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Issue 2/20

EDI Journal

European Journal for Dental Implantologists

TOPIC

BDIZ EDI support beyond the crisis

»EDI News: BDIZ EDI support beyond the crisis • PROS & CONS: Autologous bone combined with bone substitute • EU Medical Device Regulation delayed for one year »European Law: Medical treatment provided by telephone »Case Studies: Socket grafting with bioactive self-hardening synthetic graft materials • Immediate placement and immediate loading of a Patent zirconia implant

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Dentists in the “human crisis zone no. 1”

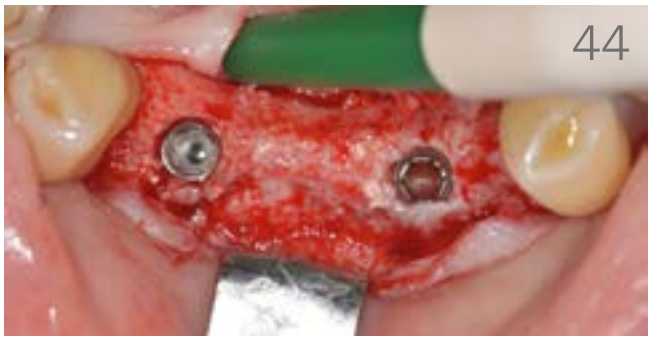
Humankind rules the earth. We have shaped our entire globe as we saw fit. We destroy, exploit, pollute and contaminate, cultivate and urbanize – and on top of that, there are more and more of us around. The earth is clearly overpopulated at its 7.6 billion people – and counting. And yet there are areas that we have no influence over, at least for now. Disasters have always occurred throughout history. Parasites, viruses and bacteria have also been colonizing us since times immemorial. We do develop antidotes, but the enemy strikes back. At the beginning of the 20th century, vaccines and antibiotics were developed against diseases that had been fatal until then. But bacteria and viruses perpetually change, and they are beneficiaries of globalization.

The novel Sars-CoV-2 virus presents us with enormous challenges. Epidemiologists and virologists fear that it will take more than a year to develop a vaccine. Lockdowns have affected dental surgeries and clinics throughout Europe. But after the first shock wave, dentists in particular quickly realized how to handle the risk of Covid-19 infections. They have always been used to treating the very zone where most infections start: the mouth, nose and throat. While self-protection is not as straightforward as previously thought, and the situation in the oral cavity is not that easy to handle, this realization also calls to mind that dentists routinely operate in a potentially infectious environment. Dentists’ awareness of the importance of protective measures has always been high.

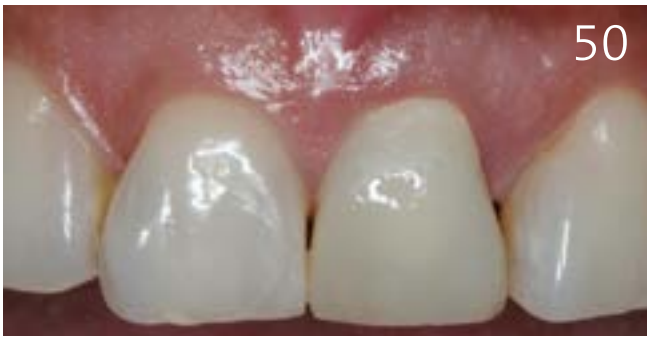
In a BDIZ EDI webinar held in May 2020, *Professor Roland Frankenberger,* President of the German Society of Dental, Oral and Craniomandibular Sciences (DGZMK), said that dentists were constantly working in what could rightly be called the “human crisis zone no. 1”, the oral cavity, loaded with viruses. He felt that that this deserved greater public awareness and that physicians in general might have something to learn from dentists. As the pandemic took off in Europe, *Professor Zuhan Bian* of the Dental Clinic of Wuhan University explained, in a high-profile webinar, that 56,000 patients had been treated under merely “normal” precautions, using regular gowns and disposable mouthguards, at the clinic until 21 January 2020, before realizing the impending infection threat. Of 40,000 medical and dental staff, 440 had been infected, including just nine from the dental sector. A detailed analysis showed that three of them had probably become infected outside their work. *Bian* believes that the low infection rate among the dental staff is due to their consistent use of oral and nasal protection. His conclusion is that dentistry is “on top of things” as far as self-protection and patient protection.

The Covid-19 pandemic will continue to cause economic problems in Europe for a long time to come, even as virologists themselves have become more hopeful and optimistic that the situation will ease. The EU Commission wants its reconstruction plan worth 2.4 trillion euros to boost the European economy. Money that is sorely needed.

Anita Wuttke
Editor-in-Chief



Immediate implant placing in the optimal three-dimensional position



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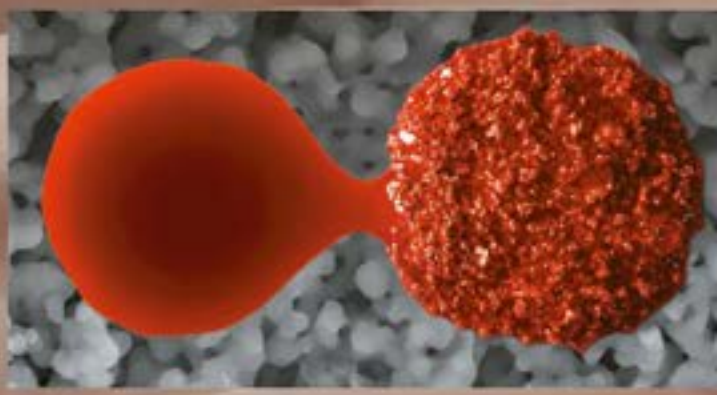

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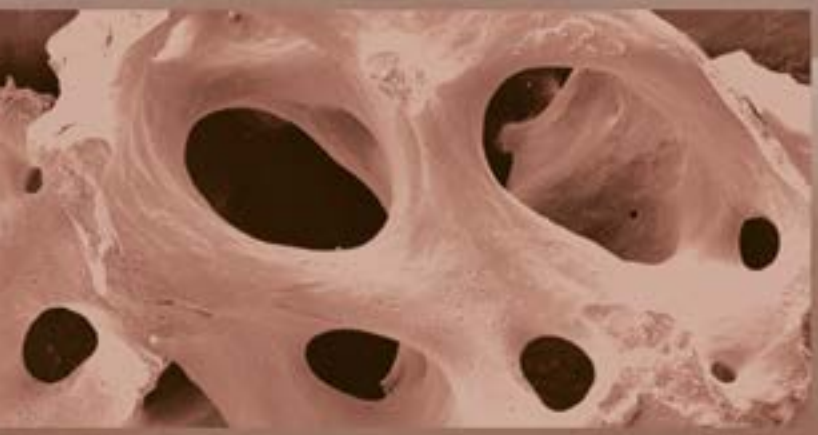

