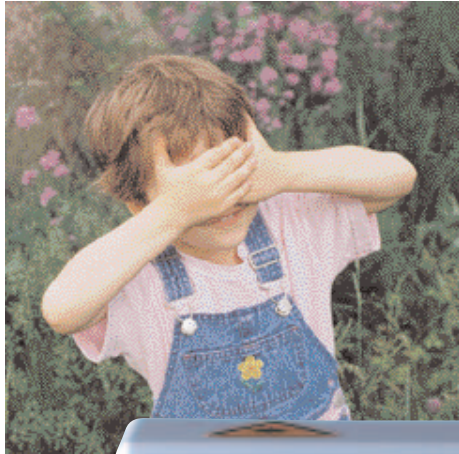


# KaVo DIAGNOdent<sup>®</sup>

## Laser Fluorescence Caries Detection



*Ever Play  
Hide and Seek  
With Caries?*



- *Must have for microdentistry*
- *Only device to quantify caries*
- *Best ROI in dentistry*



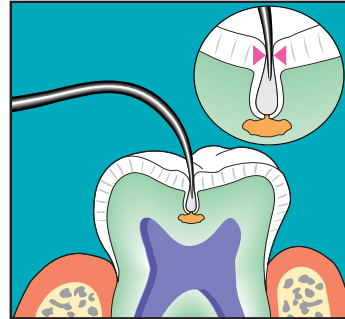
# DIAGNOdent: Because you can't treat what you can't see

Leaders in the field of caries research agree: conventional methods of caries diagnosis alone are inadequate and outdated for modern dentistry. With the fluoridation of water and improved oral hygiene standards the nature of caries has changed. Harder and more resistant enamel can conceal aggressive sub-surface decay.

Manual probing with an explorer is often an ineffective means to detect caries as the enamel defect may be too small or inaccessible to the explorer tip. In fact, manual probing can actually stimulate caries as a result of iatrogenic damage caused by probe-force.

Bitewing x-rays, although effective in revealing advanced stages of decay, are unsuccessful in detecting early caries, especially in the complex anatomy of fissure areas.

Because 80% of caries occur in the occlusal anatomy it can remain virtually undetected with traditional diagnostic methods until significantly developed. The DIAGNOdent is a reliable, non-invasive supplement to the contemporary dentist's arsenal of diagnostic procedures and is highly effective in detecting caries at an early stage where teeth are most vulnerable.



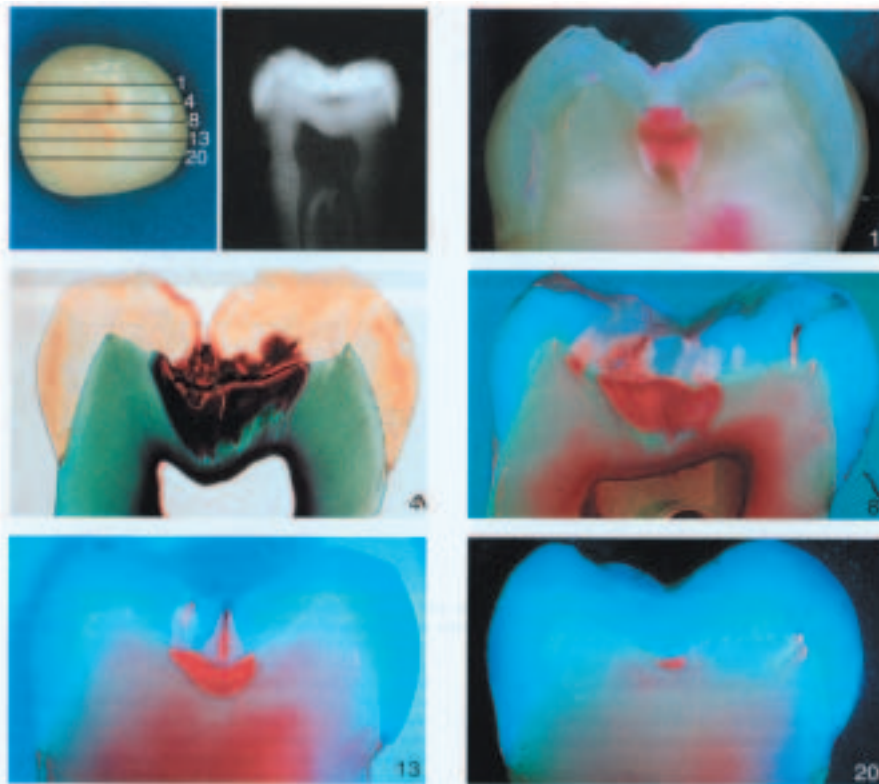
*"The DIAGNOdent is a no-brainer!! Dollar for dollar, it is THE most profitable item in my practice. I use it VERY effectively in my marketing, and my patients are impressed beyond belief! I explain how it works -- I explain that I've NEVER found it to be wrong, so when the sound goes off, their eyes get large and they say, "Is that a cavity?" I was worried how my patients would react -- it's a non-issue. They LOVE the idea of catching decay early. It's a win-win (I LOVE win-win's!). Every day without a DIAGNOdent costs you! Like I said -- it's a no-brainer."*

