

Curcumin helps fight

# Oral and oropharyngeal cancers

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According to Cancer.Net, head and neck cancers account for approximately 4 % of all cancers. Since current treatment options, such as surgery and chemotherapy, often cause adverse effects, there is a strong need for novel low-toxicity therapies for the effective treatment of cancer patients. In a recent study, researchers examined the effect that APG-157, a botanical plant-based drug that contains curcumin, has on neck and head cancer patients. The findings showed that the drug helps patients fight oral and oropharyngeal cancers by reducing the concentration of cytokines in the saliva and could serve as a therapeutic drug in combination with immunotherapy. Owing to its antioxidant properties and its ability to reduce swelling and inflammation, curcumin has been proved to help fight multiple cancers. The study found that, when APG-157 was administered by oral mucosal absorption, levels of curcumin circulating in the blood were high and it ended up being absorbed by cancer tissue. The researchers also found APG-157 therapy to be successful in reducing the relative abundance of *Bacteroides* species, a group of Gram-negative bacteria that is associated with oral cancer. Additionally, APG-157 helped attract immune system T cells to the tumour area. This suggests that, when used in combination with immunotherapy drugs, the therapy could help the immune system T cells both recognise and kill tumours. The study, titled "A randomized, phase 1, placebo-controlled trial of APG-157 in oral cancer demonstrates systemic absorption and an inhibitory effect on cytokines and tumour-associated microbes," was first published online in *Cancer* on 5 February 2020.

**Source: Dental Tribune International**

Dual-light photodynamic therapy

# Helps kill oral bacteria




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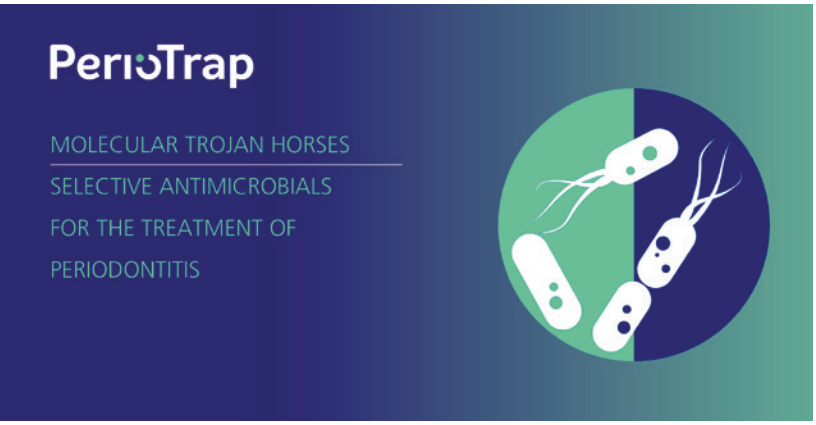
Regular toothbrushing helps maintain good oral health, but does not completely prevent the occurrence of oral disease. To help kill *Streptococcus mutans* bacteria and the harmful oral bacteria that cause gingivitis, researchers from Koite Health in Finland are launching a method intended for home use. The method involves using antibacterial photodynamic therapy and antibacterial blue light to reduce the markers indicating early gingivitis and plaque formation. "Dental diseases are caused by the combined effect of the bacterial community, and *Streptococcus mutans* plays a key role in dental caries. For plaque, *mutans* is a bit like the first violin that starts a concert. It adheres to the tooth first and opens the door for other bacteria," said co-founder of Koite Health Dr Tommi Pätilä, associate Professor in paediatric heart surgery and organ transplantation in the Hospital District of Helsinki and Uusimaa. According to the researchers, bacteria living in the mouth are resistant to the antibacterial blue light because they are protected by various sugars. However, the combination of a photosensitive solution and the wavelength of dual light affects the bacteria's internal structures. "The photosensitive substance in the effervescent tablet adheres to the surface structures of the bacteria. Red light activates the substance and initiates a chain reaction that kills the bacteria. Antibacterial blue light administered at the same time significantly enhances the effect," Pätilä explained. The researchers believe that dual-light therapy is particularly beneficial to people with aggressive strains of dental bacteria, chronic disease or diseases such as arthritis. Dual-light therapy designed for home use will be launched for consumers in early 2020. The study, titled "Dual-light photodynamic therapy administered daily provides a sustained antibacterial effect on biofilm and prevents *Streptococcus mutans* adaptation", was published online on 9 January 2020 in *bioRxiv*.

