Predictable composite shrinkage may refine material selection

LEIPZIG: Researchers at the Fraunhofer Institute for Mechanics of Materials in Freiburg, Germany, have successfully managed to simulate the process of shrinkage and consequent microleakage in dental composites. Their findings may eventually allow clinicians to select appropriate restorative material based on the shape of the cavity to be filled. Until now, tension in dental fillings could only be measured selectively. The precise course of tension development, however, has never been observed.

For their tests, the researchers reduced different dental fillings into the micrometer range of small particles and calculated how each element affects its neighbours. In addition, experimental parameters were incorporated into the individual elements. “We were using a standard geometry to find out how each material reacts to stress in the material varied widely by a factor of up to ten, particularly at the edges, as he added.”

Medical tourism a new option for patients in the US

NEW YORK: According to reports by the Wall Street Journal, more and more insurers and employers in the United States are offering their people the option to seek medical or dental treatment abroad. In an effort to control costs, a handful of health care plans are beginning to cover treatment overseas for heart surgery, hip and knee replacements and other major surgical procedures, the newspaper states. Until recently, most Americans who travelled abroad for medical care were uninsured, or were seeking procedures not covered by insurance. But despite the travel costs, countries like Singapore or Costa Rica have become attractive destinations for medical tourism because doctors there often charge less than 10 per cent of the treat- ment costs in the United States.

As a reaction to these developments, the American Medical Association has recently unveiled its first set of medical-tourism guidelines, suggesting them as model legislation. The guidelines would require that travel be voluntary, and that financial incentives not limit patients’ alternatives. They also would require patients to be advised of the medical and legal risks, and that provisions be made for follow-up care at home.

Health practitioners in the US remain concerned about such issues as the safety of blood supplies for transfusions and tissue for bone grafts in foreign countries. Long-distance travel also poses special risks to patients, including blood clots from airplane flights and lack of legal recourse for negligence and malpractice, critics say.

Leeds fights fear factor

PRINCE PALMER
DT United Kingdom

LONDON: Leeds Dental Institute, ranked the top school in the UK for dentistry, is currently looking at better ways to improve dental treatment and take the fear factor out of the patient experience at the dentist, Professor Jennifer Kirkham, research director, said the laboratory was looking for safe new ways to control plaque which do not rely on toothpaste.

“We see patients in the clinic who are not able to brush effectively due to the shape of the mouth may not allow sufficient access, the patient could be watching not a proficient brush,” she explains. “One of the new treatment lines to US state lawmakers, suggesting them as model legislation. The guidelines would require that travel be voluntary, and that financial incentives not limit patients’ alternatives. They also would require patients to be advised of the medical and legal risks, and that provisions be made for follow-up care at home.

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Bad lifestyle drives bad breath

LYNN BRADSHAW
DENTAL CHRONICLE, CANADA

TORONTO: New research from Israel suggests that a high body mass index and alcohol consumption are associated with bad breath or halitosis. The study, led by Prof. Mel Rosenberg from the department of human microbiology and the Maurice and Gabriela Goldschleger School of Dental Medicine, Sackler Faculty of Medicine at Tel Aviv University, included a sample of 88 adults of varying weights and heights. The study subjects undertook a general medical check-up, and agreed to complete a questionnaire involving 38 queries about general oral and dental health, dietary habits, as well as self-assessment of their own oral malodour.

Other odour assessments included odour judge scores, volatile sulphide levels (via Halimeter evaluation) and salivary β-galactosidase. The results of the questionnaire produced nine responses that were significantly associated with odour judge scores including questions on alcohol intake and BMI. Predictions of odour judge scores based on these nine responses yielded R = 0.601 when introduced together with Halimeter and β-galactosidase scores, the correlation being significant (p = 0.08). The suggesting that alcohol intake and BMI may be factors that help pre- dict oral malodour.

“The finding on alcohol and bad breath was not surprising because the anaerobic evidence was already there,” says Prof. Rosenberg. “However, the finding that correlated obesity to bad breath was not anticipated,” Prof. Rosenberg continued from the data that overweight patients were more likely to have foul-smelling breath. “This finding should hold for the general public,” he said, further adding that scientific evi- dence as to why this is the case is unclear, and additional evidence is required. “We have no idea of the potential causes, and we really do not know how to interpret the results,” he added.

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