*Rodger 'Rod' Kurthy, DMD, Mission Viejo, CA  
Author of 'The No-Coupon 'Marketable' Dentist'*

# Now KaVo DIAGNOdent helps you detect the invisible.

DIAGNOdent helps detect caries at the earliest possible stage so the most appropriate treatment plans can be designed for patients. Measurements from DIAGNOdent, together with conventional diagnostic tools and valuable professional judgment, will help determine whether to monitor suspect areas over time and treat them with preventive therapy, or to restore them with minimally invasive techniques. It is now possible with DIAGNOdent to quantify the various stages of decay more accurately and without exposing patients to radiation.

DIAGNOdent is the exciting result of years of research by leading clinicians at the universities of Berne, Switzerland, Dundee, Scotland and Homburg, Germany, in cooperation with experts from the Laser Institute in Ulm, Germany and KaVo's research & development team.



Histological examination of visibly intact molar reveals extensive, sub-surface decay. Radiographically, the decay is visible, however, it is well established that radiography has poor sensitivity in detecting early dentinal lesions on occlusal surfaces. (Lussi 1993)

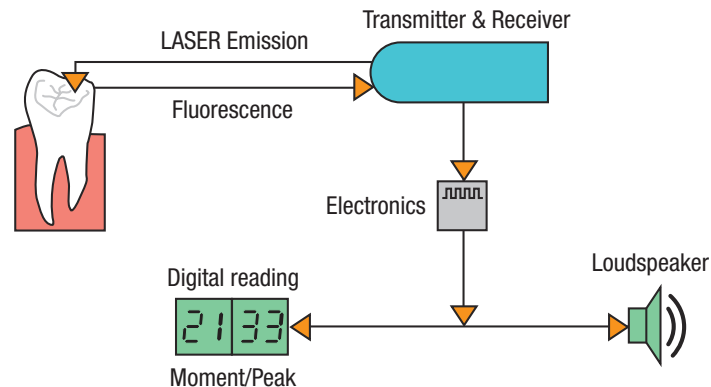
*"...The use of DIAGNOdent relies on a thorough understanding of the modern caries model. Fluoridation has completely changed the presentation of occlusal pit and fissure caries... Early fissure caries begins in the walls of the fissure or can at times develop in the dentin without any decalcification of the enamel walls, which probing will not detect. The DIAGNOdent will find it... I could not practice quality dentistry without this device."*

*Graeme Milicich BDS, Texas Institute for Advanced Dental Studies*

*"...For those that might be hesitating...in my experience and humble opinion, the DIAGNOdent is for real and will become a "standard of care" diagnostic device. Consider that this is the only change in diagnosing caries since the invention of x-rays. I know that it is difficult to change but isn't 100+ years long enough to wait for a new diagnostic tool?"*

*Dennis Mihalka, DDS, Redding, CA*

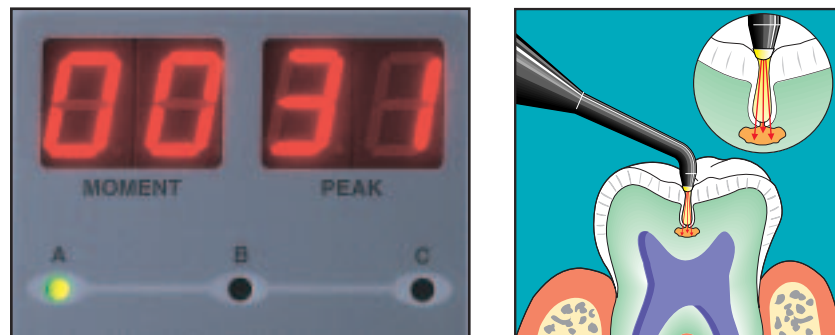
# How does it work? – Operating Principles of DIAGNOdent



DIAGNOdent utilizes laser light to help detect changes in tooth structure.  
The DIAGNOdent measures changes and displays a scale reading.

## What is the DIAGNOdent actually measuring?

The DIAGNOdent measures laser fluorescence within tooth structure. As the incident laser light is propagated into the site, two-way hand piece optics allows the unit to simultaneously quantify the reflected laser light energy. At the specific wavelength that the DIAGNOdent laser operates, clean healthy tooth structure exhibits little or no fluorescence, resulting in very low scale readings on the display. However, carious tooth structure will exhibit fluorescence, proportionate to the degree of caries, resulting in elevated scale readings on the display of the DIAGNOdent. An audio signal allows the operator to hear changes in the scale values, enabling focus on the patient and not solely on the device.