**Source: Dental Tribune International**

PerioTrap—a highly specific

## Substance against periodontitis

Periodontitis is one of the most common infectious diseases in the world today. Under the leadership of Dr Mirko Buchholz, a team of researchers from the Fraunhofer Institute for Cell Therapy and Immunology in Halle (Saale) in Germany has now developed a highly specific antibiotic against the disease. According to Dr Buchholz, the active compound is effective in two ways: it can only be absorbed by the pathogens and it also only works on them. The active compound does not target the rest of the organism and thus fewer reserve antibiotics are needed. In this way, the new drug makes a major contribution to fighting the risk of multi-resistant germs. The effect of the substance is based on the blocking of an enzyme, which is required for the "nutrition" of the bacterium, and on a specific transport mechanism for iron. It has already been patented by the start-up company "PerioTrap Pharmaceuticals". They are currently looking for investors in order to lead the product from the preclinical phase to market entry.




**Source: Univations GmbH/Investforum Startup-Service**

Cairo as host city of the

## 2020 ISLD World Congress

Following the great success of the congresses in Aachen, Germany, in 2018, and Plovdiv, Bulgaria, in 2019, the board members and the general assembly of the International Society for Laser Dentistry (ISLD) have decided to make Cairo the destination for the 18th ISLD World Congress, to be held from 1 to 3 October 2020.

Application for the dental event in Egypt is now open. At the congress, attendees will have the chance to experience high-rate lectures and presentations from the most prominent names in the field of laser dentistry, participate in numerous workshops and engage in enlightening conversations with other laser enthusiasts from around the world. In addition, there will be an industry exhibition featuring the world's leading dental laser manufacturing companies. Compared with the 2019 congress in Plovdiv, the ISLD is expecting a significant increase in participants at the event in Egypt, which is why the number of tickets is restricted. Further information on the upcoming event hosted by the leading expert society worldwide for laser dentistry can be found online at www.isldcairo2020.com.

**Source: ISLD**



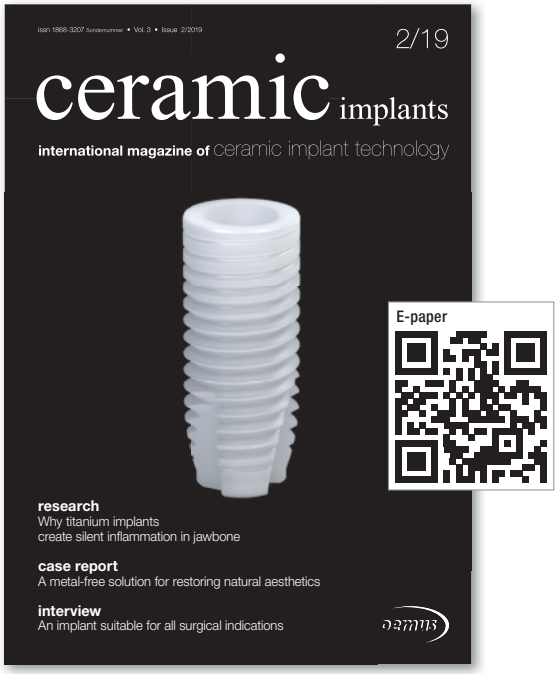
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ceramic implants

## The international medium for ceramic implant technology

Since 2017, the English-language magazine *ceramic implants—international magazine of ceramic implant technology* has been published with great success. The magazine, which is published twice a year, gives the extremely active international ceramic community a powerful and independent platform. The need for information on evidence-based research findings and the interest in clinical cases dealing with metal-free implants is growing on a constant basis. The magazine has become a must read for implantologists, as it provides orientation at a product and practitioner level on the one hand, and an international overview of thematically relevant further training events and industry cooperations on the other hand. The magazine is published by the German dental publishing house OEMUS MEDIA AG and the next instalment will be out in April 2020. For an annual subscription (€30 plus shipping) as well as a free hard copy, contact subscribe@oemus-media.de.

**Source: OEMUS MEDIA AG**




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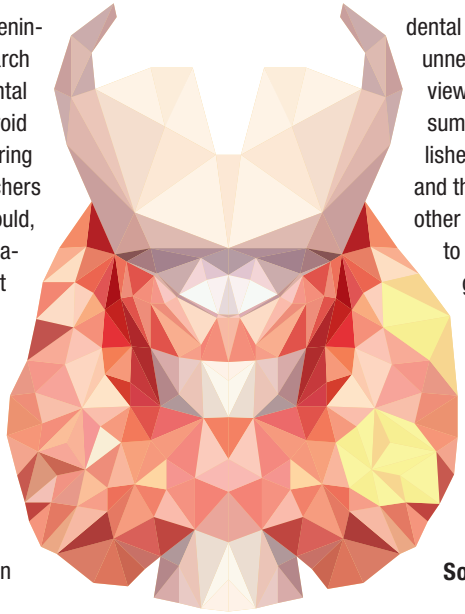
Register now at **www.qr.oemus.com/6152** or scan the QR on the right and become a member of the German Association for Laser Dentistry (DGL).

