

iKNOW

Understanding the new generation of informed patients, p. 4

FACE OFF

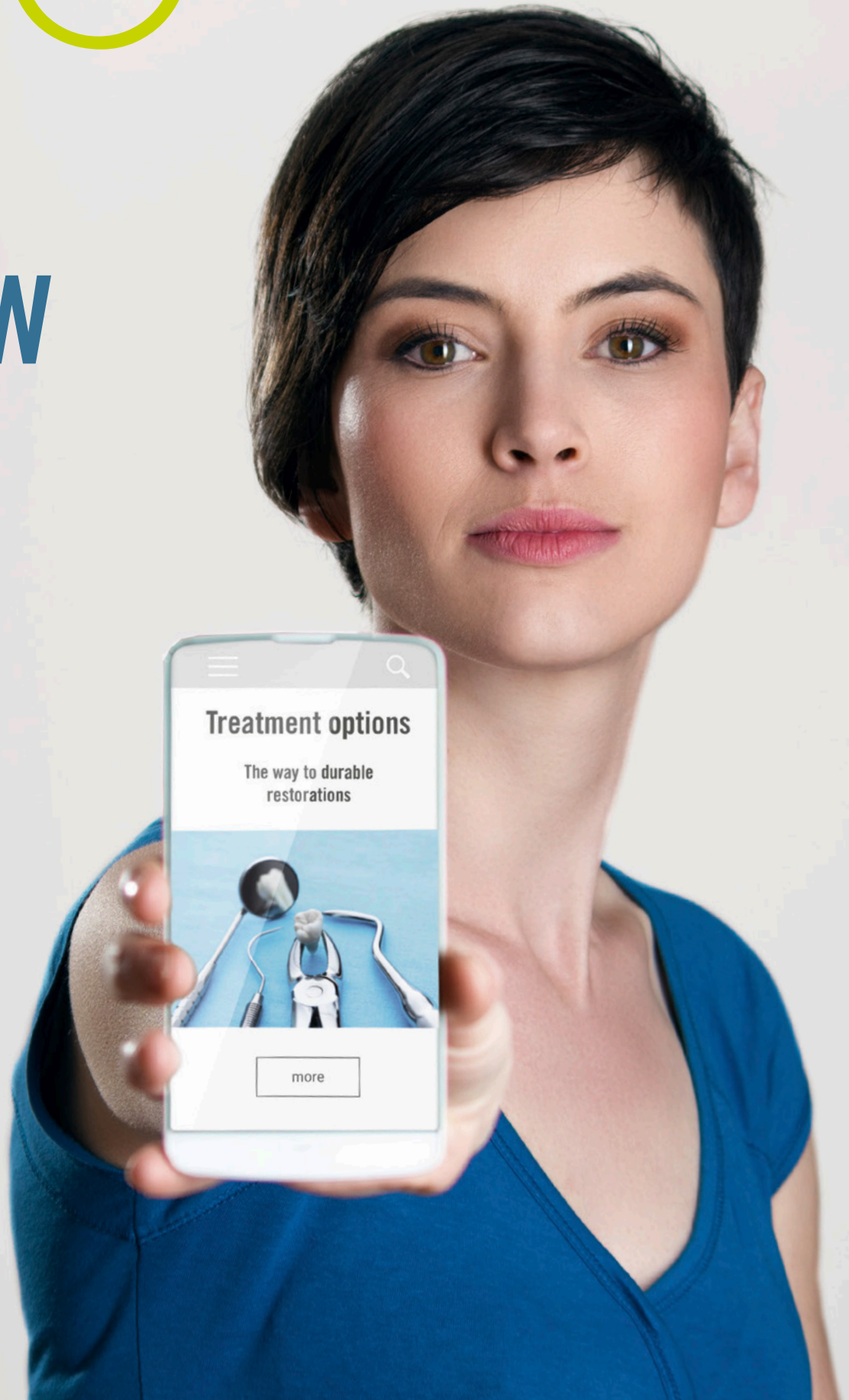
Handling Dr Google, p. 7

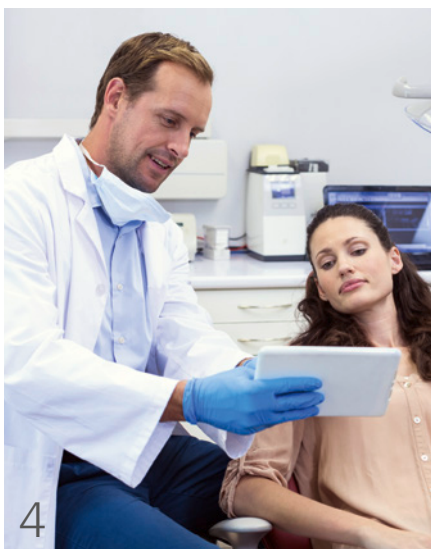
MEET UP

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DEAR READERS,

Modern dentistry changes quickly and continuously. This does not only affect you as dentists, but also your patients. They expect you to give them the best possible treatment as well as the most comprehensive advice. At the same time, you, your staff, and your patients have to adapt to the constant digital change. As if that were not enough, research continues to develop rapidly. We live in the most dynamic of times where exponential progress is achieved – through science, and creativity. Kulzer has been a partner for dental practices and others in the dental industry for over 80 years. We know that these developments can be challenging.

“ we – that means: even closer to your and your patients needs. And even closer to the challenges of the modern practice.

Using our expertise, we would like to help you improve your daily workflows to restore your patients' oral health and wellbeing. We can help by not only providing convenient products and services but also by giving you relevant information that help to advance your practice and master your skills.

WE – YOUR DENT MAGAZINE BY KULZER is designed to inform you and also provide inspiration.

You can expect a lot: scientific based information provided by our dental experts on latest study results and current trends, both for dental treatments, as well as in practice management and for innovative product solutions; tips and tricks from experienced

users that you can try in your practice immediately. Detailed case reports from renowned colleagues from practices or science. And of course, expert interviews, industry news and information on important scientific events.

