Researchers at Rice University to work on oral cancer test

Daniel Zimmermann

NEW YORK, NY, USA/LEIPZIG, Germany: Researchers at the BioScience Research Collaborative at Rice University in Houston in the US have received a US$2 million grant from the US National Institutes of Health for the development of a new test for detecting oral cancer. The test, which utilises latest LED and nano microchip technology, aims to provide an accurate diagnosis in less than 50 minutes and can be performed in the dental office. Additional tests for the detection of cardiovascular diseases and HIV are also in development, the researchers said.

Oral cancer affects about 500,000 people per year worldwide, and most cases are diagnosed in the late stages. If oral cancer is detected early, the prognosis for patients is excellent, with a five-year survival rate of more than 90 per cent. Unfortunately, the actual five-year survival rate for oral squamous cell carcinoma is only about 50 per cent, amongst the lowest rates for all major cancers.

“We want to provide an accurate diagnosis for oral cancer using a minimally invasive test that requires no scalpels or off-site lab tests,” said principal investigator Prof. John McDevitt, Rice’s Brown-Wiess Professor of Chemistry and Bioengineering. “The payoff for this could be tremendous because oral cancers today are typically diagnosed much too late in their development.”

According to McDevitt, the test is being developed in collaboration with other scientists from universities in the US and the UK.

To the Editor

Re: Editorial, (Dental Tribune Asia Pacific No. 11, Vol. 7, page 4)

In the UK at least the number of female graduates in dentistry has out-numbered male graduates for some time. In terms of new graduates there is certainly no longer a problem with the gender balance. The problem with the well-known opinion leaders is partly that they are further through their career, therefore many of them graduated at a time when more men were graduating than women. What is more of a long-term problem is that in order to be a well-known opinion leader in dentistry you need to devote an enormous number of hours to a combination of higher training, attending and lecturing at courses all over the world, usually in addition to running a practice. This is pretty much incompatible with the home life of many women who want to be able to have children who are raised with lots of parental input. Until society changes so that fathers feel both more willing, and able to take a part in flexible and part-time working, and spend more time in the home, most women will sacrifice career glory for the emotional needs of their children.

We need changes in all professions and industries so that men who want to can take on more childcare responsibilities, and allow their female partners to be leaders in their profession, where they want to be, without being forced to put their children into long hours of childcare.


Re: “Experts discuss future of implantology in Gothenburg”, (Dental Tribune Asia Pacific No. 10, Vol. 7, page 1)

This is exactly what I have been thinking. We are pricing ourselves out of the dental implant market. What good is the invention, innovation or treatment when only the elite population can afford it? The concept of treating the patient with only a small number of implants is not correct. We need to replace all missing roots with implants, rather than performing different ways of unproven restoration for the sake of cost.

Global centre for laser education installed in the US

Fred Michmerhuizen

NEW YORK, NY, USA/LEIPZIG, Germany: The US-based manufacturer of soft-tissue dental lasers AMD LASERS has announced the launch of its new International Center for Laser Education (ICLE) in Indianapolis in the US. The centre, which is headed by laser expert Dr Glenn van As, will offer education for the most popular lasers in dentistry through video, hands-on courses, and an interactive laser forum. ICLE claims to be the first laser company to offer affordable laser education to dentists worldwide.

Several variants of dental lasers are already in use, with the most common being diode lasers, carbon dioxide lasers, and yttrium aluminum garnet lasers. Latest studies have proven that laser applications for dentistry range from surgery to cosmetic procedures and even treatment of periodontal and peri-implantitis infections. The cost of a dental laser is between US$8,000 and US$50,000.

“Until now, most laser courses have been expensive and not specific enough in content to really assist dentists in understanding the safety, efficacy, and proper use of dental laser technology,” said Dr van As. “Just as AMD LASERS has made cutting-edge laser dentistry a reality for dentists, ICLE intends to revolutionise laser dental education through courses of unprecedented quality, accessibility, and affordability.”

According to Dr van As, ICLE’s courses will be suitable for both experienced clinicians and dentists new to laser dentistry. The forum will allow dentists to ask questions, post technique videos, and share laser experiences, he added.

Genes drive gingivitis

Researchers at the University of North Carolina (UNC) in Chapel Hill in the US have discovered that almost one third of all human genes is involved in the inflammation of gingival tissue. By observing gum samples at molecular level collected from fourteen individuals with mild gingivitis, they found that more than 9,000 genes are expressed differently during the onset and healing process of the condition. According to latest figures of the International Human Genome Sequencing Consortium, the estimated number of genes in the human body ranges from 25,000 to 30,000.

The study, supported by the US National Institutes of Health and oral health-care manufacturer Procter & Gamble, is the first to identify gene expression and the biological pathways involved in the onset and healing process of gingivitis successfully, including those associated with immune response, energy metabolism, neural processes, vasculature, chemotaxis, wound healing and steroid metabolism.