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Partner Organizations of BDIZ EDI

Association of Dental Implantology UK (ADI UK)

ADI UK, founded in 1987, is a registered charity committed to improving the standards of implant dentistry by providing continuing education and ensuring scientific research. It is a membership-focused organization dedicated to providing the dental profession with continuing education, and the public with a greater understanding of the benefits of dental implant treatment. Membership of the ADI is open to the whole dental team and industry, and offers a wealth of benefits, education and support for anyone wishing to start out or develop further in the field of dental implantology.

Ogolnopolskie Stowarzyszenie Implantologii Stomatologicznej (OSIS EDI)

OSIS EDI, founded in 1992, is a university-based organization of Polish scientific implantological associations that joined forces to form OSIS. The mission of OSIS EDI is to increase implant patients' comfort and quality of life by promoting the state of the art and high standards of treatment among dental professionals. OSIS EDI offers a postgraduate education in dental implantology leading to receiving a Certificate of Skills (Certyfikat Umiejętności OSIS), which over 130 dental implantologists have already been awarded.

Sociedad Espanola de Implantes (SEI)

SEI is the oldest society for oral implantology in Europe. The pioneer work started in 1959 with great expectations. The concept of the founding fathers had been a bold one at the time, although a preliminary form of implantology had existed both in Spain and Italy for some time. Today, what was started by those visionaries has become a centrepiece of dentistry in Spain. SEI is the society of reference for all those who practice implantology in Spain and has been throughout the 50 years, during which the practice has been promoted and defended whereas many other societies had jumped on the bandwagon. In 2009 SEI celebrated its 50th anniversary and the board is still emphasizing the importance of cooperating with other recognized and renowned professional societies and associations throughout Europe.

Sociedade Portuguesa de Cirurgia Oral (SPCO)

The SPCO's first international activity was the foundation – together with their counterparts in France, Italy, Spain and Germany – of the European Federation of Oral Surgery (EFOOS) in 1999. The Sociedade Portuguesa de Cirurgia Oral's primary objective is the promotion of medical knowledge in the field of oral surgery and the training of its members.

Udruženje Stomatologa Implantologa Srbije-EDI (USSI EDI)

USSI EDI was founded in 2010 with the desire to enhance dentists' knowledge of dental implants, as well as to provide the highest quality of continuing education in dentistry. The most important aims of the organization are to make postgraduate studies meeting the standards of the European Union available to dentists from Serbia and the region; to raise the level of education in the field of oral implantology; to develop forensic practice in implantology; and to cooperate with countries in the region striving to achieve similar goals.

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COVID-19 pandemic in Europe

Step by step back to “normal”

Three months after lockdown measures, Europe slowly but surely steps back into “normal”. Many European countries, including Germany and France, are reopening facilities, borders, institutions, restaurants and hotels. Here’s a glimpse about the measures during the crisis in specific countries.

Country	Situation	Public health	Source
	Data based on 12 June 2020; % = within the last 14 days thereof		
Spain 	242,280 cases (–38 %) Begin of May: Release of 7-week-lockdown Virus first confirmed to have spread: 31 January; lockdown imposed 14 March; 25 March: death toll surpassed that of mainland China – only Italy was higher; 2 April: 950 people died in a 24-hour period – the most by any country in a single day. As of 25 May, the daily death toll announced by the Spanish government has been below 100. Total deaths: 27,136; deaths/1M pop: 580	Insufficient public health system; in April with only 4,700 intensive care units; many DMD/MD infected because of lack of infection/hygiene protocol	WHO Wikipedia, ECDPC, Worldometer
Portugal 	35,910 cases (+32 %) Lockdown started 19 March; stay-at-home release: 4 May; the outbreak was reaching later than in Spain and Italy. Portugal is said to be one of the few success stories in Europe, however, the country is focussing slightly increase in infection since social distancing releases. Total deaths: 1,512; deaths/1M pop: 148	Lowest number of ICU in Europe; but well prepared; ICU increased by 35 %; still enough ICU	WHO, Wikipedia, CGTN, Worldometer
Italy 	236,142 cases (–49 %) Since 21 February, Italy had reported rapid increase in cases; several clusters of cases in different regions in Northern Italy found. First lock-downs in Northern Italy. WHO said that for the first time the virus was spreading faster outside China. 25 % surge in 24 hours; Total deaths: 34,301; deaths/1M pop: 567 National lockdown 9 March; release 3 June	Health care system in Italy is a regionally based national health service. 1,822 ICU available to meet a need of 6,718 end of March. Due to lack of protection, a lot of medical personnel was infected.	Healthdata.org, WHO, Aljazeera, Wikipedia, Worldometer
France 	155,561 cases (–16 %) 24 January: first European COVID-19 case identified in Bordeaux, Lockdown 16 March, gradually released 11 May, however, many mayors opposed; health emergency extended to 24 July. Under 5 % of the total population of France, or around 2,8 million people, may have been infected; one of the hotspots: Alsace; Hospitals in Alsace were so full that the French Army had to set up a field hospital end of March. Total deaths: 29,398; deaths/1M pop: 450	France spends more on health than most of its developed-world peers: It has twice the number of intensive care beds that Italy has.	New York Times, Wikipedia, WHO
United Kingdom 	290,147 cases (–38 %) Lockdown 23 March, released 31 May. Pandemic spread in late January. Great Britain has the world’s second-highest death-rate per capita. Infection rate is higher in care homes than in the community. Total deaths: 41,662; deaths/1M pop: 614	In 2012 NHS (National Health System) provided 4,100 ICU, in 2020 during COVID-19 pandemic 1,247 units were availa-ble. During the peak on 14 April, 8,756 ICU were needed; the actual need: 1,505	Wikipedia, Worldometer, WHO
Poland 	28,201 cases (+3 %) Lockdown-type control measures started on 10–12 March, loosening of restrictions on 20 April. On 20 March, the Ministry of Health tried to prevent medical personnel from commenting on the pandemic. Total deaths: 1,247; deaths/1M pop: 33	ICU needed 70; ICU available: 3,734	Worldometer, WHO, Wikipedia