The first issue of your brand new WE focuses on 'informed and independent patients'. In times of the world wide web, patients want to take over more responsibility for their health. The information available on the internet provides patients with new possibilities in interacting with their dentist. As a dentist and a health professional, you can steer your patients towards the right direction. That is why this issue explains popular ways your patients use the internet and which touchpoints you can find on their digital journey. Find out more about how colleagues deal with informed patients (see p. 4–6), what tips experts have for your everyday work (p. 7) and much more.

Enjoy reading!
Yours

Marc Berendes
Chief Executive Officer

Please, drop us a line! Do you have comments on this issue? Would you like to read about a special topic concerning your work? We are always grateful about your input – suggestions, questions, criticism alike – via email:

we@kulzer-dental.com

SHAPING THE CHANGE

HOW PATIENTS AND HEALTH PROFESSIONALS CAN BENEFIT FROM THE DIGITALISATION OF HEALTH INFORMATION



Many patients google their symptoms and search the internet for information. When it comes to self-diagnoses, regular headaches could be terrible migraines – at least according to Dr Google. Whereas in reality, the migraine is a bruxism-induced tension headache. Dr Kenneth Lee, an expert from the University of Western Australia who has conducted studies on this phenomenon, explains how this behaviour can potentially be beneficial for both patient and health professional.

Dr Lee, is finding information online a curse or blessing for the relationship between physicians and their patients?

To my mind, it is by no means a curse – although I can imagine the new information-seeking behaviours may challenge health professionals, for example, if a patient disagrees with the professional diagnosis. This might leave some health professionals baffled, especially since they are not necessarily taught how to deal with situations like these during their university degree. Nevertheless, these new information-seeking behaviours

“ What is more important is that the digitalisation of health information provides a great opportunity for doctors, dentists, to form stronger relationships with their patients.

also offer huge opportunities for the patient-physician relationship. The more openly and honestly both parties approach the issue, the more beneficial it can be. For example, a patient gets a life-changing diagnosis. To cope with it, he or she searches online for the predicted progression and possible treatments for the disease. The patient finds a recently authorised medication and brings this information to the next consultation. Together with the physician, they find out that the new medication might help, but additional information is needed. The health professional contacts the manufacturer and develops a therapy plan with and for the patient. This is an example of the benefits of patient information-seeking behaviours.

What has changed in the past years? How has Dr Google changed the information-seeking behaviours?

In the past, health professionals were the main source of information for many patients. Additional sources

were, if any, relatives and friends, or print media like newspapers, books and encyclopaedias. Physicians had the prerogative of diagnosing the disease and offering treatment. If patients disagreed, they changed their physician or simply did not follow the doctor's recommendations. In the rarest cases, patients talked or asked about alternative diagnoses or additional therapy options. The growing abundance of health-related information available online and its increasing accessibility via digital devices has made it easier for many patients to find health information by themselves. Rather than waiting for health professionals to provide the information, nowadays patients can look for it whenever they desire. Some patients even share their knowledge at the consultation and ask for clarification.

But isn't that worrisome? Especially since so much information online the internet is not very reliable?

It can be problematic if patients are misinformed and lose trust in their physician – after all, health professionals want to offer their patients the best kind of care and aim to restore their health. But that is only one side of the issue. What is more important is that the digitalisation of health information provides a great opportunity for doctors, dentists, to form stronger relationships with their patients. My research has found that most patients trust advice given by health professionals. That is why physicians should have open discussions with their patients about what information they have found and help them understand their conditions. If a patient feels a health professional is interested in their information-seeking behaviour, patients may feel more comfortable with sharing their concerns.

DR KENNETH LEE

is a Senior Lecturer in Pharmacy Practice at the University of Western Australia. He researches topics at the intersection of health information behaviour, education and technology.



What kind of information are patients typically looking for and where? What is the motivation for patients to seek information online?

According to my research, most patients start their search by using a search engine, rather than going to specific websites. The types of information a patient is seeking varies. Many patients look for information about their medical conditions, including ways to manage it, diets and exercise regimens that may be helpful and treatment options. Some patients also seek out information about medications to find out if it causes certain side effects. Similarly, there are variations in patient motivations to seek information online. Besides educating themselves about the medical conditions they have, patients also want to feel prepared before their appointment and to find out more information after seeing a health professional. It's about

“ Patients want to be informed decision-makers and active contributors to their own health management.

making informed decisions about their health management. In other cases, patients want support for coping with a diagnosis. At this point, getting in touch and connecting with other people who have the same condition is the main objective. There are also patients who look for medical information as a form of entertainment or enjoyment. For example, some patients want to find out new developments because they are interested in technology and health and want to learn about new developments. So, the information-seeking behaviours of patients are very complex.

Keeping all that in mind, which skills should both parties (doctor and patient) develop, in order to ensure a good relationship create a comfortable situation between them?

On the one hand, health professionals should educate themselves about websites with accurate and easy-to-understand information, so that they can tell patients reliable sources. Professional associations sometimes offer information material for patients. Physicians can also suggest specific information to search for so that patients do not feel overwhelmed by the volume of search results. On the other hand, patients also need to be able to restrict their searches. The internet offers millions of websites with health-related information, and trawling through them all can make a person feel like they are drowning rather than getting support. When people are overwhelmed with information, they may not understand the information correctly or they may only pay attention to certain parts of it. And of course, patients need to be able to evaluate the quality and accuracy of the information they find in a critical way. The result of all these things, by the way, are informed and independent patients.

How will informed and independent patients change the daily work of a physician?

Health professionals will need to spend more time understanding patients' concerns and ensuring that patients are able to be informed decision-makers and active contributors to their own health management – because patients expect to play a more active role. That's why responsibility for a patient's health will become more evenly shared between the doctor and the patient. Over time, an informed patient could mean that health professionals can treat a patient's problems more easily, rather than spending a long time identifying them. So, the focus of care will shift from a problem-oriented to a solution-oriented process. This change will empower patients and offers the opportunity to work in partnership with their doctors.

To conclude, what do you think the doctor-patient relationship will look like in 2050?

