

QUICK TECHNIQUE

Detection of Caries and Other Conditions Utilizing Fiber-Optic Transillumination

By Joshua Friedman, DDS

Most dentists know how to use fiber-optic transillumination (FOTI) to locate cracks and caries on anterior teeth. Many dentists, however, don't know how to use FOTI to diagnose caries on posterior teeth. The illustrations below show how this is done as well as aid in the diagnosis

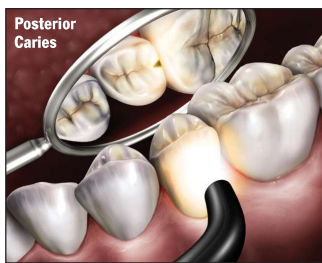
of many other conditions in the oral cavity, such as calculus, location of root canal orifice, root fracture, and more.

The illustrations below show the details of this diagnostic technique. It can expand the usefulness of FOTI to benefit both dentist and patient and in addition eliminate or reduce the need for ionizing radiation associated with x-rays.



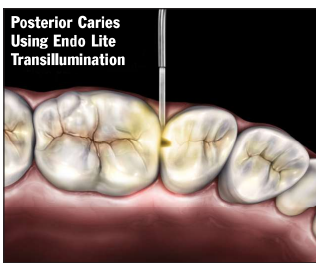
ANTERIOR CARIES

To visualize anterior proximal caries, place the probe on the labio-cervical region of the tooth and examine the surface from the lingual with the mouth mirror.



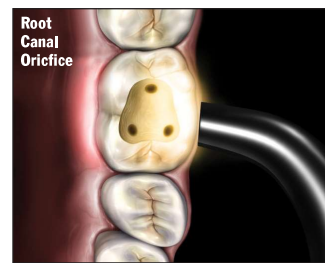
POSTERIOR CARIES

To visualize posterior proximal decay, place the probe on the cervical area of the tooth, buccally or lingually. Light passes into the cervical tooth structure and then radiates occlusally. Caries appear as a dark shadow on the occlusal surface.



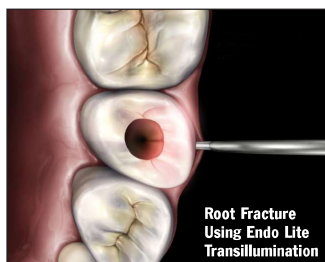
POSTERIOR CARIES WITH ENDO LITE

Posterior caries can be also detected using the Endo Lite fiber tip. Place the lighted fiber tip interproximally under the marginal ridge. View from the occlusal. This method often shows caries with high definition.



ROOT CANAL ORIFICE

To locate the orifice of a root canal, place the light guide on the buccal or lingual cervical region of the tooth. The canal orifice shows up as a dark circle since it does not transmit light.



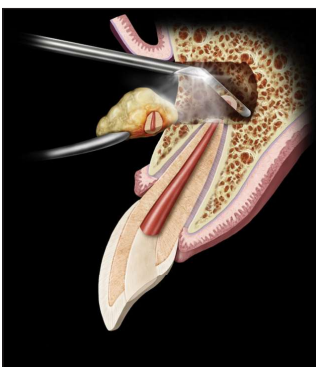
ROOT FRACTURE

To detect a root fracture, remove the root canal filling the use the Endo Lite fiber tip and place it either buccally or lingually in the gingival sulcus. A fracture line will appear dark via transillumination from the outside to the inside of the canal.



LIGHTED PERIO PROBE

To detect the depth of pockets and gingival recession, use the Perio Probe and insert the tip in the gingival sulcus. The depth indications on the illuminated fiber are 3 mm, 5 mm and 7 mm.



APICOECTOMY WITH MICRO MIRROR

An apicoectomy procedure using Micro Mirror to visualize treatment area under loupe or microscope magnification.



ORAL CANCER SCREENING

For oral cancer screening, have the patient rinse with 1% acetic acid, lower the room light, and place the Microlux DL tip in the mouth. Any acetowhite or leukoplakic lesions become more visible.



Dr. Joshua Friedman, president of AdDent, also the founder of Demetron Research Corp, is considered a pioneer in light-curing technology. A dentist and an electrical engineer and formerly an assistant research scientist at NYU College of Dentistry, he has developed a number of unique dental products and has received US and international patents, with several others pending.