Serbia	12,102 cases (–13 %) Stay-at-home order started 17 March and ended 7 May. Total deaths: 253; deaths/1M pop: 29	Stable situation: 78 ICU available, needed 0,5; peak on 30 April: 61 ICU needed	Worldometer, WHO, Wikipedia
Austria	16,964 cases (–22 %) Virus first confirmed to have spread: 25 February in Innsbruck. Two citizen have probably been infected during their visit in Northern Italy. Ischgl resort has been identified as a hotspot for COVID-19 after it was reportedly linked to hundreds of cases. Lockdown: 10 to 13 March, partial releases 30 April and 15 May Total deaths: 677; deaths/1M pop: 75	Stable healthcare situation: 469 ICU available; 10 needed: Peak of need: 8 April: 192	News-Sky, Wikipedia, Worldometer, WHO
Germany	185,674 cases (–29 %) On 27 January, the first case in Germany was confirmed near Munich. The majority of cases in January and early February originated from the same automobile-parts manufacturer as the first case. Lockdown beginning: 22 March, releasing steps as of 6 May. According to Johns Hopkins University, Germany is among the 10 countries most affected by the virus worldwide, but has the lowest fatality rate. Total deaths: 8,867; deaths/1M pop: 106	Very stabile healthcare system: 5,383 ICU available; 211 needed; peak: 18 April: 1,982 ICU needed.	Businessinsider Wikipedia, Worldometer, WHO,
Switzerland	30,961 cases (–26 %) Start of lockdown: 28 February; lockdown releases 27 April, 8 June The virus was confirmed to have spread to Switzerland on 25 February when the first case of COVID-19 was confirmed following a COVID-19 outbreak in Italy. In March, Switzerland was among the countries with the highest number of coronavirus disease cases per capita in the world Total deaths: 1,938; deaths/1M pop: 224	Low ICU rate: 215; needed 19; peak on 5 April: 524 needed	Wikipedia, Worldometer, WHO
Greece	3,088 cases (+34 %) Lockdown begin of March; stay-at-home order ended 4 May. The measures put in place are among the most proactive and strictest in Europe and have been credited internationally for having slowed the spread of the disease and having kept the number of deaths among the lowest in Europe. Total deaths: 183; deaths/1M pop: 18	Sufficient ICU availability: 225; needed 5; peak on 1 April: 39 needed	Wikipedia, Worldometer, WHO
Croatia	2,249 cases (–83 %) Lockdown start: 9 March, 3-step-release starting 27 April. According to Oxford University, as of 24 March, Croatia is the country with the world's strictest restrictions and measures for infection reduction in relation to the number of infected. On 22 March, Zagreb was hit by the strongest earthquake in 140 years, causing problems in enforcement of social distancing measures set out by the Government. Total deaths: 107; deaths/1M pop: 26	Stabile healthcare system: 238 ICU available, 0 needed; peak on 23 April: 26 ICU needed	Wikipedia, Worldometer, WHO
Netherlands	48,251 cases (–7 %) No stay-at-home order; "intelligent" measures as of 10 March in various steps; end: as of 6 May The virus was confirmed to have spread on 27 February, when its first COVID-19 case was confirmed in Tilburg. It involved a 56-year-old Dutchman who had arrived in the Netherlands from Italy. Total deaths: 6,059; deaths/1M pop: 354	Partly insufficient ICU availability: 603; 90 needed; peak on 8 April: 1,407 needed	Wikipedia, Worldometer, WHO
Sweden	48,288 cases (+76 %) Unlike most European countries, Sweden has not imposed a lockdown and kept large parts of its society open. Public Health Agency issued recommendations. The virus was confirmed to have reached Sweden on 31 January, when a woman returning from Wuhan tested positive. The pandemic has put the healthcare system under severe strain, with tens of thousands of operations having been postponed. Total deaths: 4.874; deaths/1M pop: 483	Pandemic has put the Swedish healthcare system under severe strain. However, it was reported that hospitals could possibly double the number of ICU. ICU availale: 692; needed 739, peak on 20 April: 835 needed	Wikipedia, Worldometer, WHO
Turkey	174,023 cases (–20 %) No stay-at-home order; no business closings. Some lockdown measurements as of 16 March. Turkey surpassed China in confirmed total cases on 20 April 2020. The rapid increase of the confirmed cases in Turkey did not overburden the public healthcare system, and the preliminary case-fatality rate remained lower compared to many European countries. Total deaths: 4,792; deaths/1M pop: 57	Relatively high number of available ICU: 10,666, 197 needed; peak on 18 April: 1,265 needed.	Wikipedia, Worldometer, WHO

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Statements: How to forge common initiatives

What needs to be done

The crisis has become a test case showing how the EU and its democratic societies / member states and institutions deal with the situation and what is needed to forge collaborations. Following are some statements of representatives of the EU and dental organisations.

The COVID-19 pandemic has demonstrated the need for a more proactive health policy, greater cooperation to build resilient and accessible health care systems, and, above all else, the need for greater solidarity in Europe. We have a great responsibility and must live up to the expectations of European citizens. We must launch a great reflection on the future of Europe, while providing immediate answers to the problems we face. This crisis teaches us that only together can we start again.

David Sassoli (Italy)
President of the European Parliament
https://www.europarl.europa.eu/the-president/en/newsroom/sassoli-europe-must-be-more-ambitious-than-ever

We have a situation that is very complex and it requires on the one side, very swift action and on the other side, a strong coordination at all the levels and all the different sectors – not only on the European level but of course on the national level. And then, a very comprehensive and coherent approach towards the topic from all 27 Member States and the European Union. The world needs to unite to overcome this pandemic. Join our campaign GLOBAL GOAL: UNITE FOR OUR FUTURE with @GLblCtzn and contribute to our fight aginst the virus.

