Never Do Just an "Oral Cancer" Exam!

by Scott D. Benjamin, DDS

The most important function of dental care is a thorough assessment and evaluation of the patient's oral and related systemic health. An exam should never be focused on just one condition, and that includes cancer. One of the biggest mistakes that clinicians make is understating the true value of an oral screening for a multitude of conditions and over-hyping a single disease. The improper communication of these procedures has greatly reduced the perception of the significance and importance of the examination process.

It is not uncommon to see dental office promotions offering a free exam or free consultation. These loss leaders are used to entice patients to a practice so more profitable procedures can be performed. These types of statements greatly misrepresent the significant amount of knowledge, technology and expertise required to perform these valuable procedures properly. This has significantly and erroneously devaluated the perceived importance, benefit and reimbursement of a complete and thorough enhanced examination for the patients, clinicians and third-party payers.

For the most part, patients understand that the dentist and hygienist are comprehensively evaluating the dentition and surrounding tissue looking for cavities and gum disease. Too often, patients assume the primary goal is to find a problem, which they will need to pay to have fixed. Other patients feel the importance of a preventive dental/hygiene appointment is to prevent decay and maintain a beautiful smile; they too have missed the real value and true benefit of a thorough oral examination.

When we state we are going to do an "oral cancer exam," it implies that it is the only abnormality we are looking for. The real goal is to discover any abnormality, no matter what it might be. Why not call it an "enhanced oral exam" rather than an "oral cancer exam" – looking for everything from a cavity, to a cheek bite to cancer.

Proper communication is critical in the examination process. No matter how a practitioner presents findings after an "oral cancer exam," it can cause undue anxiety for the patient. This is especially true if an area has an appearance that deviates from a completely normal healthy appearance. In these situations the patient often perceives this abnormality to be cancer.

The entire team plays a strategic role in the data collection, discovery and diagnostic process. From the patient's very first contact with the dental office, whether it is on the phone, through the practice's Internet portals or in person, the importance of a consistent message on the value and necessity of an enhanced oral examination cannot be overstated. Today's advanced technologies are increasingly giving practitioners the ability to detect and discover mucosal conditions at their earliest stages.

No single device can deliver 100 percent accuracy or effectiveness in detecting conditions. Detection and diagnosis is accomplished with the accumulation of data from multiple sources and modalities. Today's diagnostic aids can have a significant impact on the assessment of the patient's health and well-being. These modalities range from specialized visual enhancement products that allow practitioners to see deeper into soft tissue, simplified tissue and cellular sampling techniques, to computerized databases that forewarn of possible conditions, side effects and interactions that might be caused by the patient's medications or conditions, especially as they relate to the oral cavity. As our patients' systemic and dental health situations are becoming increasingly more complex, and with an increased number of medications, the need to use advanced technologies to assist in the diagnostic process has never been greater.

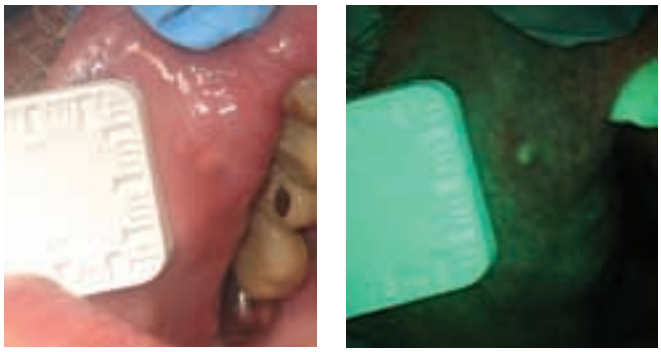
Computerized Pharmacology and Medical Condition Databases

