Press release

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#Idscologne

41st International Dental Show (IDS) 2025: Impulses for orthodontics through new digital and biological methods

Digitalisation, the 3D printing of physical models, aligners – artificial intelligence for more prognostic reliability and as a decision-making tool – biological regeneration methods, such as for instance PRF and other blood concentrates – IDS 2025 presents the entire spectrum of orthodontics

Orthodontics is in a positive sense a conservative dental discipline, has at the same time continually integrated the opportunities of digital technologies and is also enriched with elements of artificial intelligence (AI). These developments will be demonstrated in their entirety at the International Dental Show (IDS) in Cologne from 25 to 29 March 2025.

The digitalisation era has brought the orthodontics sector the cone beam tomography (CBCT), the intra oral camera and aligners. The therapy planning possibilities per computer screen and for the virtual comparison of different options and their results are actually what have made certain treatments feasible. Orthodontists find the fast data exchange with the dental laboratory and with orthodontic service providers and especially with the dental industry particularly convenient. In this way, certain steps can if necessary be outsourced, such as the segmentation of intra orally scanned dental arches.

Thanks to Cloud computing these are now enhanced by prognosis tools of new quality. Hence, the orthodontists can fall back on huge data sets and with their aid can evaluate individual practical cases more readily. AI-supported software can for example make classifications (i.e. Class II or Class III malocclusion). However, recognising structures that people cannot detect proves to be even more helpful. This enables a more precise assessment as to whether a child will develop a Class III malocclusion in the course of its development.

Software serves as a particularly welcome aid for dentists in certain decision-making situations, for example in the case of extractions (yes/no), orthognathic surgery (to what extent can jaw and face deformities be corrected by surgery?) and abnormalities in jaw growth (when to intervene?). In future, computer programmes will accelerate the determination of orientation points in the X-ray for the cephalometric analysis and possibly even improve the accuracy of diagnoses.

Furthermore, there are tasks that are easy for a doctor (differentiating between structures like the jaw, teeth, nerve channel, trachea, tongue bone) that

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conventional computer programmes struggle with. On the other hand, software trained using existing data sets can however automatically carry out a segmentation, for instance a segmentation of cone beam computer tomography images. If necessary both a CBCT and an intra oral scan can be carried out as an intermediate step. However, the actual therapy method (in other words, the orthodontic devices used) remain the same.

Orthodontics is meanwhile gaining new impulses from the field of biology. One facet involves for example the use of blood concentrates. Here one should mention above all different variants of "platelet-rich fibrin" (PRF). PRF could for example be used in orthodontics after extractions or after the explantation of auxiliary implants for the support of certain devices in order to accelerate wound healing, make flap formation or soft tissue transplants superfluous and reduce the pain. IDS also shows which equipment is necessary for this method (centrifuges, mixing slabs, etc.) in Cologne from 25 to 29 March 2025.

The orthodontic teams will find everything they need to exploit the new possibilities at the International Dental Show," said a pleased Mark Stephen Pace, Chairman of the Executive Board of the Association of the German Dental Industry e.V. (VDDI). " These include 2D and 3D X-ray systems, intra oral scanners, 3D printers for the additive manufacturing of models and aligners, orthodontic Cloud computing strategies, ceph analysis software, automated segmentation tools and much more."

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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