Ursula von der Leyen (Germany)
President of the European Commission

The COVID-19 crisis has clearly showed the necessity for international cooperation in public health, for a strong EU role in health policy and for investing in health at all levels. The CED continues to support our members who are, together with other healthcare providers, in the forefront of the struggle against COVID-19, by sharing information on national measures related to oral care and transmitting general guidance made available by international sources such as the World Health Organisation (WHO), the European Centre for Disease Control (ECDC) and the European Commission. We remain ready to take on additional tasks as necessary, in the interest of public health, our patients and our communities. We also call on the member states and the European Commission to take action to mitigate the long-term impact of COVID-19 on availability of oral care across Europe by supporting dentists, including those working in private practice, and including them in national emergency support instruments and giving them access to funding available at EU level.

Dr Marco Landi
President of Council of European Dentists

Photo: Photocreo Bednarek/stock.adobe.com

Any threat for mankind, pandemics included, follow a very simple and consolidated path:

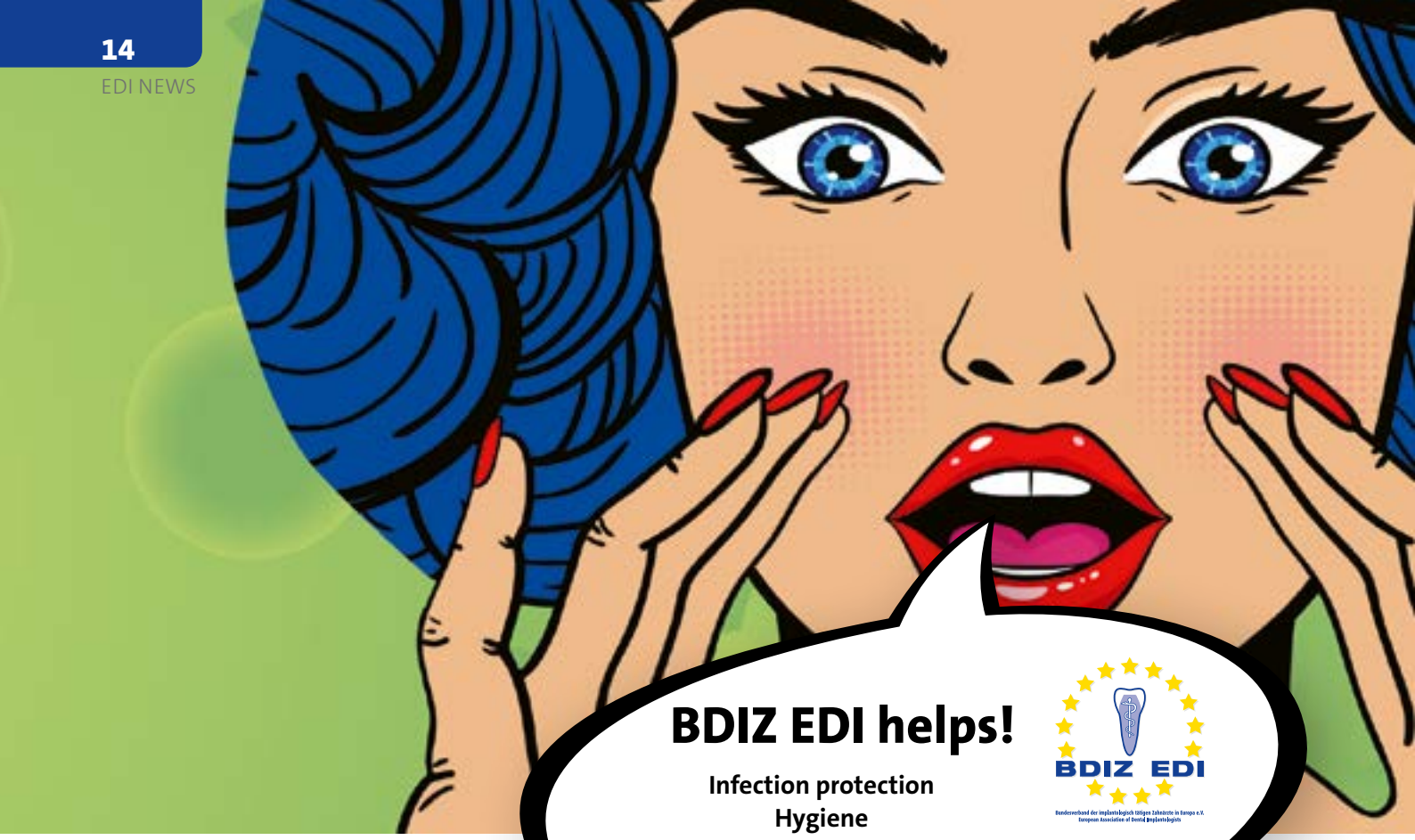
1. Stay calm.
2. Use common sense.
3. Apply measures with a benefit for the individual and society at large.

Dentists have successfully managed previous health crises and they will master also the actual one. This means that dentists will have to engage stronger and better to avoid the exclusion of the "pioneering profession of the concept of prevention in medicine turning it into and art and science" (Margaret Chan, former DG, WHO 2012) from decision making processes for global oral and general health. Dentists are the undiscussed experts in maintaining and reestablishing oral health and must emphasize on their gatekeeping function in medicine to decrease the burden of non-communicable and communicable diseases. Leaving the dentists' strong voice out of the NCD Agenda means to program the failure of Universal Health Coverage "Leaving no one behind!". The political declaration of the high-level meeting on UHC: moving together to build a healthier world" and in particular article 34 "strengthen efforts on oral health" cannot be downsized to farce. The transformation from a 5X5 approach into a 6X6 approach of the NCD Agenda is overdue. This must include the recognition of oral health care as a contributor to global economics and it can not forget the aspect of honest and adequate remuneration of the dentists of this world. Dentists are a plus value to society unifying health and business ethics!

Personal statement of Dr Gerhard Seeberger
President of the FDI –
Fédération Dentaire Internationale

Dentists have always been working in and around what is the human crisis zone no. 1: the oral cavity, loaded with viruses. I believe tuberculosis alone kills a million people each year. And every so often we probably treat one of these patients without knowing it. And I believe that we have a pioneering role with our hygiene management.

DGZMK President Professor Roland Frankenberger in a BDIZ EDI interview on the current state of dentistry



Webinar series: "BDIZ EDI helps!"

Nothing can stop us

The BDIZ EDI has supported dental practices during the corona virus crisis and will continue to do so. Its "BDIZ EDI helps" were part of the association's response to the many urgent questions of dentists at the beginning of the crisis. Selected experts provided advice and guidance on how to deal with legal, tax and labour law issues. Webinars on dental treatment and on hygiene and infection control soon followed. The webinars were free of charge and became a huge success. The BDIZ EDI Board has now decided that the webinars will continue, some also in English, and will be supplemented by more topics related to hygiene and infection control, but also other topics relating to oral implantology and implant treatment.

