

No. 5 / August 2024, Cologne  
#Idscologne

## Difficult endodontic treatments are becoming easier, seemingly "impossible" teeth-saving treatments more and more frequently reality

Fast and minimally invasive file systems - consistent torque control - single-use files vs. instrument disinfection - sustainability moves further up on the list of top themes - Artificial Intelligence predestined for endodontics - IDS 2025 presents the entire spectrum

Endodontics is becoming more and more successful thanks to consistent therapy methods with trusted and innovative techniques, for both the cases of the generalists and of the specialists - all of which can be experienced at the International Dental Show (IDS) from 25 to 29 March 2025 in Cologne.

Hardly any other specialised field within dental medicine has undergone such rapid change over the past decades compared to endodontics. Both the increasingly more profound scientific findings and a host of technical innovations make it possible to preserve teeth that it wouldn't have been possible to save years ago. Fundamental, important correlations that are essential for the therapy are outlined below and possible modifications in the treatment protocol that are closely linked to the scientific and technical developments of the past years described.

In general, in the field of endodontics solving the seemingly "difficult" cases is becoming easier and even the cases that were still "too difficult" a few years ago are becoming treatable. If one studies the scientific publications of the past years, there is a clear trend towards less invasive techniques while the biological targets of the endodontic therapy are at the same time maintained. The dentist exploits all opportunities of current endodontics to ensure the highest probability of success: highly-flexible nickel/titanium instruments, magnifying glasses, an operating microscope and digital volume tomography (DVT), optional warm filling techniques, bioceramic sealers, activated rinse liquid and modern obturation materials.

The file sequences during the treatment are gradually becoming a bit easier - up to the usage of just one single file for cases that are not too complex. The selection of a specific system is made according to the requirements of each respective case, depending on whether the priority lies for instance on a substance-preserving technique (also with a view to possible retreatments) or the speed (i.e. at the request of the patient). At IDS every visitor has the opportunity to choose his future file system or several systems from a large selection.

The rinse liquid can be activated using Erbium YAG laser-induced shockwaves (PIPS,



IDS  
25.03. - 29.03.2025  
[www.english.ids-cologne.de](http://www.english.ids-cologne.de)

Your contact:  
Markus Majerus  
Tel.  
+49 221 821-2627  
e-mail  
[m.majerus@koelnmesse.de](mailto: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](http://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](mailto:info@gfdi.de)  
[www.gfdi.de](http://www.gfdi.de)

GFDI is the commercial enterprise of the



Association of the German  
Dental Manufacturers e.V. (VDDI)  
[info@vddi.de](mailto:info@vddi.de)  
[www.vddi.de](http://www.vddi.de)

photon-induced photo-acoustic streaming) or it is achieved by ultrasound or sound wave activation of the rinse liquid. The success can meanwhile be measured in the scope of studies using microbiological methods (qPCR/quantitative polymerase chain reaction).

Page

2/3

Beyond this, more attention is being paid to the theme "Sustainability", indeed in many respects. For instance is the single-use file sustainable? It still has to be weighed up: From a therapeutic point of view in comparison to files used several times the risk of breakage is reduced which in turn increases the chances of success. To further lower the risk of breakage, endodontic motors with torque control are recommended. The files that are used several times appear to be more environmentally-friendly at the first glance. On the other hand the amount of disinfectant needed and the hygienic residual risk increases. A tour round IDS shows the visitors the pros and cons and thus helps them make the right decisions as to which instruments are the best recommended option for their practice.

Furthermore, Artificial Intelligence is becoming the highly regarded impulse for innovations in the endodontics sector. Because this specialised field is predestined for being supported by Artificial Intelligence (AI). During the treatment a large amount of data is gathered and Artificial Intelligence is suitable for precisely that: analysing large amounts of data, recognising patterns in the data and coming to the resulting relevant conclusions. The dentists can make use of this information for example when opting for or against a specific therapy.

Today, among others the degree of restoration, existing root fillings, X-rays (2D/3D), intraoral images, endodontic length measurements and torque recordings belong to the endodontic data pool.

At present, Artificial Intelligence still reaches its limits as far as predicting treatment results and the final assessment of the treatment quality are concerned. The large amounts of data collected possibly do not yet suffice here. For example, whereas AI knows the torque value during every stage of the treatment, the angle of insertion of the files remains unknown. However, it is important to know this in order to map the treatment procedure pretty accurately.

"In the endodontics sector the spectrum of cases that can be treated by generalists is increasing, whilst the specialist can save more and more teeth that he himself would have lost years ago," said a delighted Mark Stephen, Chairman of the Association of the German Dental Industry (VDDI). "The right combination between trusted products and further developed endodontic motors, files, obturators, etc. is needed for the purpose. The basic principles of endodontics remain the same, but there is a shift in the direction of a gentler therapy with a higher chance of success. Dentists and their teams can find out which of the trusted and innovative products available for the purpose are suitable for their own everyday routine in the practice at the International Dental Show (IDS) in Cologne from 25 to 29 March 2025."

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.

Page

3/3

**Note for editorial offices:**

IDS photos are available in our image database on the Internet at [www.english.ids-cologne.de/imagetdatabase](http://www.english.ids-cologne.de/imagetdatabase)

Press information is available at [www.english.ids-cologne.de/pressinformation](http://www.english.ids-cologne.de/pressinformation)

Copyright for press information: IDS Cologne

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

**Your contact:**

For details and information on the dental industry:

VDDI/GFDI - Press Office

Burkhard Sticklies

[sticklies@vddi.de](mailto:sticklies@vddi.de)

**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](mailto:m.majerus@koelnmesse.de)

[www.koelnmesse.com](http://www.koelnmesse.com)