“The study’s findings demonstrate that clinical symptoms of gingivitis reflect complicated changes in cellular and molecular processes within the body,” said Dr Steven Offenbacher, the study’s lead researcher and director of the UNC School of Dentistry-based Center for Oral and Systemic Diseases. “Understanding the thousands of individual genes and multiple systems involved in gingivitis will help explain exactly what is occurring in a person’s body at the onset of the disease and how it relates to their overall health.”

Gingivitis is commonly attributed to lapses in simple oral hygiene habits. If untreated, it can lead to periodontal disease, which has been studied extensively for its possible relation to heart disease, diabetes and pre-term birth. The researchers said that understanding the way gingivitis develops and resolves at a molecular level could provide critical insights into gum disease prevention, as well as new treatments.
Directa presents new solutions for Class II cavity preparations

Daniel Zimmermann
DTI

LEIPZIG, Germany: Placing a matrix band to attain a good contact point and avoiding interproximal overhang after excavation for Class II fillings has always been a time consuming and laborious procedure. Directa has announced to offer a unique and easy solution for this procedure by combining a separating plastic wedge with a stainless steel matrix. The Fendermate is available in regular and narrow width and for left or right application and will be colour coded for better identification.

According to the Swedish company, the combined matrix and wedge are inserted as one piece. A new technology contours and compliments the curvature of the patients tooth and holds its shape without having to use a retentive ring that inhibits access to a cavity. The contact point is created by the dual curvature of FenderMate so that further burnishing will not be necessary.

With the combination of FenderMate and FenderWedge, Directa also offers a tissue friendly approach for the preparation and filling of Class II cavities.

US Dentist develops Face Lift Dentistry

PR Newswire

After 30 years of cosmetic and bite reconstruction dentistry in Los Angeles, Beverly Hills and Santa Monica, Dr Sam Muslin has perfected and trademarked Face Lift Dentistry, an advanced procedure to ensure lasting results in health, comfort and appearance. Non-surgical, it is supposed to optimise dental health and idealise the bite to augment the specific facial features of the patient. Dental patients can look ten years younger just from work on the teeth that lengthens and supports the face, Dr Muslin says.

As a person ages, teeth become worn down and uneven due to wear and tear and different kinds of dental work in the mouth. Patients who have short faces, narrow cheeks, aging lips, and facial wrinkles usually have worn down teeth and a form of bite collapse. Because the tooth wear is gradual, the person usually does not realise how much deterioration has occurred.

“The teeth are the foundation of the face, but most doctors do not understand how much the teeth can enhance the facial features,” says Dr. Muslin, who is a Master of the US Academy of General Dentistry. “Cosmetic face lifts and cosmetic dentistry often cannot produce optimal results for the patient.”

According to Dr Muslin, the Dental Face Lift is done with a high level of coordination and efficiency. During the first appointment, poor crowns, loose teeth, gum disease, bad bite and facial collapse are taken care of and the patient receives temporary crowns, veneers and fillings. On the second visit, all of the new crowns, porcelain veneers and fillings are bonded to achieve a complete reversal of bite collapse, permanent facial support and lengthening of the patient’s face, Dr Muslin says.

“Face Lift Dentistry goes beyond cosmetic dentistry and cosmetic surgery to completely treat both health and facial appearance. Either alone or combined with a surgical face lift, it will achieve superior results,” he adds.

(Edited by Daniel Zimmermann)
The unprecedented success of Dental Salon Chile

SANTIAGO DE CHILE, Chile: The sixth annual edition of Dental Salon Chile has nothing to envy from the best Asian, American or European expos in terms of quality and professionalism. Lodged now for the first time in the modern fairgrounds of the Espacio Riesco, the Dental Salon offers ample quarters, modern facilities and many comforts to the visitor. But probably the most surprising feature is the high-quality design of spaces, isles and booths, an influence that expo organizer Miguel Wechsler says he has assimilated from attending shows such as IDS in Germany and GNYDM in New York.

Wechsler has radically changed the look and feel of Dental Salon Chile, which until 2008 took place in cramped grounds. The Espacio Riesco by comparison, ten minutes away by car from downtown Santiago and for which Wechsler now provides free buses every 15 minutes, is a large concrete structure from which huge, colourful billboard-size banners promoting the Salon hung outside welcoming the visitor.

The Chilean businessman says that he has invested a lot of time and resources in organising this 2009 Salon, but that the projected growth statistics for the dental industry in Chile support his effort. Chile is actually a small country, but has developed a quality infrastructure, and its economy is one of the most prosperous in all of Latin America. Wechsler says that the dental market in Chile is growing between 20 and 30 per cent per year.

Chilean dentists and researchers are renowned in Latin America as high-standard professionals, with a tendency to buy expensive, high-quality American and European instruments, products and equipment, which is not the case with other colleagues in the region. It is estimated that there are over 11,000 practicing dentists in the country today, a number that increases by 12 per cent every year.

Dental Salad Chile 2009.

Fig. 1: The Chilean dental market is growing at an annual rate of 12 per cent. (DTI/Photos Javier Martínez de Pisón)