Once the live webinars had been held, the recordings were made available to a broad audience of experts. Recorded in interview or lecture format, these videos were published on the BDIZ EDI YouTube channel.

In the first webinar, which took place at the beginning of April and is now available on YouTube, *Professor Thomas Ratajczak*, legal adviser of the BDIZ EDI, answered questions on current topics such as how to proceed when treatments can be postponed, how to assess questions of liability and compensation, the impact of COVID-19 on practice lease agreements, the administration of staff furlough schemes and the applicability of flat hygiene/infection control surcharges under the German dental fee schedules GOZ/BEMA – and much more. The recorded webinar can be viewed on the BDIZ EDI YouTube channel.

Another webinar entitled "The fight against pathogens" addressed hygiene in the corona virus crisis, featuring an interview with *Dr Markus Tröltzsch*, convenor of the Academy of Clinical Practice and Research (APW) within the German Society of Dental, Oral and Craniomandibular Sciences (DGZMK). He made it clear that pathogens in the mouth and throat and their treatment are nothing new for dentists at all.

An important topic of significance beyond the corona pandemic, was patient education and treatment, again with BDIZ EDI legal adviser *Professor Thomas Ratajczak*. This was followed by two webinars with representatives of a renowned tax consultancy addressing highly specific questions on COVID-19 emergency support, furlough rules and business administration issues.

DGZMK President Professor Roland Frankenberger ventured to take a closer look at the general state of dentistry in an interview with EDI Journal Editor-in-Chief Anita Wuttke. He called for much greater emphasis on the medical dimension of dentistry, or rather, dental medicine.

Here are the links to the webinars that the BDIZ EDI organized:

- Legal aspects of the dental practice
  Professor Thomas Ratajczak:
  https://youtu.be/KgGLu_iqGxA

- The fight against pathogens: Hygiene and infection control in dental practices
  Dr Markus Tröltzsch
  https://youtu.be/6SjEbLKC060

- Patient education and treatment
  Professor Thomas Ratajczak:
  https://register.gotowebinar.com/recording/recordingView?webinarKey=5040008875940236812&registrantEmail=wuttke%40bdizedi.org

- Whither dentistry? An assessment of the current situation
  Professor Roland Frakeberger, Präsident der DGZMK
  https://youtu.be/Yuvl9gSwEOg

"We designed this webinar series to answer pressing questions in these difficult times, especially for practice owners and dental operators", said Christian Berger, President of the BDIZ EDI. Responsibility for the technical implementation lies with Dr Stefan Liepe, Managing Director of the BDIZ EDI, who serves as the host during the live broadcasts and supervises the chat during the webinar.

The webinars were so successful that the BDIZ EDI will continue with them, even on an international stage; it is planned to offer at least one webinar per month. Here is an overview of the topics:

- *Dr Jörg Neugebauer*
  Update on peri-implantitis: the BDIZ EDI Guideline
- *Dr Markus Tröltzsch*
  Update on digital implantology
- *Dr Jörg Neugebauer*
  Benefits and shortcomings of guidelines in medicine and dentistry
- *Dr Markus Tröltzsch*
  Update on bone augmentation surgery
- *Two protagonists (N.N.)*
  Current topic, PROS & CONS

Read more about the current webinars on the BDIZ EDI website (www.bdizedi.org) and on the BDIZ EDI's Facebook page (https://www.facebook.com/bdizediorg).

AWU

Interview with Dr Markus Tröltzsch

The crisis shows: Dentistry must remain an academic subject

The corona crisis is keeping the world in suspense. The healthcare professions are currently under particular strain – including dentists. The majority of dentists in Germany offer their services in their own private practice. In this interview, German physician and dentist Dr Markus Tröltzsch (Ansbach, Bavaria, Germany) explains how he and his practice are handling the pandemic situation. The interview was conducted at the beginn of April 2020.

Dr Tröltzsch, what kind of practice do you run and with how many treatment providers?

Our practice specializes in oral and maxillofacial surgery. But our team of four dentists also provides "regular" dental services.

What do you mainly focus on?

60 to 70 per cent of our daily treatments are surgical in nature. We specialize in bone and tissue augmentation surgery in non-healthy patients; we also provide implantological treatments, bisphosphonate surgery, surgical and non-surgical treatments of the maxillary and nasal sinuses, as well as minor oncological procedures, especially of the facial skin.

How do you define "non-healthy patients"?

Well, for example, patients with heart conditions or severe diabetes, or tumour patients, or patients with multiple pre-existing conditions, all the way to patients treated with bisphosphonates. We also treat many haemodialysis patients. Since many practitioners are – justifiably – quite cautious when treating seriously ill or multimorbid patients, we get a number of referrals from colleagues in other cities.

You work with a contract hospital?

Yes, exactly. We have beds at the hospital that are reserved for us.

But do you have access to those beds in the current situation?

Due to the corona pandemic, anything elective, anything that can be deferred at all is being deferred, and there is simply no room for anything else at smaller hospitals right now. After all, a state of disaster has been declared in Bavaria. Accordingly, the

number of interventions that can still be performed is extremely at this point. Everything is getting ready – and rightly so in my opinion – to free capacity for COVID-19 cases, even though I still hope we will not see them quite on the scale we fear.

When you talk about elective or deferrable treatments: if the patient has a tumour, would you call the tumour treatment deferrable?

No way! That is precisely the dilemma we are in. For a small hospital to switch to emergency mode because of a lack of resources is one thing – but work at larger hospitals simply has to go on. This exemplifies one of the major risks of the mass spread of SARS-CoV-2: the healthcare system could end up becoming overloaded.

Can you continue to offer treatment services in your practice despite the shortage of protective equipment and disinfectants?