I believe that, by 2050, the patient-physician relationship will be more collaborative and equal. Health professionals will still be the experts, but patients will work with them to make sure they get the best health-care possible. Digital devices will play a major role: physicians and patients will have easy access to health information and, most importantly, personalised data. This means that physicians will have to offer individual solutions and consultations to every single patient.



It is important to encourage patients to share their concerns.

HOW TO FACE DR GOOGLE

TIPS FOR DEALING WITH INFORMED PATIENTS



How can dentists and their teams deal with patients' worries and doubts? And how can they help their patients to make informed decisions about their oral health management? Dr Kenneth Lee gives valuable and easy-to-implement advice.

FOR DENTISTS

- Be open to change. Listen to your patients when they want to share with you what they found on the internet.
- Teach patients which websites contain accurate and easy-to-understand information.
- Suggest specific information for patients to search for so that they do not feel overwhelmed with the volume of search results.
- Continue to develop your communication skills so you can identify and address patients' concerns. Doubt and fear severely affect patient compliance.
- Address misunderstandings. If you do not have enough time during an appointment, tell the patient that and ask if they would like to schedule another appointment.
- Empathize with your patients so they are willing to open up to you. They may reveal information that is important in helping you to decide on the best treatment.

FOR PRACTICE STAFF

- There are lots of reasons why patients may feel uncomfortable before treatment. Sometimes it can be doubts about the treatment after reading information online. Ask the patients what they know about their condition. If the patients feel that you are listening, they may be encouraged to open up.
- Some patients might prefer opening up to you more than to their dentist. If patients share their concerns with you, encourage them to talk to the dentist about what they found on the internet.
- Some patients may be embarrassed to admit to their dentist that they are looking for information online because they do not want to dismiss the searches. Let them know that one of the most important responsibilities of their dentist is to provide more information or to clarify any misunderstandings.
- Use waiting times to support patients in making informed decisions. If you have information resources about a specific condition or treatment, give it to the patient and encourage them to talk about it.
- Take it even one step further: guide patients through the internet yourself. Use posters or flyers on frequent indications and therapies with QR-codes or short URLs to lead patients to websites with accurate and easy-to-understand information.



DO YOU HAVE ANY OTHER TIPS?

Share them on
[facebook.com/kulzerinternational](https://www.facebook.com/kulzerinternational)

WATCH THEIR STEP

THE DIGITAL PATIENT JOURNEY

1 Laura Martin feels sick. She could ask friends and family but her laptop is closer. So she decides to first go online. She **searches for information** about and possible explanations for her symptoms. Like most patients she starts with the search engine Google.



2 She searches: What condition do I have? And do I need treatment? She may even be active in **social media**, where she can consult other people.

3 Laura finds a possible explanation for her symptoms. Now she wants to discuss her condition with an expert. But, where should she go? She uses search engines to **find specialist doctors** and care facilities.



4 There are many experts located nearby. That is why Laura visits platforms where other patients share and **rate their experiences** with their health professionals.



5 Laura **makes her appointment** online. In advance, she 'googles' what questions she can ask her doctor.



6 In the waiting room, she goes online again to **refresh** her memory about the information she found.



TIP: Does your practice have **free Wi-Fi**? If so, give patients the log-in details and help them to navigate to your website. There you can provide information about the most common diagnoses. You can also recommend reliable websites where your patients will find trustworthy information.

The days when doctors were patients' only source of information are long gone. Now, a patient can find unlimited information on the internet, which is available throughout the entire care process. This makes it even more important to understand a patient's digital journey. With this in mind, Kulzer analysed various scientific articles about patients' journeys through the world wide web and created an overview about an exemplary patient journey. Let's shift perspectives and follow Laura Martin!

11 To cope with her condition, Laura turns to online resources, e.g. **videos or apps for physiotherapy exercises** for craniomandibular disorders.

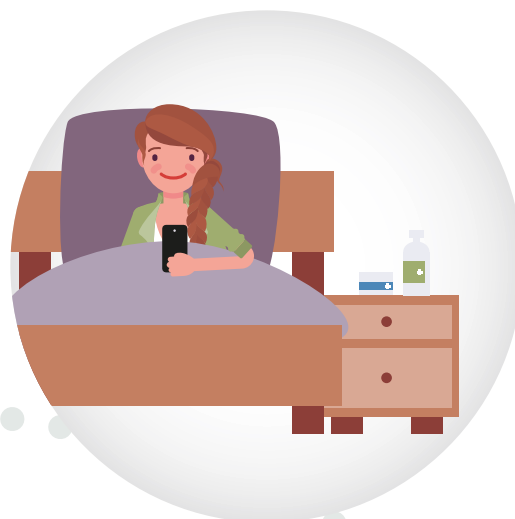


TIP: Do not hesitate to make **recommendations**. By giving **advice**, you can protect your patients against dubious offers or suspect information.



TIP: Stay up to date. Create your own social media account and follow discussions online. This way, you will be more prepared for the arguments your patients may put forward during your conversations.

10 Laura looks for some online support and tries to get in touch with **other patients** and dental experts via social networks.

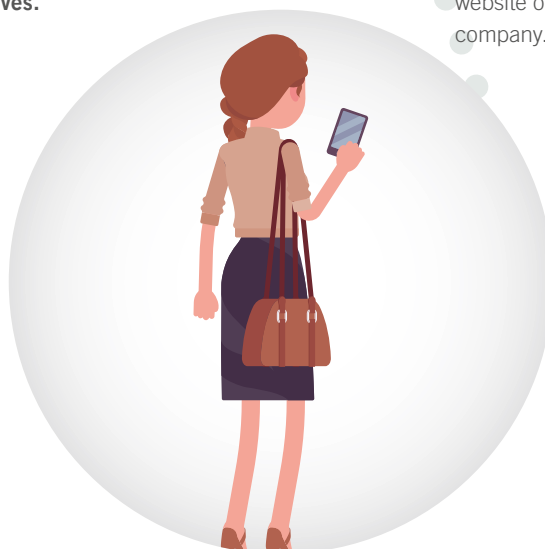


8 Laura is struggling with the diagnosis. She reads all the information she can find about the **treatment** and its **consequences** – and its **alternatives**.