Application form

Dental radiographs might pose

## Potential hazard to human health

The incidence of thyroid cancer and meningioma is increasing globally. New research has found that repeated exposure to dental radiographs may increase the risk of thyroid cancer and tumours in the tissue covering the brain and spinal cord. The researchers concluded that dental radiographs should, therefore, be prescribed only when the patient has a specific clinical need and not as a standard part of routine dental evaluation. Prof. Anjum Memon, Chair in Epidemiology and Public Health Medicine at Brighton and Sussex Medical School, believes that some of the factors that contribute to the increase in thyroid cancers are increased surveillance and dental screening, and over-diagnosis. Dental professionals should thus maintain dental radiographic records in order to avoid unnecessary screenings. In the systematic review and meta-analysis, Memon and his team summarised the findings of previously published studies on dental radiographic exposure and the risk of thyroid cancer, meningioma and other cancers of the head and neck. According to Memon, current UK, European and USA guidelines have already stressed the need for thyroid shielding during dental radiography. The study, titled "Dental X-rays and the risk of thyroid cancer and meningioma: A systematic review and meta-analysis of current epidemiological evidence", was published online on 14 October 2019 in *Thyroid*.



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**Source: Dental Tribune International**



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Ceramic implants—state of the art

## Discussed in May in Berlin

ISMI | INT. SOCIETY OF METAL FREE IMPLANTOLOGY

On 8 and 9 May 2020, the sixth Annual Meeting of the International Society of Metal Free Implantology (ISMI) will be held in the Steigenberger Hotel Am Kanzleramt in Berlin, Germany. An internationally renowned team of speakers represents a versatile and high-rate scientific programme. Dr Dominik Nischwitz, president of the ISMI, comments: "[…] I believe that we can look optimistically to the future and that we will continue to define state-of-the-art ceramic implantology through international professional exchange." This is in keeping with the theme of the 2020 annual meeting ("Ceramic implants – State of the Art"). Dr Nischwitz continues by saying: "It's important to mention that the success of our international endeavours is underlined by the fact that the International Academy of Ceramic Implantology is the official partner of our conference; its president, Dr Sammy Noumbissi (USA), and other internationally renowned experts will be among the speakers." On both congress days the programme will cover practical experiences and current trends in the use of ceramic implants, as well as biological aspects of metal-free implantology. The two-day event will kick off on Friday with two pre-congress symposia, involving the live streaming of a surgery via the internet. The highlight of the first congress day will be the ISMI White Night, held in the Beletage of the renowned borchardt in the heart of Berlin. Saturday will then be dedicated to scientific lectures. Simultaneous translations (German/English) will be provided on both congress days. To register for the event, contact event@oemus-media.de. For more information, visit www.ismi.me/?lang=en.

**Source: OEMUS MEDIA AG**



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Chewing gum could help

## Fight dental caries

Though the relative benefits of chewing gum are often subject to debate, a number of studies have shown that the sugar-free varieties can promote oral health. On this topic, researchers from King's College London identified and subsequently analysed 12 studies published over the last 50 years that explored the impact on oral health and the intervention outcomes of chewing sugar-free gum in a systematic review. It was found that chewing sugar-free gum reduces the incidence of dental caries by 28 per cent and that it could be used as a possible preventive agent in combination with oral health education and supervised toothbrushing initiatives. Previous studies have shown that chewing gum can increase the level of certain vitamins in blood plasma. According to the researchers, the specific relationship between the development of dental caries and chewing sugar-free gum had not previously been explored. The study, titled "A systematic review and meta-analysis of the role of sugar-free chewing gum in dental caries", was first published online in November 2019 in the *Journal of Dental Research: Clinical and Translational Research*.

**Source: Dental Tribune International**

Burnout causing half of dentists

## To consider leaving dentistry

Half of dentists (50 %) have considered leaving dentistry for reasons of personal well-being, according to a Dental Protection survey. In its report, "Breaking the burnout cycle", the indemnity provider warned that burnout impacts dentists, the team and patients. Dental Protection is calling on dental organisations to establish a "well-being guardian" for exhausted dentists to talk to. Half of dentists surveyed (50 %) in "Breaking the burnout cycle" experience dissatisfaction with their work-life balance and 60 % of those surveyed say it is difficult for them to take a short break from work. Dental Protection therefore believes key performance indicators should now include dentists' well-being. "We encourage dentists to reduce their exposure to burnout by reviewing the working environment and workload and adopting a proactive approach to developing resilience to reduce the risk and its consequences," Raj Rattan, dental director at Dental Protection, said. Moreover, the fear of litigation causes stress and anxiety to 77 % of dental professionals, a previous Dental Protection survey showed. Dental Protection claims studies have shown healthcare professionals often don't seek help when they find themselves in such circumstances. An anonymous Dental Protection member said: "No other profession seems to have the same regulation and punishment as dentistry."

