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INTERVIEW

Silver diamine fluoride could be an easy and inexpensive way to manage early childhood caries, according to Dr Rana Yawary. In this interview, she explains why.

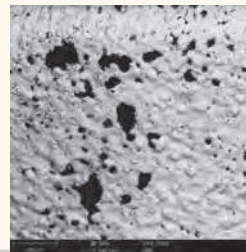
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PROPHYLAXIS

Australian periodontist Dr Lisa Heitz-Mayfield about the importance of implementing a preventative approach for successful implant treatment.

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IMPLANT TRIBUNE

MegaGen has just been awarded the Trusted Quality Mark certificate by the CleanImplant Foundation. Read about the project in our specialty section.

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Chewing causes microwear

By DTI

CHENGDU, China/FAYETTEVILLE, USA: A team of researchers from the University of Arkansas in the US and the Tribology Research Institute at Southwest Jiaotong University in Chengdu has documented the effects of chewing on the nanosized structures that make up tooth enamel. Using tips made from different types of material, pressure was applied to the surface of human molars, which had been extracted for orthodontic purposes. The researchers scratched the teeth, moving the tip across the surface to simulate the action of teeth moving against each other during chewing. They also indented the tooth surface, pressing the tip against the enamel to simulate the pressure caused by crushing food.

The researchers observed that, at every level of pressure, scratching led to more damage than indentation, but both types of stress resulted in three different kinds of damage. Plucking occurred



Food leaves permanent traces on teeth. A team of international researchers has now examined these marks—or microwear.

when the crystallites were separated from each other. Applying more pressure to the enamel led to deformation, or the bending and squeezing of the crystallites. At even higher levels of pressure, fragmentation resulted when the chemical bonds holding the crystallites together broke.

“Hydroxyapatite crystallites are the fundamental units of enamel, each less than 1/1,000th the thickness of a human hair,” said co-author Prof. Peter Ungar from the University of Arkansas. “Most research on tooth wear to date has focused on effects at much larger scales, but we have to study

enamel at this finer level to truly understand the nature of how the hardest tissue in our bodies resists wear and tear.” The study, titled “Enamel crystallite strength and wear: Nanoscale responses of teeth to chewing loads,” was published online on 25 October in the *Journal of the Royal Society Interface*.

Women in dentistry

SYDNEY, Australia: The latest figures out of Australia show that, for the first time in the island continent's history, there are more women working in dentistry than men. According to data from the Dental Board of Australia, 50.2 per cent of dental practitioners, including dentists and dental therapists, across the country are female. Additionally, of the 732 current members of the Australian Dental Association Victorian Branch, 410 are women and 322 men.

With its flexible hours, creativity and good pay, many women are choosing the profession over medicine. Speaking to *Dental Tribune*, President of the Australian Dental Association Victorian Branch Dr Susan Wise said, “There is now more diversity of dentists with respect to gender and ethnicity. Women are attracted to dentistry as a career, as it is possible to do part-time work and fit in bringing up young children. This is more difficult in many fields of medicine, law, accounting and architecture.”



Pioneering dental research: Australian molecular biologist Prof. Eric Reynolds (middle) is this year's winner of the Prime Minister's Prize for Innovation.

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Legal loopholes

Dentistry and cosmetic surgery are two fields that may be especially vulnerable to exploitation of legal loopholes concerning the administration of local anaesthesia, according to the Australian and New Zealand College of Anaesthetists. To address this issue, the medical body has called for tighter and uniform national regulation for administering sedation in these fields.

Changing taste

Caffeine is a powerful antagonist of adenosine receptors, which promote relaxation and sleepiness. Depressing the effect of the receptors may make people feel more awake, but a new US study has found that it also decreases their ability to taste sweetness—which makes food and drink seem less sweet and may trigger sugar cravings, the researchers concluded.

Crown and go

Aiming to find a safer, more effective and faster treatment method to reduce the high prevalence of dental caries in children in New Zealand's Whanganui district, a three-year study has set out to test an alternative method of treating caries, the Hall technique. Instead of removing the diseased tissue under anaesthesia, in the Hall technique, dentists leave the decay as is and cement a small metal crown on the tooth.

The method was first introduced in 1991 by Scottish dentist Dr Norna Hall, who used the treatment on her patients for 15 years until she retired. Some clinicians think the treatment is wrong because it leaves bacteria behind, explained lead researcher Dr Foster Page from the University of Otago. However, the study's provisional results have been promising, she said.



Distinguished by innovation

Healthy teeth produce a radiant smile. We strive to achieve this goal on a daily basis. It inspires us to search for innovative, economic and esthetic solutions for direct filling procedures and the fabrication of indirect, fixed or removable restorations, so that you have quality products at your disposal to help people regain a beautiful smile.

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