We have been following the development of the SARS-CoV-2 infection wave since January. Because we ourselves travel a lot and because we also have patients from other countries – because of the treatment focus I mentioned – self-protection has been at the top of our minds for some time, and we started building additional resources since the end of January. So, we are ready and well equipped. As far as I can see, the practices in our neighbourhood are also well equipped, because people have been procuring supplies in large quantities. After all, for us and our practice, COVID-19 is not the first infection that a face mask cannot stop; there are enough others. And whether COVID-19 actually presents an infectious hazard in the connection of face masks has not yet been conclusively determined. The clinical findings from Wuhan, the research we have about the protective effects of different types of masks on other viruses, all indicate that we are well positioned to treat clinically healthy patients relying on our protective equipment. Of course, there are infectious diseases, such as tuberculosis or Ebola, that really go right through, and that is why we also have full protective equipment in stock.

Do you want to continue treating patients?

We want to. And we need to. The current pandemic must be taken absolutely seriously, that is a fact. But that does not mean that our patients' need for treatment disappears. And we will have to ask ourselves: How long will SARS-CoV-2 be with us? For all we currently know, there will never again be a time without. There will only be a time with SARS-CoV-2, with corona. We have to be honest and declare that while there are treatments that can be postponed, there are many other treatments that cannot, and these treatments must be performed as necessary and indicated. And despite the crisis, we want to and need to continue to be here for our patients.

What will change in your practice after the crisis, based on your experience?

We have significantly reduced the number of patients we treat because we know – and this is the special feature of SARS-CoV-2 – that the virus can be transmitted by droplet infection, just like normal flu, but it has a very high infectivity, and there is no immunity in the population. It will take time until some level of immunity achieved. Until then we will not be able keep up our previous pitch. We

Personal

Markus Tröltzsch, MD, DMD
Physician and dentist
Dental specialist in oral surgery
Specialist in oral and maxillofacial surgery

Markus Tröltzsch studied dentistry and medicine at the University of Erlangen and obtained doctorates in both fields.
Having received his training at Westmead Medical School in Sydney (Australia) and at the University Hospital of Zurich (Switzerland), he worked at the Department of Oral and Maxillofacial Surgery at Ruhr University in Bochum (Germany) (Professor Kunkel).
He then transferred to the University Medical School in Göttingen (Professor Schliephake), where he completed his specialist training in oral and maxillofacial surgery and was appointed Senior Dentist at the University Clinic for Oral and Maxillofacial Surgery. Since March 2017, he has been a dentist in private practice in Ansbach (Bavaria, Germany).

In 2016, Tröltzsch was elected Chair of the Academy of Clinical Practice and Research (APW) within the German Society of Dental, Oral and Craniomandibular Sciences (DGZMK). His scientific focus is on bone formation and bone augmentation in the jaw.

have significantly reduced the number of patients per day and per practitioner. We have no patients who need to wait in the waiting room. There are clearly defined time intervals during which we can directly address emergencies, times without scheduled appointments. We will not be able to maintain our old standard procedures. In Germany, practitioners traditionally treated greater number of patients than in many other countries. As the outbreak happened in Italy, we thinned out our appointment books. When the virus then proceeded to hit Germany, we slowed down massively and are now treating significantly fewer patients per practitioner per day.

What do you think will change in the dental care landscape?

The awareness that we are constantly moving in a potentially infectious space has now reached dentists. This has always been the case, but it has become even more manifest in this crisis. Protective measures in the dental practice – face masks, gloves, disposable caps, glasses, possibly disposable coats – will have to continue at an elevated level. We will see what else is in store for us. On average, dental practices will see reduced throughputs. Evidently, this will also reduce revenues even as the need for protective equipment increases. All this will have to be considered by practices in future.

Whither dentistry? What path do you think dentistry will take, what significance does this have for practitioners as a group?

Professor Frankenberger, President of the German Society of Dental, Oral and Craniomandibular Sciences (DGZMK) has said something highly significant: Much greater emphasis will now be placed on the medical dimension of dentistry, or rather, dental medicine. Dentistry will move even closer to general medicine than before. Self-protection and the situation in the oral cavity are not as straightforward as many may have thought.

Can this experience strengthen the dental profession in view of the importance of dental medicine as an academic field? I am thinking of the situation in the Netherlands, where politicians are trying to shift treatment competency from dentists to other professions?

First of all, the road that the Netherlands has gone down in terms of healthcare policy over the past ten years I find incomprehensible and at times grossly negligent.

A dentist is a medical practitioner, the medical specialist in charge of oral health, of the oral cavity. There really all there is to say about that. We cannot have a situation where dentists' special competence is increasingly negated, claiming that their work can be "outsourced" to staff without academic training. Especially in countries where dental treatment is increasingly being shifted from dentists with their extensive medical training to dental auxiliaries with no university training, it should by now have become obvious that this means taking the wrong direction. In a world in which new infectious diseases are spreading rapidly and cannot easily be controlled, problems on the supply side inevitably arise. Medical training similar to that of future physicians is needed, and a knowledge of microbiology and infectious diseases. This is not the kind of knowledge you can cram into your head over a weekend. One of the consequences as far as the Netherlands is concerned must be to recognize this fact and find the way back, returning responsibility to the dentists and abandoning the indiscriminate dilution of the field. Dentistry – dental medicine – is and remains an academic subject. The current crisis once again shows that the close connection with general medicine is essential for every dentist and vital for every patient.

Dr Tröltzsch, thank you very much for this interview.

The interview was conducted by Anita Wuttke, Editor-in-Chief of EDI Journal.

Save the date: 16th Expert Symposium in Cologne

Ceramic materials in oral implantology

Since 2006, the BDIZ EDI has been organizing its expert symposia in Cologne under the direction of Professor Joachim E. Zöller. Each Expert Symposium is preceded by a European Consensus Conference (EuCC), which produces a Guideline that has the status of a recommendation for practitioners. Next year, ceramic materials in oral implantology will be the topic under discussion, for the second time. The symposium will be held on 18 February 2021.

For the 16th time now, the BDIZ EDI is inviting dentists who provide or restore dental implants to attend an Expert Symposium in Cologne. In recent years, ceramic materials – and specifically ceramic implants – have begun to make triumphant advances in the dental surgery. Uses of current dental ceramics in implantology range from the replacement of metals as materials and the use in abutments all the way to tooth-coloured high-performance ceramics in crown and bridge prosthodontics.

In its Consensus Paper (Guideline) of 2007, the EuCC of that year stated that ceramic implants were "offered today as one-piece transgingival implants with integrated abutments" based on their material properties, that, compared to titanium, the possibilities for giving ceramic implants specific surface textures were still limited and that the implant designs and surface textures thus presupposed clinical procedures adapted to these properties. The overall assessment in 2007 was that "the claim that ceramic implants are superior to titanium implants is currently not supported either clinically or biologically (evidence-based medicine, level 5)."