9 What does her **dental insurance** cover? Laura goes through all the information available on the website of her insurance company.



7 On her way home, Laura looks up **the clinical and radiological findings of the dentist**. Afterwards, she googles her diagnosis. She wants to know: What does it mean? How will my lifestyle change? How will the disease progress?



IDS 2019

EXPERIENCE WELL-KNOWN EXPERTISE

Whether for dentists or dental technicians: Kulzer offers a broad portfolio of solutions and supports all users in their daily routines at work. At the IDS fair, visitors can explore three areas where Kulzer presents its core competencies – with experienced experts on-site and exciting multilingual live demos.

HIGHLIGHTS AT THE BOOTH

- 1 cara i500**
Live in action: an exciting new intraoral scanner will be presented by experts on patients. Digital impression-taking has never been so easy.
- 2 Treating hypersensitivities**
Learn how to relieve patients from their hypersensitivity and experience the effectivity of GLUMA Desensitizer in live demos.
- 3 Intraoral repair**
Kulzer puts a focus on intraoral repairs with GLUMA Bond Universal and gives practical tips and tricks as well as live demos.
- 4 Delara**
The new Delara tooth line complements the existing Pala product range perfectly and is undisputed one of the highlights at Kulzer's IDS booth. Its bluish tooth edge makes it particularly vibrant.
- 5 HeraCeram Saphir**
Get to know the unique aesthetics of the new ceramic HeraCeram Saphir that was designed to support the aesthetics of restorations – live demos included.
- 6 3D printing**
Interested in innovations in 3D printing? Full denture printing, new CAM software as well as new Wash & Cure units are highlights to experience.
- 7 JoStage**
Experience the possibilities for dental photography at the JoStage, the flexible photography studio. Get practical advice from experts on how you can put your work in the limelight.

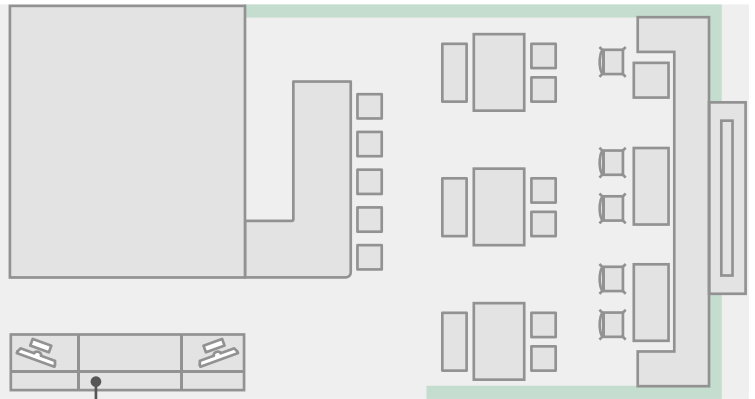
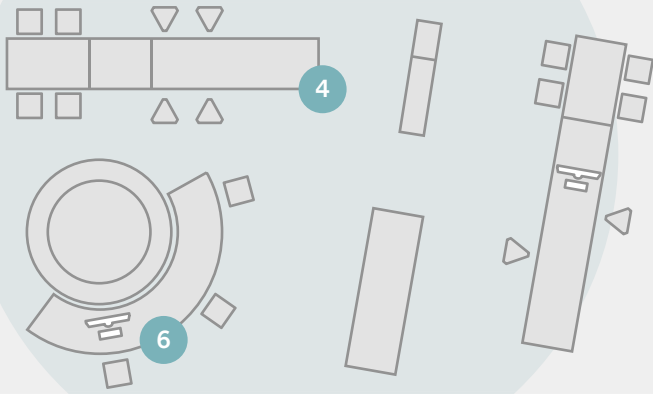
Live Demo

Live Demo

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DENTURE WORKFLOW

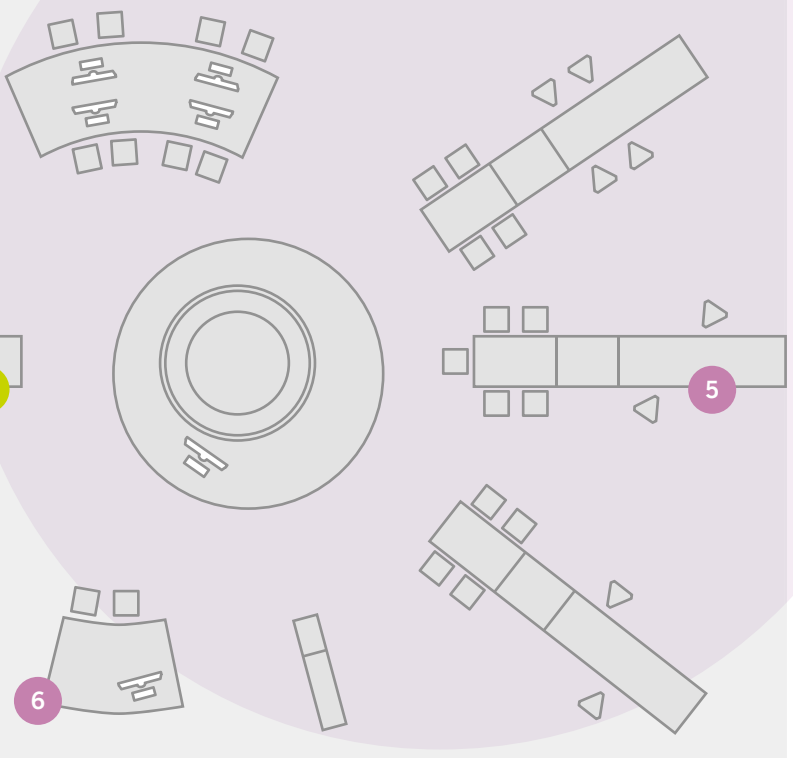
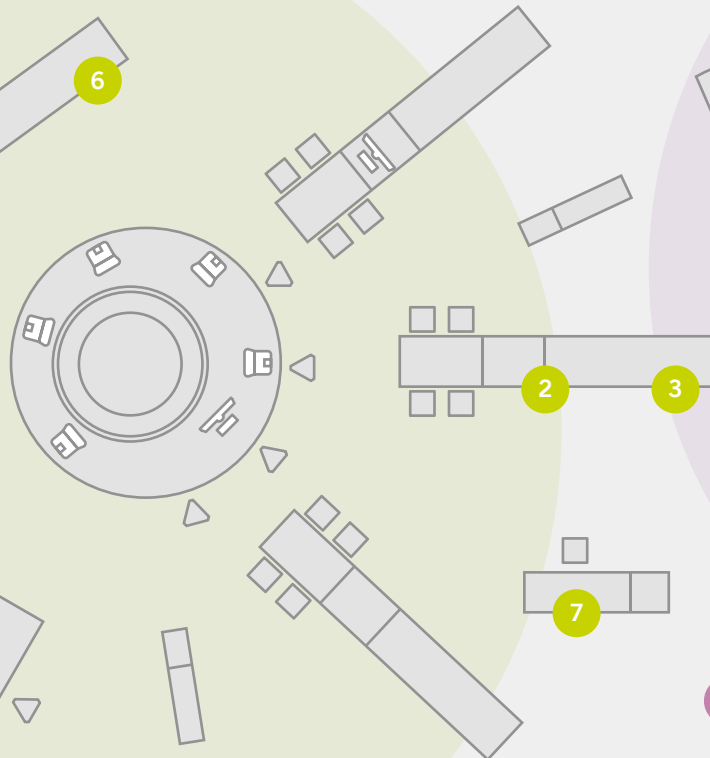
LOUNGE