Lexi-Comp Dental Reference Library (Lexi-Comp, Inc., Hudson, Ohio) is an Internet-based collection of interactive databases and reference manuals that are continually updated as the FDA and drug manufacturers announce changes to their drug information and systemic conditions with a specialized focus to their relationship to dentistry. With more than 800 medications that have a xerostomic effect and more than 400 drug formulary changes weekly, it is impossible for a clinician to stay current without computerized assistance. This database is designed to allow dental professionals to access critical information on drug interactions that influence oral conditions quickly and simply. The database is oriented to dental-specific applications to help ensure the correct diagnosis and the appropriate care is rendered for each patient's situation. The complete library also includes a reference manual for the diagnosis and management of oral soft tissue diseases. This manual assists clinicians by providing information on the most common oral conditions divided into sections based on the visual appearance, provides images of the abnormalities and assists in the establishment of the differential diagnosis. Once a clinical working diagnosis has been attained there are suggestions for possible treatment and management.

Salivary Diagnostics

Salivary diagnostics are used in dental offices today by simply having patients rinse with specialized solutions and expectorating into a funneled collection tube that is processed and analyzed at the lab. Due to the simplicity and non-invasive nature of salivary collection and testing, these screening modalities have a significant amount of appeal to clinicians. The saliva that is collected can be evaluated at the laboratory for the status and susceptibility to both oral and systemic conditions. OralDNA Labs (Nashville, Tennessee) has developed a salivary test to identify the patient's genetic susceptibility and inherent risk to periodontal disease by evaluating his or her interleukin-1 (IL-1) gene cluster. MyPerioID PST identifies an individual's genetic susceptibility to periodontal disease. The test enables the clinician to establish which patients are at increased risk for more severe periodontal infections due to an exaggerated immune response. This lab has another salivary test MyPerioPath that identifies the type and concentration of 13 pathogenic bacteria that are known to cause periodontal disease. Identifying these bacteria assists in the diagnosis and management of the condition.

Several strains of human papilloma virus (HPV), especially types 16 and 18, have been associated with oropharyngeal cancer. The OraRisk HPV test by OralDNA Labs is another non-invasive, salivary screening tool to help identify patients that might be at an increased risk for this type of cancer and assist in developing the appropriate referral and surveillance recommendations.



Salivary stone with standard white light (VL) and with florescence using VELscope.

Visual Enhancements for Soft Tissue Diagnosis

Any device that improves our ability for early detection of soft-tissue abnormalities, especially those that are neoplastic in nature, is an invaluable asset to our diagnostic armamentarium. Any visual enhancement is to be used in combination with a conventional visual oral mucosal examination to improve the evaluation, identification and monitoring of oral mucosa and abnormalities. Imaging modalities available include the use of reflectance and fluorescence technology to evaluate tissue under various illumination (lighting) conditions. Fluorescence technology, in particular, enables the chemical and morphology of the various tissues and substances within the oral cavity. This visualization, which can be either direct (viewed directly by the eye) or indirect (viewed on a monitor or screen), gives the clinician even more information to aid in the assessment of the status and health of the oral cavity. Fluorescence can aid in the evaluation of both the hard- and soft-tissue structures, as well as the biological activity of the flora and other microbial activity. The fluorescence technologies do not require the use of any mouth rinses or stains and the process is simply repeating the visual exam with the aid of the device(s).

The battery handheld VELscope Vx (LED Dental, Inc., Burnaby, British Columbia) enables clinicians to quickly visually scan the entire oral cavity looking for changes in the fluorescence pattern of tissue which might indicate an area of concern. This area can then be more closely evaluated to determine an appropriate course of action. A unique feature of this device is the ability to attach an inexpensive camera system to easily photo-document any area that has been detected. These images can assist in the monitoring, referral and education process attaining improved care, management and outcomes.

The DentLight Oral Exam Kit (DentLight, Inc., Richardson, Texas) uses a battery handheld light source to stimulate a fluorescence response that is emitted from the tissue. The clinician views the tissue that is being stimulated with this specialized light through specific filters that are attached to the magnification optics of their loupes. If an area of concern is detected, the area can be photographed with a standard handheld digital

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camera with the supplied filter that can be attached to a lens filter adapter.

