

Mouth Matters

Dorion on Dentistry

Putting Your Teeth Under The Microscope



When I was in dental school we were told "you can't diagnose what you don't see and you can't treat what you don't diagnose". At that time magnification in the form of magnifiers attached to eyeglasses (called loupes) was a relatively new concept in dentistry. Today this type of magnification has virtually become the standard of care in our profession and most dentists would agree that the use of loupes has improved the quality of their dentistry enormously.

Operating loupes generally provide magnification levels between 2 times and 5 times greater than what can be seen with the naked eye. However, loupes can not be more powerful than 5 times without becoming so heavy and awkward as to be impractical.

So what do we do if we need still more magnification than can be obtained with traditional loupes? The answer is the surgical operating microscope which can boost magnification levels up to 20 times that of unaided vision.

While surgical operating microscopes have been in use for many years by doctors performing delicate operations such as neurosurgery, their benefits in dentistry have become increasingly evident over the past decade. In fact dentists now represent the largest segment of health care professionals who purchase and use these devices in their offices.

Unlike loupes, which the dentist wears, the surgical microscope is positioned on a mounting device a few inches above the patient's mouth where it remains during the procedure. Once the dentist has focused the optics on the site to be examined or treated he or she can dial in the desired level of magnification. The dentist then has the option of looking directly through the eyepieces or watching everything on a TV monitor.

The area of dentistry where the value of the microscope was first proven is endodontics (root canal treatment). Finding all the canals in certain teeth is virtual-

ly impossible without magnification. In fact postgraduate endodontic programs now require Surgical Operating Microscope training and proficiency as a standard part of the curriculum.

Here's a little history to demonstrate the point. In the 1960's it was generally believed that upper molars usually had three canals: one for each root. Over the years and with the use of loupes dentists began to find that over 50% of upper molars have an elusive fourth canal which is otherwise very difficult to find because it can be extremely tiny. Since the use of operating microscopes has become more common it's been reported that more than 90% of upper molars have a fourth canal.

Failing to find and treat that fourth canal leaves the tooth with a higher risk of being lost due to infection.

Seeing hairline cracks in teeth, discovering leakage around filling margins, adjusting the fit and finish of dental restorations and performing delicate gum surgery are just some of the other areas where the surgical operating microscope helps us to examine teeth and perform operations with a level of precision never before possible.

The ability to use very high levels of magnification for improved diagnosis and treatment is transforming the way that the modern dentist operates.

Yours for better dental health,

Rae Dorion, DDS

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