Info Center

PASSAGE

CROWN AND BRIDGE WORKFLOW



CHAIRSIDE SOLUTIONS



5-MINUTE DISCOVERY TOUR

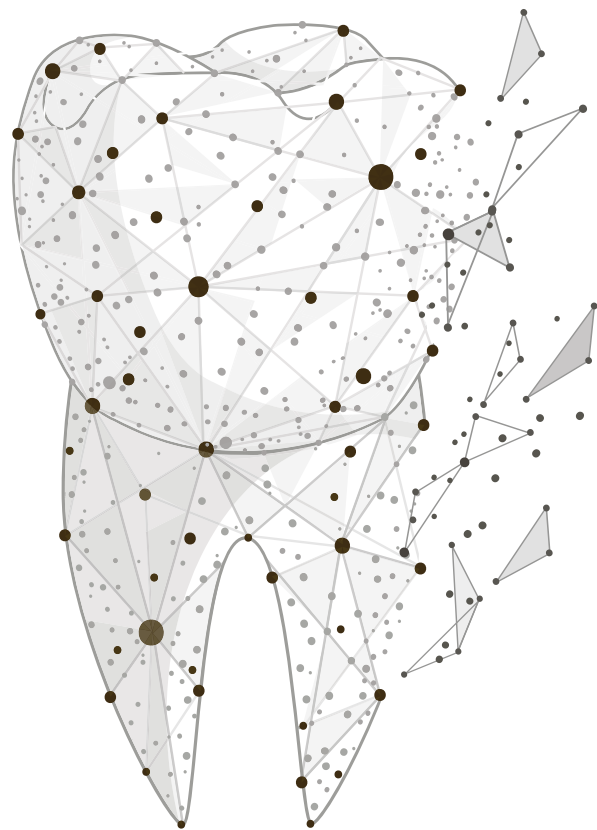


Are you visiting IDS from March 12th to March 16th 2019? Immerse yourself in the Kulzer world and get to know our products – within 5 minutes. Book your personal guided tour of the Kulzer booth. And if you have any further questions afterwards, renowned experts are at your disposal depending on your area of interest.

Book here: kulzer.com/ids-we

THE QUESTION ISN'T IF – IT'S WHICH ONE

GUEST CONTRIBUTION:
WHY DIGITAL IMPRESSIONS
ARE THE FUTURE



In the course of his work as President of the German Society for Digital Oral Impressions, Dr Ingo Baresel has repeatedly observed that many dentists remain sceptical about intraoral scanning. As a dentist and an early adopter of intraoral scanning, however, he is convinced that the technology has many advantages. In his exclusive guest contribution for the WE, he explains why and how dentists can benefit from it.

While dental labs are increasingly turning to CAD/CAM production with milling and 3D printing, the use of digital impressions remains less common among dental practices. In Germany, for example, only between seven and 10 percent of dentists use an intraoral scanner. Even though the trend is rising slowly, the most common concerns are that it is too expensive, too complex, and too inaccurate. Yet a number of studies, including those by Prof Daniel Edelhoff and Dr Jan Güth at the Medical Centre of the University of Munich, have shown that many intraoral scanners today are able to deliver equal or even more precise results than conventional impression techniques. Furthermore, intraoral scanners are now highly versatile and can be used for everything from single tooth restorations, to treatments involving the entire jaw and large implant cases.

Rapid development

A great deal has changed since Cerec, the first chairside CAD/CAM system with an intraoral scanner, was introduced to the market in 1985. In recent years, scanners have been developed that no longer require the surface to be treated with powder first. Additionally, the recording process has become considerably faster: experienced users can scan in half the time required for conventional impressions. In light of staff shortages, saving time is increasingly becoming a compelling argument. Even the handling, operation and scan routines are now smoother and more straightforward. This, in turn, delivers benefits in terms of patient comfort, reproducibility, standardisation and quality assurance. In my eyes, the question is not if or when a dental practice should introduce an intraoral scanner – it's which one. I say the same thing in all my talks: using intraoral scanning has made me a better

dentist. Why? Because thanks to the high resolution, I can see what I have done more clearly. This has also significantly boosted the quality of my preparations. I believe that now is the time to adopt intraoral scanners. The opportunities afforded by the technology are now at such a high level that no major leaps forward are expected in terms of quality – though of course it is always good to see small improvements.

