

# DIAGNOdent

## INTRODUCTION

- No scratching probe: simple, fast and painless examination, an extremely reliable diagnostic aid.
- Early detection of pathological changes, e.g. initial lesions, demineralization and changes in the enamel, fissure caries.
- This permits minimally invasive and tooth-preserving treatment.
- Hit rate 90%.
- Findings assisted by visual and acoustic signals.
- Flexible and mobile unit (battery operated).
- Analogue statement possible.

## BENEFITS

### Prevention instead of treatment:

- Patients are becoming increasingly health conscious and are taking more trouble to preserve their healthy tooth substance.
- In other words, the dentist is required to detect the smallest defects.
- The better and earlier the diagnosis, the better therapy may be planned.
- If interventions are necessary, then as far as possible only minimally invasive intervention with tooth-coloured fillings are required.

### 90% hit rate: Level of correct diagnoses

for various diagnostic forms (with apparently intact occlusal surfaces).

According to a study by PD Dr. Lussi of the University of Bern, the ability to detect diseased or damaged teeth without macroscopically visible fracture of the occlusal surface being present, has to date been well below the hit rates possible with DIAGNOdent.

Repository: "Acta Med Dent Helv", "Diagnostik der Okklusalkaries", Vol 5:2/2000 Author: PD Dr. Lussi

### Satisfied patients:

- No damage to enamel by sharp-edged probes.
- Natural teeth are preserved for a longer time and healthy tooth substances are protected in association with minimally invasive instruments.
- Less exposure to radiation because no X-ray pictures are taken.
- Particularly advantageous for children and psychologically anxious patients.
- Best preventive care.
- Visual and acoustic representation of measured values make them easily understandable for patients.
- Reproducible and quantifiable results permit checking, stabilization and documentation of caries development.
- High degree of patient loyalty thanks to high efficiency.

## FUNCTION

The exposure is achieved by means of a laser diode whose light is passed via an optical fibre and a probe to the caries area. Altered tooth substance is excited and fluoresces. The fluorescence is passed via the return line in the optical fibre back to a corresponding evaluation logic unit (photocell) and then displayed and indicated acoustically.

De-mineralised tooth substances and bacteria fluoresce when they are exposed to a specific light wavelength 550 - 670 nm, substantial fluorescence occurs between 650 and 800 nm. DIAGNOdent has a wavelength of 655 nm.

## OPERATION

### Here's how to use KaVo DIAGNOdent:

1. Remove stains and plaque.
2. Dry the tooth.
3. Clinical examination (scanning of tooth surface).
4. Diagnosis (possible measures):

With conventional instruments, it is generally not possible to probe drop-shaped fissures. DIAGNOdent has the great advantage of fluorescence measurement in fissure regions as the laser light is reflected by very small accesses.

Precise results without radiation exposure.

### **Therapy information according to KaVo DIAGNOdent:**

<b>Display value:</b>	<b>Therapy:</b>
0-14	No special measures.
15-20	Usual prophylactic measures.
21-30	More intensive prophylaxis or restoration: indication is dependent on: ●Caries activity, ●caries risk, ●recall interval etc.
Above 30	Restoration and more intensive prophylaxis.

### **Equipment/Technical Data**

Battery-operated, microprocessor-controlled display unit with connectable optical fibre, loudspeaker intensity, max. value (peak), actual value (moment), battery charge state and calibration display and computer interface. Comprising:  
● Handpiece support. ● Tubing. ● Battery housing incl. 5. 1.5 V batteries. ● Stericassette with calibration standard.  
● 1 handpiece for holding the probes. ●2 probes with conical tip for fissures. ●1 probe with planar tip for flat tooth areas.

### **Accessories:**

**Two tips:** The tips may be easily changed for the respective indications. The handpiece is simple to manipulate and lies easily in the hand. Both tips are sterilizable in an autoclave at up to 135°C.

### **Explanation of symbols:**

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