*"...The DIAGNOdent is a 'must have' item for all offices... I am amazed at what the DIAGNOdent tells me that I was just guessing at before. We have taken dozens of extracted teeth with stained grooves and found that the presence of decay is not relative to the degree of occlusal stain or depth of the grooves. After prepping these teeth we have found that the only thing that was consistent with the presence, or lack of, occlusal decay, were the readings of the DIAGNOdent... The DIAGNOdent created an excitement that I haven't seen with my patients since we first bought an intra-oral camera... The investment in this instrument as a 'must'."*

*David S. Hornbrook, DDS, FAACD, Director P.A.C.~live (Pacific Aesthetic Continuum, University of the Pacific, San Francisco)*

*"...I think the DIAGNOdent is a must. It is the best tool in dentistry today. It is used on every patient, and probably used practically as much as we use an explorer... Patient acceptance is fantastic... On a daily basis, we encounter teeth we would normally ignore, but once these teeth are 'opened up' by the DIAGNOdent, we find that they are carious. It's an amazing diagnostic tool that leads to more conservative dentistry with earlier detection..."*

*Lori Trost, DMD, Columbia, Illinois*

# The result: Direct benefits to you and your patients:

DIAGNOdent offers the following features and benefits:

- **Sensitive**..... Detects incipient lesions or sub surface lesions that are undiagnosed by conventional examination methods.
- **Conservative** ..... Avoids "exploratory" excavation of suspect teeth. Eliminates unnecessary preparation while facilitating the use of minimally invasive preparation techniques (e.g. micro rotary instrumentation and air abrasion).
- **Confidence** ..... Improves operator and patient confidence about treatment decisions.
- **Safe** ..... Uses light energy (no x-ray exposure), no danger posed to patient, operator or staff
- **Easy to use** ..... Compact, portable device with user friendly design
- **Quantifiable** ..... Precise, reliable measurement that can monitor caries activity over time.
- **Practice building**..... Immediate returns in patient satisfaction. Revenue enhancing.

## Perfect match:

Routine use of the KaVo PROPHYflex® in conjunction with the DIAGNOdent provides the clinician with a significant, reliable diagnostic advantage in the detection of incipient or sub-surface caries in the areas where patients are most susceptible.

The KaVo PROPHYflex air-polishing instrument is a fast, effective method to remove stains and debris from pit and fissure areas, inaccessible to prophy- brushes.

*"...I have been doing Air Abrasion Microdentistry for almost five years and have considered myself good at diagnosis of incipient pit and fissure caries until I got my DIAGNOdent... I have been shocked at how much I have been missing... If you are still opposed to the DIAGNOdent, well they say you don't know what you don't know!"*

*Gregory L. Sawyer, DDS,  
Los Gatos, CA*



Always in reach: The KaVo PROPHYflex simply clicks onto any tubing making it totally portable. It is easy to use, gentle to patients and will not abrade enamel during normal use.

# The Research:

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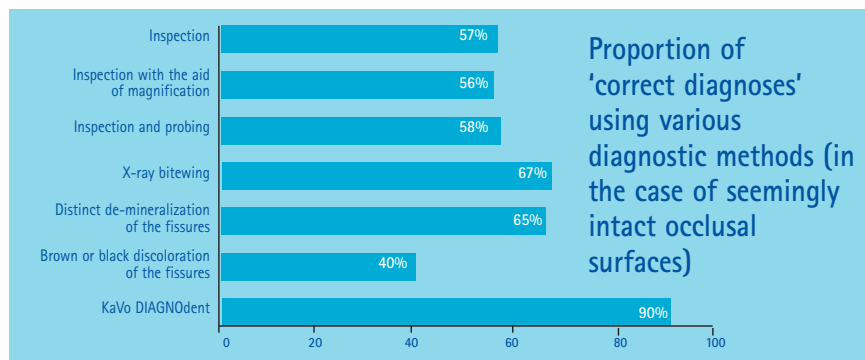
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# Proven accuracy:

In a study conducted by Dr. Lussi of Berne University, Switzerland, general practitioners correctly diagnosed hidden fissure areas by visual inspection in only 57% of all cases. The same group achieved an impressive success rate of 90% with DIAGNOdent. In fact, DIAGNOdent was far more accurate than any method in the study including bitewing x-rays.

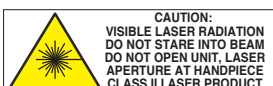


Source: "Die Fissurenkaries, Diagnostik und therapeutische Grundsätze." Author: Dr. A. Lussi, University of Berne - Swiss Monthly Journal for Dentistry, Berne No. 9/1995

"...It (The DIAGNOdent) is a valuable adjunct to caries detection and worthy of purchase." (Dental Economics 09/01, p.52)

Gordon Christensen, DDS, Provo, Utah

906.8004/5.03 ©KaVo America Corporation. U.S. Patent Numbers: 59861327, 6024562. Additional patents pending.



**KaVo America Corporation**  
 340 East Main Street, Lake Zurich, IL 60047  
 1.888.KaVo USA (528-6872) • Fax 1.847.550.6825 • www.kavousa.com