Practice makes perfect

One thing is clear: dentists should attend training in how to use intraoral scanners to ensure they can fully exploit their potential. After all, the accuracy of a scan relies heavily on the scanning path: the scanner should not simply be moved over the surfaces of the teeth arbitrarily. That's why, at the German Society for Digital Oral Impressions, we offer specialized training and hands-on seminars. With the cutting-edge technology and the training opportunities that are available, there's no longer anything to prevent dentists from successfully implementing intraoral scanning in their practices.

Author: Dr Ingo Baresel



DENTIST DR INGO BARESEL

is President of the German Society of Digital Oral Impressions, and a specialist author and speaker on the matter. He has worked in the group practice Dres. Baresel in Cadolzburg, Germany, since 1999.

Key questions to evaluate before choosing an intraoral scanner

critereon	capabilities
accuracy	Are there independent accuracy studies available? Which scanner generation and which scanner software was tested in these studies?
scanning strategy	Scanning of the entire jaw including preparation, pre-prep-scan, cutting and post-scan of the preparation, single scan of the prepared dies and scan of the overall situation
speed	How much time does the scanner need for a full jaw scan? How quickly does the scanner find itself again after a tear?
cart or laptop	Structural requirements in practice, frequency of use, hygiene
colour mode	Colour scannable? Can the colour also be transferred to the dental laboratory?
data availability	Is there a certified cloud? Where is the data stored? (scanner-bound, cloud-bound)? Can a sent scan be edited again?
modelling	Can I order a model directly from the scanner manufacturer? Quality of the models?
production chairside/ labside	Is there a chairside option (certified workflow)?
handling	How does the handpiece fit in the hand? Are all areas of the jaw accessible? Can I scan the soft tissue (palate)? Can I position the handpiece and then see a picture?
powder, dusting	Is the application of powder on the surface necessary? Can metal restorations be scanned without an application of powder?
hygiene	How can the handpiece be disinfected? disposable items, sterilizable, immersion disinfection, wipe disinfection
options	What software options are available? HD photo, follow-up, marking the preparation margin, motion capture, orthodontic evaluation, outcome simulator, appliance designer, gesture control, other
price, running costs, laboratory software	purchase price, monthly costs, update costs, annual costs costs for receiving software in the laboratory

Not sure if you are ready for the step into the digital future?

Simply download a more detailed **worksheet** of the table and find out which scanner is right for your practice: kulzer.com/we1-IOS-decision-tool

GERMAN SOCIETY OF DIGITAL ORAL IMPRESSIONS

The German Society of Digital Oral Impressions was founded in July 2014 by Dr Ingo Baresel, his brother Dr Jens Baresel and their father Dr Wolfgang Baresel. The society, which works closely with manufacturers, aims to support the ongoing development of digital impression technology and its adoption. Find out more at dgdoa.de.

SAFELY INTO THE DIGITAL FUTURE

KULZER
NEW
PRODUCT



NEW MEMBER
OF THE
CARA FAMILY

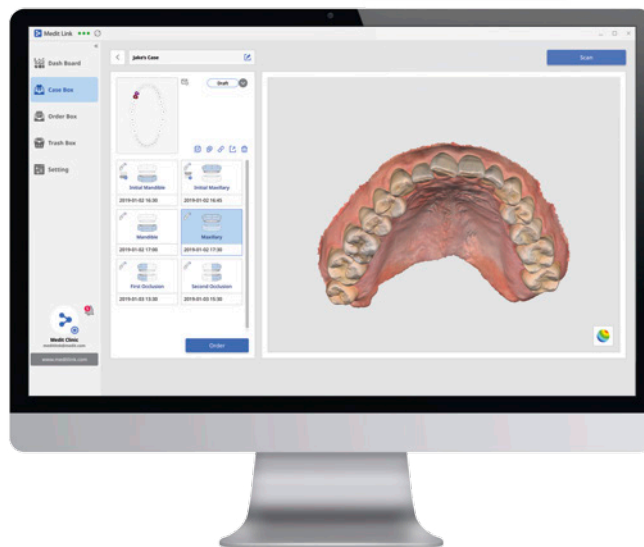
Most dental treatments start with an impression. Depending on the indication and the patient, dentists must decide whether to use an analogue or digital technique for this. As a specialist in impression-taking, Kulzer offers both. At IDS 2019, Kulzer will unveil a new, state-of-the-art handheld scanner: the cara i500. What can dentists look forward to in this new product? WE offers an exclusive preview.

Like many other areas in dentistry, impression-taking is becoming increasingly digitized. To support dentists on their path to a digital future, dental manufacturers should develop and offer safe and innovative products. Despite the advanced technological development of intraoral scanners, uncertainty among dentists remains high – because scan results are often not as convincing as analogue impressions.

However, with Kulzer's new cara i500, this is no longer the case. The reliable, state-of-the-art scanner not only allows instant monitoring of scans, but also ensures reproducible results in a precise manner. Its convenient handling guarantees an easy entry into this new technology for practice staff. The cara i500 is also economic, offering an impressive price-performance ratio and low cost of ownership. In a nutshell: the cara i500 Kulzer makes digital working that is characterized by speed, simplicity and cost-efficiency easier. But what else makes this handheld scanner stand out?

Here are the most important features at a glance:

- The cara i500 uses video-type scanning. With this technology, the scanner is able to capture pictures while the object is moving.
- The scanner is designed for easy handling: it has a small tip, is light, fast and precise and it works without powder. This makes impression-taking much more convenient, for dentists and patients alike. Furthermore, the single button allows dentists to start and stop the scan at any time, without reaching for the computer.
- Digital images captured by the cara i500 have a high resolution and reliable, consistent colour authentication. In other words, the scanner produces scans with which dentists can differentiate between soft tissue, plaque and teeth.
- The cara i500 is delivered with an open software architecture that is compatible with a wide selection of CAD software.
- Last but not least, dentists can benefit from the support, service and training provided by impression specialists from Kulzer.



