where the gingival margin is at the same level of the cementum-enamel junction and there is a loss of clinical attachment of 4 mm.

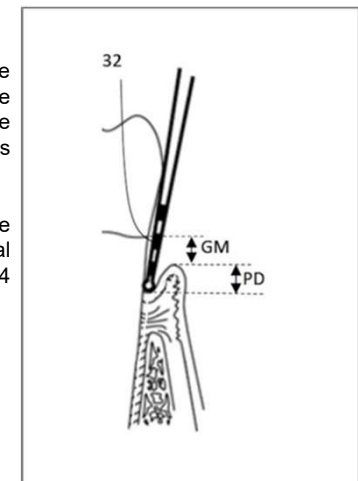
Technologies & Advantages

The first advantage is to allow periodontal screening and early periodontal diagnosis according to the 2018 Classification of Periodontal Diseases. In this way, periodontal screening will be strongly aligned with the subsequent periodontal diagnosis, offering great advantages both in the clinical and in the research fields. In fact, this could have an impact on communication between doctor and patient and on the transfer of information between different clinicians. Furthermore, it could help in assessing the actual need for periodontal therapy, in accordance with the Guidelines for the treatment of Stage I-III and IV periodontitis. It could also influence the results of epidemiological investigations and associations presented in clinical trials. The second advantage is to overcome the limitations of previous screening methods which, being based primarily on probing depth rather than on loss of clinical attachment, could underestimate the severity of periodontal disease. From an industrial point of view, the periodontal probe has characteristics that make its production by a company simple and low-cost.

Applications

This periodontal probe is configured as the ideal tool in the clinical field to be used by dentists and dental hygienists to carry out a screening of periodontal diseases strongly aligned with the subsequent periodontal diagnosis formulated according to the current Classification of Periodontal Diseases of 2018, overcoming the limitations of previous methods. Its use is fast, simple, economical and easy to register. This new probe finds another fundamental application in research, with particular regard to epidemiological investigations and clinical studies.

Fig.4 Use of the periodontal probe in sites where the gingival margin is apical to the cementum-enamel junction and there is a loss of clinical attachment of 4 mm



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