

Emerging technology: new impressions

BY KIRK VAN HYNING

Three-D digital scanners let dental patients avoid the uncomfortable gagging caused by using goopy material to make a mold of their mouths. Ziemak Aesthetic Dental Lab in Olympia, Washington uses 3-D oral scanning and found that all of the 275 crowns it has inserted have fit, a record surpassing conventional molds. Also eliminated are bacteria getting into imperfect molds; abrasions from the stone poured into a mold; and tears and holes that

typically reduce the lifespan of a crown or bridge to five years. According to Ziemak lab manager Jamie Stover, a good fit can last up to 20 years.

Dentists in Ontario, Canada's Thornhill Smile Center are getting similarly good results using the Cadent iHero™ Digital Impression System, finding that digital scanning helps create crowns and bridges more easily and with more long lasting results than conventional molds. The system uses resin and

intraoral lasers to create a 3D image of the mouth, and is fast, comfortable and accurate.



www.thornhillsmilecentra.com
www.ziemekdentallab.net

Bone and organ creation from dental stem cells

BY KIRK VAN HYNING

Harvesting stem cells from teeth can unlock family dental histories and may someday be used to grow healthy bone and tissue, effectively reversing oral damage and allowing the generation of healthy organs. Dr. John Lupori of Steamboat Springs Oral has partnered with New York-based StemSave to extract and store cells found in pulp tissue at the base of teeth. Accord-

ing to StemSave CEO Art Greco, scientists hope to one day re-create the bone using 3-D printers. The applications range from new teeth to replacement organs, made possible since stem cells are undifferentiated, meaning they are not classified as tissue or organs but can become either. Organs grown from one's cells are not rejected and would last one's lifetime. Dr. Bob Pensak, who elected to save his daughter's cells when she had her wisdom teeth re-

moved, calls it "miraculous". A crucial element in this development is the American Society for Pediatric Dentistry (AAPD) found that stem cells can also be traced in saliva. This allows for the study of genetic diseases - and otherwise - and treatment. David M.D., D.M.S.C., School of Dental Research at UCLA theorizes that stem cell samples used to create denture tissue and a full set of teeth are the near future.

Diagnosing and treating oral cancer

BY MARLENE FITURRO

Detecting stealthy oral cancers in their early stages falls to the front-line stages of dental professionals - dentists, hygienists and physicians - in the fight against this killer that grew at an 11 percent rate in 2007. Making their jobs more difficult is contending with a new risk factor, oral/pharyngeal cancers developed through exposure to sexually-transmitted human papilloma virus. The traditional risk factors of tobacco and alcohol use remain.

Many patients don't realize that their...

add \$35-\$65 to the patient's annual dental check-up bill.

A recent study published in the Journal of the American Dental Association (July 2008) by researchers at the University of North Carolina's School of Dentistry shows that such adjunctive techniques may facilitate the early detection of oral premalignant and malignant lesions. The scientists evaluated the effectiveness of these new technologies: with TBblue (Zila Pharmaceuticals), Microlux DL (AdDent), Orascope (a Kerr Company), and...

TREATING CANCERS

Barbara Murphy, MD, a medical oncologist and Director of Head and Neck Research at Vanderbilt-Ingram Cancer Center, sees a growing prevalence of oral cavity and oropharyngeal cancers, particularly in non-smokers and non-drinkers. In those infected through HPV, unlike previous generations of oral cancer patients, diagnosed in their 60's and 70's, these patients are being diagnosed at a different life stage - in their 40's and 50's. "With these younger patients we have to strike a careful balance to optimize treatment. There's much more...

ORAL MUCOSITIS: CANCER TREATMENT'S DEBILITATING SIDE EFFECT

Chemotherapy and radiation have saved millions of patients' lives but often produce uncomfortable and even debilitating side effects. Oral mucositis, inflammation and ulceration of oral mucosa, affects over 40 percent of all patients undergoing chemotherapy and ionizing radiation, 70 percent of bone marrow transplantation patients, and nearly 100 percent of head and neck cancers. It appears seven to ten days after treatment and should be checked for at least twice daily. Oral mucositis can limit patients' ability to eat or swallow...

25 MILLION WOMEN BORN WITH THE HUMAN PAPILLOMAVIRUS (HPV)

The skyrocketing incidence of oral cancers, now the sixth largest killing cancer, has been linked to oral sex with infected women. Of the 25 million women infected with HPV, 10 million carry the sexually transmitted virus that causes cervical cancer in women and oral cancer in both women and men. HPV also cause genital warts, anal and anal cancers. The National Cancer Institute...