**Source: Dentistry.co.uk**



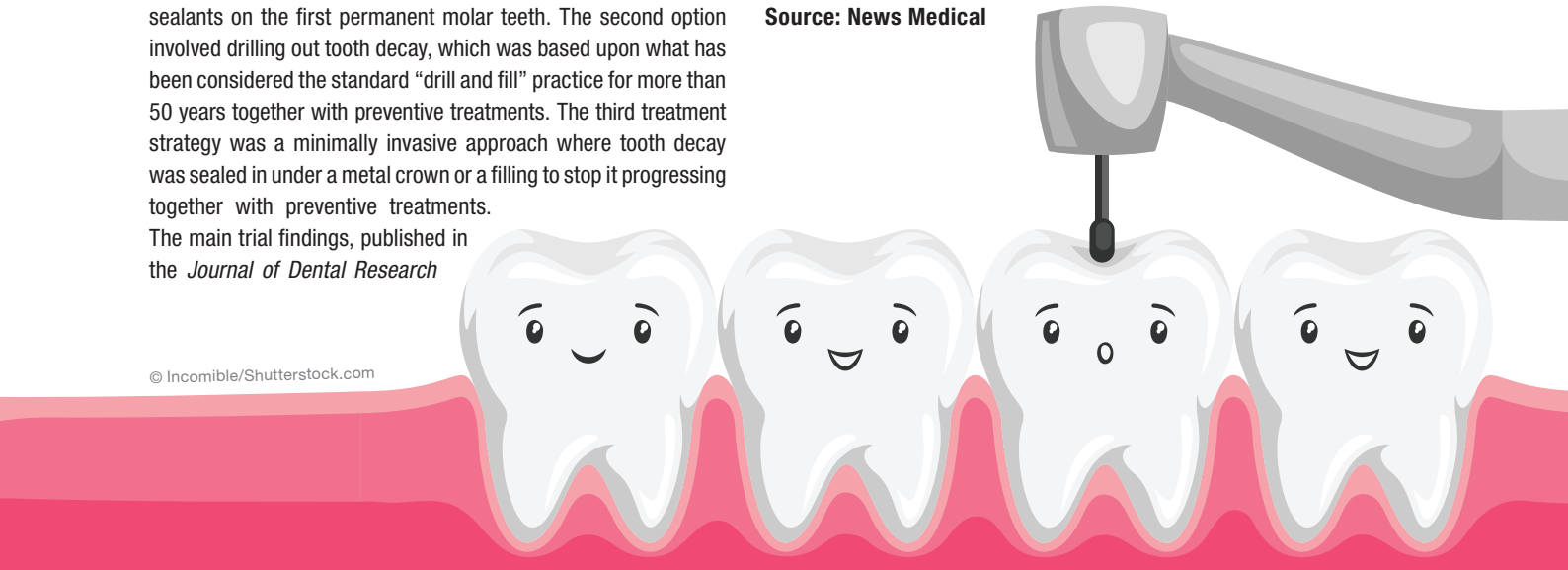
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Drilling might not be the best way

## To manage tooth decay in children

A three-year study, led by dentists from the Universities of Dundee, Newcastle, Sheffield, Cardiff, Queen Mary University of London and Leeds, has found no evidence to suggest that conventional fillings are more effective than sealing decay into teeth, or using prevention techniques alone, in stopping pain and infection from tooth decay in primary teeth. The scientists evaluated the results of 1,144 children aged between three and seven years. One of three treatment approaches was chosen randomly for each child's dental care for the duration of the trial: the first approach avoided placing any fillings and aimed to prevent new decay by reducing sugar intake, ensuring twice-daily brushing with fluoridated toothpaste, application of fluoride varnish and placing of fissure sealants on the first permanent molar teeth. The second option involved drilling out tooth decay, which was based upon what has been considered the standard "drill and fill" practice for more than 50 years together with preventive treatments. The third treatment strategy was a minimally invasive approach where tooth decay was sealed in under a metal crown or a filling to stop it progressing together with preventive treatments.
The main trial findings, published in the *Journal of Dental Research* found no evidence to suggest that any of the treatment strategies were better than another in terms of making a difference in children's experience of pain or infection, quality of life or dental anxiety between groups. All three different ways of treating decay were acceptable to children, parents and dental professionals. In conclusion, the researchers recommend preventive measures and programmes to be implemented early on in children to prevent caries from developing. The study (Innes, N.P., et al. 2019. Child Caries Management: A Randomized Controlled Trial in Dental Practice. *Journal of Dental Research*.) can be accessed online at doi.org/10.1177/0022034519888882.

**Source: News Medical**



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