The cara i500 covers a large number of indications:

- Single custom abutments
- Inlays and onlays
- Single crowns
- Veneers
- Three-unit implant bridges
- Up to five-unit bridges
- Orthodontics
- Implant guides
- Diagnostic models

Interested in testing the new cara i500? Visit us at our booth at IDS and experience live demos with this innovative handheld scanner. For more information, go to kulzer.com/we1-cara-i500.

3D PRINTING ON THE RISE

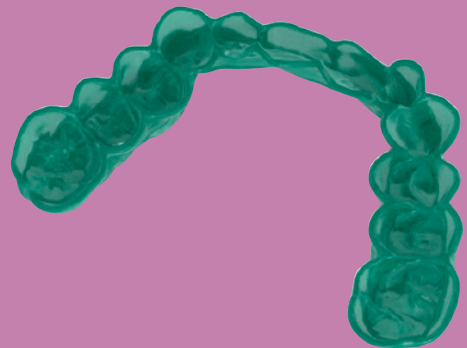
NEWS OUT OF THE
LABORATORY



Individual impression tray



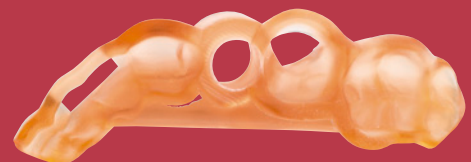
CAD to cast structure



Dental splint



Dental model



Surgical guide



THREE QUESTIONS FOR DR MED DENT SANDRA KAISER

Product Application Specialist Dentistry
Kulzer GmbH

Experts are convinced that the market for 3D printing is set to grow rapidly. The dental industry is already playing an important role in use of this technology. And with 3D printing being well established in dental technology, it is becoming increasingly important for dentists, too. But how exactly does 3D printing work? Dr Sandra Kaiser, Product Application Specialist at Kulzer, explains the revolutionary technology.

Dr Kaiser, everybody in the dental industry is talking about 3D printing. How does it actually work?

Often the term '3D printing' is used when additive manufacturing is meant. However, there are a variety of different technologies that currently exist in industry. In dentistry besides SLS and SLM, especially one technique is very common: Stereolithography (SLA) with the two main options SLA-Laser (mostly just referred to as SLA) and SLA-Digital Light Processing (DLP). SLA applies a laser beam that solidifies the liquid photopolymer in one layer, point by point, while DLP works with light that illuminates the whole layer at once. This results in a higher build speed with DLP than SLA. Both techniques offer the advantages of being efficient and resource-saving.

Which areas of application can currently be covered on the market?

From models and drilling guides for guided surgery to impression trays and temporary to permanent crowns: the 3D printers currently available on the market are able to produce a wide range of dental solutions. In practice, however, laboratories are mainly using them for models, night guards, splints and partial dentures and crowns and bridges for casting.

And finally, a look to the future: which potential application are currently being tested?

In the United States, 3D printing is becoming popular for creating full dentures. In the first step, the denture base is printed in pink resin, then the teeth are produced with a tooth shaded printing material. Afterwards, the two parts are bonded and glued together. The technique has already been successfully implemented in the US. And I am curious to see when this approach will be established in other markets. The general trend is towards permanent restorations. Here, the material and hardware development with filled composites and multicoloured translucent materials is just at the beginning.

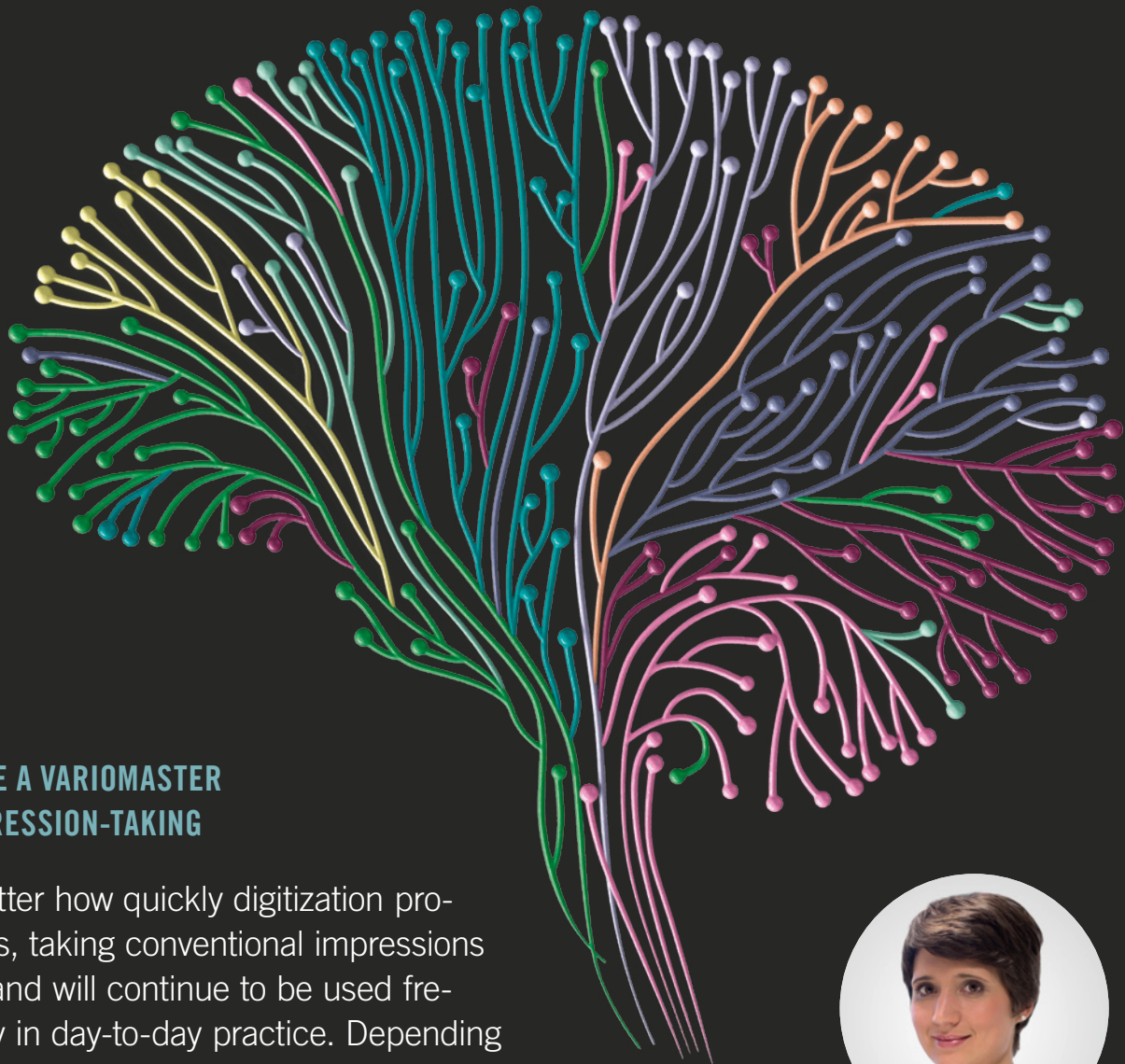
Furthermore, scientists such as a working group of the University Center for Dentistry in Basel, Switzerland, are conducting studies on the use of 3D printers in the area of guided endodontics. Template-guided navigation in root canal treatment could facilitate the treatment of obliterated teeth. The potential of 3D printing is wide-ranging, and we are only just beginning to discover what is possible. I am excited to see what the future brings.

