

PERIOTEST
DENTAL MEASURING INSTRUMENT
FOR IMPLANTOLOGY AND
HIGH-QUALITY DENTISTRY



Medizintechnik **Gulden**
Manufacturer of the Periotest

ABOUT MEDIZINTECHNIK GULDEN

In 1997, Medizintechnik Gulden acquired from Siemens AG exclusive rights for the manufacture and sale of the Periotest worldwide. As it is our sole product line, we are able to devote all our attention to its continuous improvement and ongoing development.

We also offer comprehensive service for the Periotest: for everything from maintenance and repair through to the supply of accessories and spare parts, advice on applications and method of use and questions of cost-efficiency, we are the people to consult.

THE PERIOTEST PROCEDURE

PERIOTEST APPLICATIONS

Periotest is a dental measuring instrument with the following range of applications:

Implants:	Assessment of osseointegration of dental implants
Natural teeth:	Diagnosis and assessment of periodontopathies, assessment of occlusal load and monitoring the progress of treatment

The Periotest scale extends from -8 to +50. The lower the value, the greater the stability/damping effect of the measured implant or tooth.

Assessment of osseointegration of dental implants

Nowadays, there are countless different implant systems on the market. Periotest can essentially be used with all of them. What's more, measurements can be taken at every stage of implantation: immediately after implantation, to measure the primary stability; at the end of the healing phase, to determine whether osseointegration has progressed sufficiently to permit implant loading; and after prosthetic treatment, for early detection of any unfavourable developments.

In view of the diversity of implant systems and the fact that each patient's clinical situation is different, it is only possible to give a general guide to the Periotest values which indicate whether osseointegration is successful or inadequate for implant loading.

In general, implants lose a certain amount of stability in the first two weeks following implantation and this is reflected in an increase in the Periotest values by 1 or 2 units. However, by the end of the healing phase, the Periotest value will return to the level measured immediately after implantation (primary stability). Significantly greater increases in Periotest values – even years after implantation – are an indication of implant destabilization, screw loosening, overloading or infection (e.g., periimplantitis). It is therefore advisable to record all measurements and monitor the progression.

Periotest value range	Interpretation
-8 to 0	Good osseointegration; the implant is well integrated and can be loaded
+1 to +9	Clinical examination is required; in most cases implant loading is not (yet) possible
+10 to +50	Osseointegration is insufficient; the implant must not be loaded

Diagnosis and assessment of periodontopathies

The Periotest value correlates closely with tooth mobility, but does not result from a conventional movement measurement. The following correlations apply:

Tables are also available (on inquiry or to download from our website) for natural teeth, indicating which Periotest measurements equate to a healthy periodontium. For further details, please consult the relevant literature.

Degree of clinical loosening	Periotest value range
0	- 8 to +9
I	+10 to +19
II	+20 to +29
III	+30 to +50

Early detection of periodontal reactions

Routine examinations can reveal incipient and existing changes in periodontal structures, including occlusal trauma, with great accuracy – before they are detectable on radiographs.

Routine therapy monitoring

Objective, reproducible and simple measurement permits continuous monitoring of the success of periodontal, orthodontic and functional therapies. The influence of occlusion disturbances and occlusal adjustment measures can be objectively assessed. Monitoring the success of prophylactic measures (for example, after scaling), teaching oral hygiene, and periodontal surgery. Reduction of radiation exposure during treatment monitoring by dispensing with radiographic follow-up.

Aid to decision-making on further treatment

A rapid and objective assessment can be made on whether a periodontally treated tooth is still suitable for use as an abutment. Periodontal reconstruction during and/or after orthopedic measures can be reliably quantified.

Detection of occlusal overload

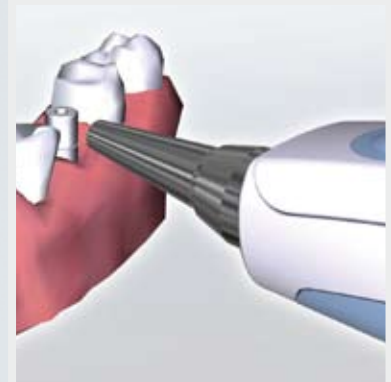
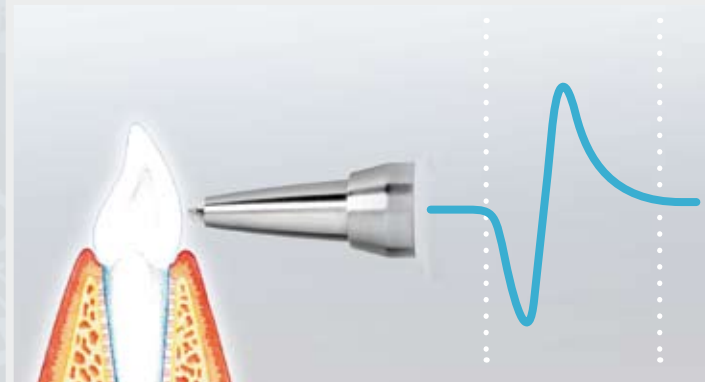
Periotest measurement during maximum intercuspation can be used to determine the size of the periodontal load. During occlusion, the damping effect is increased. A difference of more than six units between the Periotest values in and out of occlusion indicates occlusal overload. This enables immediate checking of the occlusal adjustment for virtually all occlusal restorations.

The measurement results are independent of clinical parameters such as condition of dental restorations, crowding, crowns or defects in hard tooth substance.

HOW THE PERIOTEST WORKS

The Periotest measuring procedure is electromechanical. An electrically driven and electronically monitored tapping head percusses the implant or tooth a total of 16 times. The entire measuring procedure takes around four seconds. The tapping head has a pressure sensitive tip which records the duration of contact with the implant or tooth. The looser the tooth or implant, the longer the contact time and the higher the Periotest value. Conversely, stable teeth and implants give short contact times, which means low Periotest values.

To be sure of obtaining valid and meaningful measurements, the Periotest must be correctly positioned (distance and angle) in relation to the implant or tooth. The unit itself provides assistance by monitoring each of the 16 individual pulses. Incorrect pulses are eliminated to ensure reliable and reproducible measurements.



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Medizintechnik Gulden e.K.

Eschenweg 3
64397 Modautal
Germany

Fon: +49 (0)6254 - 94 38 40

Fax: +49 (0)6254 - 94 38 41

periotest@med-gulden.com

www.med-gulden.com

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