CHRIS EDWARDS, DDS

TRADITIONAL EXAMINATION with dental X-rays and visual examination involving dental instruments may not detect hidden decay. But with the new Diagnodent laser detection device, it is now possible to detect decay that is under the surface. The diagnodent works using a laser to detect certain wavelengths of light which indicate that decay is present rather than healthy tooth structure. This allows the amount of decay to be "quantified" chairside - the higher the number means more decay is present.

Minimally Invasive Dentistry

Gratifying for dentists and appreciated by patients

Minimally Invasive Dentistry focuses on the health, function and aesthetics of oral tissue by preventing disease from occurring or halting its progress with minimal tissue loss. It is a progressive dental technique used by today's forward-thinking dentists.

The old paradigm of dentistry, which is still in practice, is waiting for a cavity to become visible and then repairing the cavity with deeper, larger fillings. This leads to many problems, including but not limited to mercury containing amalgam fillings, tooth breakage and fractures, the need for expensive crowns, root canals, bridges, and eventually even tooth loss and dentures.

Dental caries (commonly called decay) is the process where bacteria in the mouth are able to get through the enamel into the softer inner part of the tooth called the dentin. Left unchecked, the caries will progress to the pulp (nerve) and infect it. The tooth may then abscess into the jawbone or continue to break down all of the way to the gum.

Teeth develop with small pits and fissures (grooves) on the chewing surfaces, which are often improperly formed. These areas are inaccessible to the toothbrush and may lead to caries in a large percentage of the population, particularly with a diet high in sugar and carbohydrates.

The diagnosis of these caries is difficult because they do not show up on X-rays until they are quite advanced. The dental explorer (pick) used by the dentist can miss the decay until the decay has progressed much deeper and the enamel breaks down. This is termed "cavitation," which is a visible hole in the tooth and from which the modern term "cavity" is derived.

■ Detects and Repairs

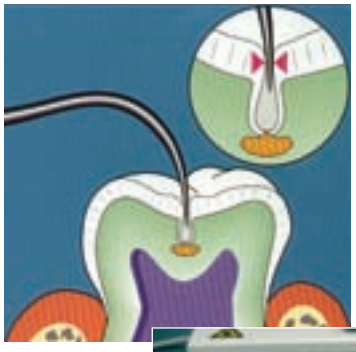
Minimally invasive dentistry detects and repairs these areas of early subtle decay before it progresses. Modern tools such as the Diagnodent Laser cavity detector, caries dyes and magnification enable the Dentist to discover and remove the smallest decay. Progressive technologies like the operating microscope, air abrasion, the Waterlase MD, special tiny drills and sealant like filling materials enable the dentist to conservatively correct the problem.

The WATERLASE MD is unique in its ability to use laser energy on hard tissue. Many procedures using the laser on teeth or removing gum can be done with no drill or anesthesia. The amount of postoperative pain is dramatically decreased and healing time is reduced. There is no vibration, which is the cause of microfractures often associated with conventional drills.

■ Gentle and Restorative

Minimally invasive dentistry removes only as much tooth structure as is necessary. Using air abrasion (a miniature sand blaster), which is very gentle on the tooth, cleans all the pits and fissures, and prepares the tooth for a strong bond to the restorative materials. If there is any carious tooth structure below, it quickly exposes it. Early carious lesions are filled with a preventive resin. Unlike the traditional pit and fissure sealants, which had a high probability of breaking down or becoming carious, these restorations are long lasting.

MINIMALLY INVASIVE DENTISTRY performs the least amount of dentistry needed and does not removes any more tooth structure than is required to restore teeth to their normal condition.



■ Uses Bioavailable Minerals

An exciting part of this new paradigm of dentistry is that we can now reverse early, non-cavitated carious lesions. Remineralization uses bioavailable minerals such as calcium and phosphorous to rebuild teeth. Some of the higher quality Xylitol products like MI Paste contain these bioavailable minerals.

Xylitol therapy is of tremendous value because it reduces the strep mutans bacteria in the mouth. This decreases acid levels and raises the ph level, which reduces plaque formation. Remineralizion and Xylitol therapy work together to rebuild teeth.

The cornerstone of good dental health is prevention. Excellent oral hygiene, a healthy diet and regular preventive care prevent many problems from occurring. Minimally invasive dentistry is gratifying for dentists and appreciated by patients. These forward thinking techniques make it possible to save your teeth and keep your mouth healthy for a lifetime. ■

Dr. Edwards graduated from the United States Merchant Marine Academy and Temple University School of Dentistry. He completed a general practice residency at the Queens Medical Center in Honolulu. To reach Dr. Edwards you may call 321-751-7775 or visit www.smiledesigncenter.us