Entire dentures can be produced with the 3D printing materials dima Print Denture Base and dima Print Denture Teeth.



Watch a video to learn more about 3D printing and its potentials with cara Print 4.0:
kulzer.com/we1-cara-print-explain

IMPRESS WITH EXPERTISE



BECOME A VARIOMASTER IN IMPRESSION-TAKING

No matter how quickly digitization progresses, taking conventional impressions is still and will continue to be used frequently in day-to-day practice. Depending on the indication, the one-step impression is often the preferred method because it is easy, fast and less error-prone.

Dr Andrea Leyer, a scientific expert at Kulzer, explains how dentists can achieve even more precise impressions by following a few simple tips and tricks.



DR MED. DENT. ANDREA LEYER

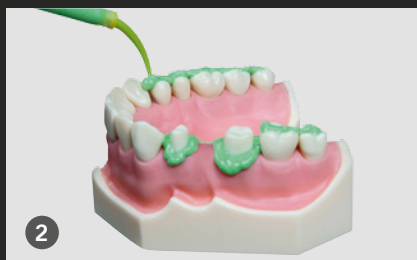
Global Scientific Affairs Manager
for Indirect Restorations
Kulzer GmbH

DOUBLE-MIX TECHNIQUE

The double-mix technique is a single-stage, two-phase process. How it is executed depends on the number of prepared teeth. If there is only one prepared tooth, the dental assistant can first fill a highly viscous material such as Variotime Heavy tray into the impression tray (Fig. 1). A low or medium-viscosity material (e.g. Variotime Medium Flow) is then syringed around the prepared tooth. Where there are two or more prepared teeth, the dentist and dental assistant need to work simultaneously as they need the material's complete working time to syringe all the prepared teeth and fill the tray. In any case, to ensure the impression is a success, it is important to pay attention to the minimal distance between the tray wall and jaw/teeth; this should be at least 3 mm.

In general, the tray should be inserted into the mouth slowly. This ensures optimal adaption of the impression material and reduces the risk of flow defects.

TRIED AND TESTED: To avoid air bubbles in the area around the occlusal surface, apply wash material to the occlusal surface of the unprepared teeth (Fig. 2).



? **Did you know ...** that A and C-silicones are two different types of silicone that do not adhere to one another sufficiently? For this reason, they should not be combined in the same impression.

GET MORE PRACTICAL TIPS for taking one-step impressions online: [kulzer.com/we1-variantime-tipsandtricks](https://www.kulzer.com/we1-variantime-tipsandtricks)

SANDWICH TECHNIQUE

Like the double-mix technique, the sandwich technique is a single stage, two-phase process. It differs in the material that is used: Here, a kneadable impression material (e. g. Variotime Putty) is commonly used as a tray material. Then, a generous layer of the wash material, e. g. Variotime Medium Flow, is applied to the tray material (Fig. 3). The benefits of the additional material reservoir become particularly apparent in clinical situations with large undercuts. In these situations, the viscoplastic putty material is not able to sufficiently reach the undercuts, but it pushes the medium viscous material into the undercuts that it cannot reach itself. However, take care to ensure the wash material is not too low in viscosity; otherwise it could be too easily displaced by the tray material.

TRIED AND TESTED: Inserting the tray into the mouth slowly allows optimal adaption of the impression material.



MONOPHASE TECHNIQUE

The fast and simple monophasic technique is particularly suitable for supragingival preparations or for transfer and implant impressions. A medium-viscosity impression material (e.g. Variotime Monophase) is usually used to fill the tray and syringe the prepared teeth (Fig. 4). Using an individual tray is recommended to achieve uniform material thickness and some pressure. Its advantage over single-stage, two-phase techniques is that only one consistency of impression material is used, eliminating any displacement effects resulting from different consistencies.

TRIED AND TESTED: When it comes to transfer or implant impressions, the Shore A hardness of the impression material should be high enough to ensure the primary parts/implant posts are securely fixed in the impression.



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Leipziger Straße 2
63450 Hanau, Germany
Tel.: +49 (0) 6181 9689-2000
Email: we@kulzer-dental.com

Managing directors:

Marc Berendes, Hiromi Hayashida

Chairman of the supervisory board:

Osamu Hashimoto

Companies Registration Office:

Head office of the company: Hanau
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Editor:

Eva Gessler (responsible), Dr Janine Schweppe,
Stefanie Aschmann, Trang Nguyen, Marc Berendes,
Dr Andrea Leyer, Dr Sandra Kaiser, Jens Kehm,
Jenni Caputo-Kreißl, Verena Wollitz

External:

Dr Kenneth Lee, Dr Ingo Baresel

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