Even today, ceramic implants are not completely uncontroversial. Experts agree that ceramics has its justification as a material and has boosted innovation in oral implantology. But when it comes to everyday clinical treatments, opinions do diverge. For example, the absence of long-term studies on currently used ceramic materials has been deplored.

In 2018, EDI Journal dedicated an instalment of its new section PROS AND CONS to ceramic implants. Proponents argued that high-tech zirconia as used today has nothing in common with the ceramic materials of more than ten years ago. On the one hand, the peri-implantitis risk for periodontally compromised patients is estimated to be higher when a titanium implant is used. Furthermore, the fatigue strength of ceramics is higher than that of titanium.

Opponents vocally note that the benefits of ceramic implants still have to be demonstrated in clinical studies. In their opinion, patients should be informed that this implant material lacks long-term evidence. Therefore, routine procedures currently still tend to favour titanium implants, not least for safety considerations.

The BDIZ EDI will address this exciting topic at the 16th Expert Symposium in February 2021. Save the date!

AWU

Save the Date!

Autologous bone combined with bone substitute

As bone substitutes have become available, the question has been discussed whether the complex procedure associated with the use of autologous bone might finally be dispensed with. But both our protagonists admit that autogenous bone continues to be the gold standard. However, the question of whether and when to use bone replacement materials is still controversial.

pros

Dr Jochen Tunkel

Dr Jochen Tunkel
Specialized dentist for periodontology
Specialized dentist for oral surgery
Master of Oral Medicine in Implantology
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Since 2007 practitioner in a specialized practice for periodontology, implantology & oral surgery together with Dr Carolin Tunkel, specialized dentist for orthodontics in Bad Oeynhausen, Germany. 2020 Foundation of the Dental Social Media Learning Platform "Regenerative Bioversity

Autologous bone is still considered the gold standard in implantological bone augmentation. It is osteoconductive, osteoinductive and (to a minor extent) osteogenic. For this reason, autologous bone must be considered the reference material against which all other methods and materials must be measured. Bone augmentation in oral implantology should come as close to this gold standard as possible.

However, we must not overlook the fact that the use of autologous bone has its disadvantages: limited availability, morbidity when harvesting bone, an increased rate of complications associated with secondary harvesting sites and a tendency towards increased resorption, especially when healing time limits are exceeded. However, autologous grafts using the shell technique have, while not completely eliminated, at least significantly reduced the problem of resorption.

Frequently, discussions about the use of bone substitutes result in what almost feels like another culture war, with some dentists dogmatically claiming to be in possession of the absolute truth. But it would make so much more sense to examine the advantages and disadvantages of the various materials and methods and to attempt to harness the benefits of one material to compensate for the disadvantages of another. Promising initial approaches date back to the middle of the '00s. For example, attempts have been made to reduce the resorption of autologous solid block grafts by combining them with a GBR made of a collagen membrane and a bovine bone graft substitute (von *Arx* and *Buser*, 2006; *Cordaro et al.*, 2011). Although this combination provided only partial benefits in terms of reduced resorption, given increased complication rates and partial healing of the bone substitute, the long-term success of this method was considerable (*Chappuis et al.*, 2016; *Chiapasco et al.*, 2020).

The idea of combining the shell technique proposed by *Khoury* with a two-stage GBR during implant placement (*de Stavola* and *Tunkel*, 2013) consistently follows this approach and follows the concept of compensating for disadvantages by adding bone substitutes one step further. The reduced initial resorption associated with the shell technique is thus compensated for, combined with guided bone regeneration during implantation; in addition, long-term stability of the augmented bone is achieved by a hard-to-absorb bovine bone substitute material. The complication rate, on the other hand, is reduced thanks to the low augmentation volume. The healing of the bone substitute is improved as it is placed above bone exhibiting a reaction to the previous augmentation.

One might even ponder the question whether this undogmatic methodological approach might not lead to the development of a "platinum" standard for bone augmentation that combines the gold standard of autologous bone-block grafts (using the shell technique) and two-stage guided bone regeneration.

Dr Jochen Tunkel

cons

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Since 2012 international training activities (more information at www.bba-academy.com).
Since 2012 owner of the Dr Zastrow & Kollegen practice clinic in Wiesloch near Heidelberg, Germany.
2005–2007) further training in oral and maxillofacial surgery (University Hospital Heidelberg, Professor J. Mühling).
2009–2012 active as oral surgeon, most recently as senior physician, at the private dental clinic Schloss Schellenstein in Olsberg, Germany (Professor Fouad Khoury).

Autologous bone is still the gold standard. This was also highlighted by the 8th European Consensus Conference (EuCC) of the BDIZ EDI in 2013. When defining the Cologne Classification of Alveolar Ridge Defects (CCARD), the BDIZ EDI had discussed the state of the art in oral bone augmentation with experts from seven countries.

Previous defect classifications (*Cawood* and *Howell*, 1988; *Seibert* et al., 1983) provided only partial coverage of hard-tissue defect situations and largely ignored the defect environment. Yet it would appear obvious that, for example, the number of walls delimiting the defect and their relationship to the overall jaw situation significantly impacts the post-augmentation success rates.

Reconstructed defects still surrounded by bone walls are easier to stabilize (*Khoury, Antoun et al.*, 2007) than extensive defects without bony delimitation (*Araújo, Sonohara et al.*, 2002). This has a direct effect on post-augmentation success rates. The consensus paper recommends that when using bone substitutes, autologous bone should be added where possible to improve the osteogenic potency of the augmentation material.

Augmenting medium-size and larger defects with bone substitutes and membranes results in significantly higher infection and exposure rates than autologous bone-block augmentation (*Chiapasco, Abati et al.*, 1999).

Onlay (vertical augmentation) grafts with osteoconductive bone substitutes outside the defect contours should be limited to minor augmentation heights of less than 4 mm, even in combination with autologous bone (*Canullo, Trisi et al.*, 2006).

Conversely, vertical reconstruction of medium-size and large (over 8 mm) defects outside the defect contours is indicated, without exception, for the use of autologous bone as per the CCARD.

The results of a recent study show an average bone gain of 7.6 mm in height and 8.3 mm in width in 142 patients after vertical bone augmentation in the maxilla at the 10-year follow-up, and an average amount of bone resorption of only 0.63 mm after 10 years (*Khoury*, 2019).

