

For patients looking for high-quality dentistry, IDS provides the answers

An overview of the state-of-the-art technology on exhibit at IDS 2021 by Christian Ehrensberger.



▲ The whole range of filling treatments at the world's leading dental trade fair: Some of the goal-oriented and attractive solutions for dental practices from Silfradent, Polydentia and GC that will be on display at IDS 2021. (Images: Koelnmesse/IDS Cologne/Harald Fleissner [1 & 2]/Thomas Klerx [3])

■ The development of dental practices is in a much better position than one and a half years ago, and the COVID-19 pandemic is even showing positive signs. The 2021 IDS starting tomorrow in Cologne will provide a view into where we are headed.

Oral health: A key theme and an opportunity for the dental practice

Broad segments of the population are becoming increasingly interested in health, nutrition, physical activity, sport, medicine and more. This has resulted in a particularly strong focus on dentistry, since many patients are becoming aware of the significance of the oral cavity for their general

health, including preventing the severe progression of COVID-19.

This is boosting patients' confidence in their dental team, in their expert consultation skills and in their ability to perform prophylactic treatment. Among other things, hygiene standards are contributing to this. This is a classic core competence of the dental practice—though there are still things that can be improved. Based on current studies, optimising the holding technique for suction and a demand-oriented design of the suction system will further improve existing hygiene standards. Important decisions are made in particular when founding, taking over or expanding a dental practice. IDS 2021

will provide an overview of suction systems and suction tips, and visitors will be able to experience first-hand how the responsible design of their dental treatment facilities can provide the ideal hygienic conditions for the use of the entire range of instruments. This includes, in particular, high-speed turbines and powder-water jets used in prophylaxis.

Filling treatments will become more customised, quicker and easier

In the future, patients in all areas are likely to attach greater importance to extremely high-quality restorations. For example, they will want restorations that are hygienic as well as increasingly highly aesthetic.

Direct restorations have been an outstanding and innovative field for years. Since they represent the bread and butter of the vast majority of practices, even minor advances in procedures and materials have a clearly positive impact.

The dental team works with a number of proven materials, including composites, compomers, glass ionomer cements and amalgam, still. Recently, composite hybrids have been added to this mix. The field of dental materials is becoming more differentiated, and so in a given clinical situation, a decision can be made in favour of different options. Patients come to the dental practice with specific wishes and set their preferences accordingly. In general, this list of preferences can be assumed to be (1) long-term stability;

(2) compatibility; (3) preservation of as much natural tooth structure as possible; (4) natural aesthetics; and (5) favourable price. IDS 2021 allows a comparison of current filling materials in line with these criteria.

At the same time, the trends towards speeding up and simplifying the clinical procedures are continuing. The team can now work more quickly with many of the numerous self-adhesive composites. A comparison of the achievable adhesion values and marginal impermeabilities with the corresponding values of classic three-step etch and rinse systems as a reference shows how far their indication now extends.

Bulk fill composites can be applied in cavities in layers that are 4–5 mm thick, thus avoiding a time-consuming incremental technique. Flowable bulk fill composites are then overlaid with an occlusal filling material, and with specialist products, a change in consistency can be induced by sonic activation. For example, these are flowable when placed and become mouldable later. With this procedure, as with the high-viscosity bulk fill composites, a covering layer may be omitted.

The existing range of composites is further enriched by dual-polymerising and permanent composite relatives. Able to be used without retentive preparation and without etching, bonding or other conditioning, these materials allow for a tooth-coloured restoration and can be placed in the cavity quickly. However, a different technique is required.

improvement of nickel-titanium alloys for files has reached a level where innovative clinical concepts allowing for the conservation of tooth structure are now possible. At the same time, digitally supported endodontic backward planning is becoming established and, with it, new forms of collaborative working. For example, the dental practitioner can have specialists perform the digital planning (including files, obturation and an endodontic drilling template for the access cavity), but perform the subsequent treatment himself or herself.

Backward planning in implantology is already part of the standard repertoire, and new digital interfaces that allow for a truly integrated digital workflow will be presented at IDS 2021. Furthermore, the benefits of the use of artificial intelligence (AI) are already becoming tangible. It is hoped that AI will provide ever greater assistance in the evaluation of radiographic images and other visual representations.

Attendees will also be able to experience innovation in orthodontics. The classic means of checking for occlusal contact is now supplemented by digitally supported variants, and special bruxism splints can even provide immediate biofeedback and thus, ultimately, help prevent damage.

The sheer range of proven and innovative products, enabling patients to be treated using state-of-the-art technology, that will be on display at IDS 2021 is unique. Visitors to the trade fair will also develop a keen



▲ At IDS 2021, new interfaces will turn various well-functioning partial workflows into a fluid, fully digital procedure from A to Z. (Image: Koelnmesse/IDS Cologne/Harald Fleissner)

Digital processes: Strong in specialist disciplines

In endodontics, the trend is increasingly towards conserving more natural tooth structure. The gradual

sense of how patients with their clearly increased interest in health in general and dental health in particular can best be persuaded to visit the dental practice. ◀



▲ A way to control the viscosity of a bulk fill composite from flowable to mouldable: thermo-viscous material for the entire Class I, II and V indication range (VisCalor bulk, VOCO). (Image: Koelnmesse/IDS Cologne/Thomas Klerx)