

No. 2 / 2026, Cologne
#Idscologne

New impulses for dental prophylaxis

Fluoride in diverse forms - "artificial intelligent" toothbrushes - tongue cleaning with scrapers, lamellar or bristle toothbrushes - individual prophylaxis is paramount - prevention for patients of different ages and in various situations - upgrade your practice to match the latest prophylaxis standards at the International Dental Show

Dental prophylaxis is considered to be a field with many established constants - yet it continually surprises with new findings and applications. From newly discovered microorganisms and advanced fluoride concepts, to digitally supported oral hygiene aids: The 42nd International Dental Show (IDS) will demonstrate in Cologne from 16 to 20 March 2027, the dynamic evolution of prevention and prophylaxis.

More than 770 different types of bacteria are known to exist in the human oral cavity. In spring 2025, a further oral bacterium, *Dentiradicibacter hellwigii*, was identified and named after Prof. Dr. Elmar Hellwig, a Professor at Freiburg and former Medical Director of the clinic.

According to current knowledge, it is primarily found in infected root canals, but is not necessarily considered a cause of disease. Therefore, the existing prophylaxis strategies don't have to be fundamentally change, but will be specifically enhanced accordingly.

Fluoride remains to be a key element of caries prevention. In addition to its classic use in toothpastes, the forms of administration are expanding, for example through fluoride varnishes containing several types of fluoride like olaflur, dectafur, sodium fluoride and sparingly soluble calcium fluoride.

These and other varnishes fluoridate the surfaces of teeth as a means of caries prophylaxis, reduce hypersensitivity, support the treatment of exposed tooth necks and are used during and after orthodontic treatments. In addition, after the removal of orthodontic appliances, care creams containing hydroxyapatite are offered to remineralise the tooth enamel.

For at-home oral care, alongside toothpastes that contain fluoride, the toothbrush remains to be the most important tool - and they are increasingly electric, digital and intelligent. During cleaning, AI-based electric toothbrushes record parameters such as the brushing pressure, brushing duration and the brushed region as well as



IDS
16.03. - 20.03.2027
www.english.ids-cologne.de

Your contact:
Markus Majerus
Tel.
+49 221 821-2627
e-mail
m.majerus@koelnmesse.de

Koelnmesse GmbH
Messeplatz 1
50679 Köln
P.O. Box 21 07 60
50532 Köln
Germany
Tel. +49 221 821-0
Fax +49 221 821-2574
www.koelnmesse.com



GFDI Gesellschaft zur Förderung der
Dental-Industrie mbH
(Society for the Promotion of
the Dental Industry)
Aachener Strasse 1053-1055
50858 Cologne
Germany
Phone +49 221 500687-0
Fax +49 221 500687-21
info@gfdi.de
www.gfdi.de

GFDI is the commercial enterprise of the



Dental Solutions.
German Manufacturers.
Association of the German
Dental Manufacturers e.V. (VDDI)
info@vddi.de
www.vddi.de

the position in the mouth in real-time. The data is transmitted to the patient's smartphone per Bluetooth, where it is analysed and displayed visually. This gives patients an overview of well-cleaned areas and so-called "risk regions" that should be paid more attention to in the future.

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This data can also be transmitted to a dental computer via an anonymised Cloud transfer. This gives the team at the practice insights into the individual brushing habits and allows them to provide targeted recommendations. Studies show that AI-supported tooth brushing apps can significantly reduce the number of inflamed periodontal pockets in their users compared to non-users.

Products for special situations in life also enrich the range of individualised prophylaxis. For example, electric toothbrushes with a travel case and integrated UV C lamp, which can be used to sterilise the heads of the brushes within 30 seconds, are available for travellers.

Increased attention is being paid to tongue cleaning. The biofilm on the tongue is considered to be the most common intraoral cause for bad breath, because that is where 60 to 80 percent of oral bacteria is found. A structured halitosis therapy carried out in the dental practice can help up to 90 percent of those affected to fresh breath and can be implemented as part of a professional dental cleaning.

The prophylaxis team uses, for example, soft rotating brushes, ultrasonic systems or even a tongue vacuum. Beyond this, photodynamic therapies can also achieve good results and effectively combat odour-causing bacteria, even in the dorsal area of the tongue.

In addition, the prophylaxis team can recommend various aids that patients can use at home: A classic tongue scraper is particularly beneficial in the case of longer filiform papillae. In the case of deeper tongue crevices, special tongue cleaners with lamellae or bristles are preferred. An additional antibacterial effect can be achieved using 1-percent chlorhexidine gel. Unpleasant sulphur odours can also be reduced using lozenges containing zinc, mouthwashes or gels. Oil pulling for five to ten minutes in the morning is an effective adjuvant measure.

Specific patient groups also require special attention. Tooth decay in milk teeth remains to be a relevant topic for children, whereby minimally invasive therapies like caries infiltration are being increasingly applied. In the case of adults, the fact that more teeth are retained leads to a higher risk of root caries and periodontitis. The professional preparation of smooth, hard and decontaminated root surfaces is therefore correspondingly important, for example, using Gracey curettes or ultrasonic devices with adapted tips.

"The commitment of the dental prophylaxis teams and prevention-oriented dentistry as a whole have attained remarkable achievements in the oral health and teeth of the patients," emphasised Mark Stephan Pace, Chairman of the German Dental

Industry (VDDI). "The aim is to now secure and consistently expand these achievements using trusted and innovative methods.

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However, whilst caries has declined significantly in adults, the level of caries in milk teeth remains constant; and the success in tooth preservations means that the higher number of remaining teeth in adults requires extra preventative care. These examples demonstrate how important truly individualised prophylaxis is - tailored to the age, dexterity and other personal factors.

IDS 2027 shows comprehensively which solutions the international dental market offers for professional and at home oral care, emphasised Mark Stephan Pace. "This is where the visitors are informed about cutting-edge technology and can upgrade their own practices straight after the trade fair. This ensures that the prophylaxis team is exceptionally well-prepared to combat even newly discovered microorganisms.

IDS takes place in Cologne every two years and is organised by the GFDI Gesellschaft zur Förderung der Dental-Industrie mbH, the commercial enterprise of the Association of the German Dental Industry (VDDI). It is staged by Koelnmesse GmbH, Cologne.

Note for editorial offices:

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About IDS

The International Dental Show (IDS) takes place in Cologne every two years and is organised by the GFDI Gesellschaft zur Förderung der Dental-Industrie mbH, the commercial arm of the Association of the German Dental Industry (VDDI), and hosted by Koelnmesse GmbH, Cologne.

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If you reprint this document, please send us a sample copy.

Your contact:

For details and information on the dental industry:

VDDI/GFDI

Media & Communications

Martin Dommer

dommer@vddi.de

Burkhard Sticklies
sticklies@VDDI.de

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Your contact for IDS:

Markus Majerus
Public and Media Relations Manager

Koelnmesse GmbH
Messeplatz 1
50679 Cologne
Germany
Tel +49 221 821-2627
m.majerus@koelnmesse.de
www.koelnmesse.com