The Identafi (DentalEZ Group, Malvern, Pennsylvania) uses a multi-spectral fluorescence and reflectance technology to enhance visualization of mucosal abnormalities. The small, cordless, handheld device uses a three-wavelength optical illumination and visualization system. It has a disposable mirror attachment that also assists in visualizing the area in an indirect manner.

ViziLite Plus with TBlue (Zila, a Tolmar Company, Fort Collins, Colorado) is a disposable handheld device that produces a diffused light created by a chemiluminescent light stick that is also used as a tissue retraction device. After the conventional visual and tactile exam, the patient rinses with a flavored one percent acetic acid pre-rinse solution and then expectorates it. The tissue is then dried with gentle flow of air or gauze and is re-examined using the disposable chemiluminescent light source in a dim environment. If an area of concern is detected it is marked with the supplied TBlue swab to help further visualize and document the area.

Microscopic Evaluation and Cytology

It is extremely important to remember that a surgical biopsy with a microscopic examination is the only accepted method of diagnosing cancer and many other mucosal conditions. The role of a biopsy is to rule out a malignancy and to establish the appropriate diagnosis for the patient's condition. All other modalities, including cytology, are adjunctive procedures to aid in the determination if and where a surgical biopsy would be appropriate and most beneficial. Cytology is not a substitute for the traditional, "gold standard" surgical biopsy technique that removes architecturally intact tissue. In the majority of cases, a lesion that is worthy of a cytology procedure is better served by a surgical biopsy that will render a diagnosis.

Brush cytology is a another adjunctive screening procedure that involves a minimally invasive collection of transepithelial mucosa cells by means of a sterile, plastic-handled nylon bristle brush, with minimal or no discomfort to the patient. The technique involves the collection of disaggregated epithelial cells by vigorous brushing of the oral lesion with a sterile nylon bristle brush. It is primarily used to screen a suspicious leukoplakia or erythroplakia of the mouth in order to aid in the determination of the presence or lack of premalignant dysplastic change. The OralCDx Brush Test (OralCDx Laboratories, Inc., Suffern, New York) is an extremely effective system for ruling out the presence of abnormal, atypical and dysplastic cells in areas that have been properly brushed with the cells placed and fixed on a glass slide.

Liquid-based cytology of the oral cavity is a relatively new screening technique that has also been proven very effective. The tissue is brushed and the cells are transferred from the brush into a special liquid preservative/fixative bottled solution by twirling the brush in the solution to remove the collected epithelial cells from the bristles and the nylon brush is separated from the plastic handle and placed within the bottle. Other oral conditions such as herpes simplex infection and candidiasis can be diagnosed by this procedure. Liquid cytology might also aid the clinician in determining if the lesion detected should be observed or have an immediate invasive full thickness biopsy procedure with intact architecture performed.

Education

One of the most overlooked aspects of incorporating any new technology into a dental practice is education and training on that specific technology and fully understanding its true role and value, but even more importantly, its limitations. The education and training needs to encompass the entire team. It is important to remember that the first place most patients turn to for advice and comfort on any procedure is the office's staff. This aspect cannot be understated!

Reimbursement

Many dental patients today have the unfortunate misconception that if the dentist has not picked up a handpiece and performed a definitive procedure that nothing has been done. The true significance of the diagnostic process has been undervalued by the patient and the clinician alike. As dentistry moves forward into the medical and wellness model, this must change. Despite the fact that there is an ADA CDT code for an "adjunctive pre-diagnostic test," the lack of insurance coverage is one of the greatest impediments to the adoption for many of these advanced diagnostic technologies.

Conclusion

In closing, understanding and properly communicating the true benefits of the enhanced exam and other diagnostic procedures is imperative. Remember the goal of all health-care professionals is to achieve better patient outcomes and to enhance and improve patients' quality of life. ■

Author's Bio

Dr. Scott Benjamin is in private practice in rural upstate New York, and has faculty appointments at the SUNY at Buffalo School of Dental Medicine and the NYU College of Dentistry. He is an internationally recognized authority on oral cancer and advanced dental technologies and was a participant in the WHO Collaborating Centre Working Group on "Potentially Malignant Oral Mucosal Lesions and Conditions."