The results make it clear that when using purely autologous bone, stable long-term results can be expected even in the supreme discipline of vertical reconstruction.

I do not perceive any need whatsoever to supplement this successful method, which has been established for years, by introducing xenogeneic substitute materials and membranes, thus jeopardizing the result by increasing the risk of rejection and exposure.

Dr Frank Zastrow M.Sc.

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EU Commission and Corona

Response team moves on

Photo: Alex Tihonov - stock.adobe.com

The Commission's global coronavirus response, with the aim of universal access to affordable coronavirus vaccination, treatment and testing, will now move to the next phase. What began on 4 May will culminate in a final Global Pledging Summit on Saturday 27 June. Together with the international advocacy organisation Global Citizen, the Commission will step up the mobilisation of funding to enable the world to overcome this pandemic and avoid another. At this point, the Commission has registered €9.8 billion in pledges, beyond the initial target of €7.5 billion. This is a new stretch in trying to raise the considerable resources that will be needed for accelerating the development of new solutions and ensuring their universal and inclusive access. It means access everywhere, for everyone who needs them.

Source: EU Commission

Study by Harvard Medical School

Virus has been spreading earlier

A study by Harvard Medical School has shown that SARS-CoV-2 may have been spreading in China in August 2019. That would be months earlier than when the outbreak is thought to have started in the central city of Wuhan. Researchers used satellite imagery of hospital parking lots in Wuhan and analyzed queries on the Chinese search engine Baidu for terms related to COVID-19, like "cough" or "diarrhea."

"Increased hospital traffic and symptom search data in Wuhan preceded the documented start of the SARS-CoV-2 pandemic in December 2019," according to the research. The Harvard study released Tuesday builds on a growing body of research exploring whether SARS-CoV-2 was already circulating in China before the Wuhan outbreak was identified. "While we cannot confirm if the increased volume was directly related to the new virus, our evidence supports other recent work showing that emergence happened before identification at the Huanan Seafood market." Scientific consensus on the origin of the COVID-19 pandemic is that the SARS-CoV-2 pathogen was able to make the jump from animals to humans at the seafood market in Wuhan. It quickly spread through the city's population and into the surrounding Hubei province before Chinese authorities enforced a near total lockdown of movement and public life. However, the Harvard researchers point out that initial epidemiological studies that identified the Huanan market as the source of the outbreak included several individuals with no connection to the market, "leaving open the possibility of alternate points of origin and infection.

Source: dw.com

Vaccine Alliance Gavi

300 million pledge

The European Commission announced a €300 million pledge to Gavi, the Vaccine Alliance, for the period 2021–2025. The funding will help immunise 300 million children around the world and finance vaccine stockpiles to shield against outbreaks of infectious diseases. This pledge comes in an effort by the Commission to strengthen health systems and to overcome this pandemic and avoid to another.

Source: EU Commission

COVID-19 in the UK

No-deal Brexit?

June is a critical month for EU-UK talks on a trade deal. If no progress is made this month, a no-deal Brexit looks inevitable. Is it possible that's because of, rather than in spite of, the coronavirus crisis? The pandemic has greatly disrupted the first few months of EU-UK negotiations. Even before it hit, optimism was extremely low on the EU side that anything substantial could be agreed with the UK in such a short timeframe. June is a crucial month. If the British don't request an extension to the transition period by the end of this month — and, if as appears to be inevitable at this point, no free trade agreement is in place by the end of the year — then on December 31, 2020, the UK will no longer have any formal trading relationship with the EU. Under WTO rules, it will become a so-called "third country." That is the new "no-deal" Brexit. And for several reasons, it remains a ››

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real possibility. The EU-UK talks have gotten bogged down in all the expected complications so far: fishing rights, workers' rights, environmental regulations and state aid. There is still major uncertainty over how the so-called Irish protocol will work. Even in a smooth, openended negotiating environment, these would be difficult issues to resolve. Added to this, COVID-19 has restricted the negotiations in terms of physical movement but also mental movement. The crisis has commanded vast amounts of attention and resources that otherwise might have been directed towards the EU-UK talks.

Source: : DW.com

ECB President Christine Lagarde

Actions to dampen the pandemic

ECB President Christine Lagarde

MEPs quizzed ECB President *Christine Lagarde* for the first time since the pandemic. During the quarterly "Monetary Dialogue" with *Ms Lagarde*, Economic and Monetary Affairs Committee MEPs focused almost exclusively on the ECB's actions to dampen the pandemic's negative effects on the economy. Whereas numerous MEPs supported the ECB's decisions to launch and recently strengthen its Pandemic Emergency Purchase Programme (PEPP), seeing it as essential to the EU's economies, others mentioned various reasons why the Bank had done too much too soon. The detractors cautioned against the risk of providing cheap money to multinationals and environmentally dirty companies, allowing national governments to avoid providing fiscal stimuli, and continuing to penalise lenders and savers by keeping interest rates very low.

Source: European Parliament

EU Council Presidency

Germany will take over

Germany will take over the rotating presidency of the EU Council in the second half of 2020. Germany will thus guide consultations in the bodies of the Council for six months. The Council of the European Union is the body where ministers from EU countries discuss and adopt legislative provisions. There is no permanent presidency in the Council of the European Union. Every six months, the presidency changes from one EU Member State to the next according to a predefined order. During any given six month period, the EU country holding the presidency chairs the meetings of the Council of the European Union. During its time in office, Germany will be responsible, among other things, for progressing EU legislation and ensuring that all requirements for legislative procedures are met. The Federal Government has already started deliberations on potential contents of the German EU Council Presidency's programme. In this context, a part will be played by both the Strategic Agenda of the European Council and the deliberations on the future work programme of the European Commission. Within the Federal Government, the Foreign Office has the lead responsibility for coordinating all activities. Germany is planning a decentralized presidency – official events will be held at different places throughout Germany. Preparations for the Federal Ministry of Transport and Digital Infrastructure's events during the German EU Council Presidency have already started. In order to ensure that certain issues can be pursued over a longer period of time, three Member States always cooperate for a period of 18 months during their presidencies. They form the so-called trio presidency. In its trio presidency with Portugal and Slovenia, Germany will be the first to assume the presidency. Portugal will follow after Germany in the first half of 2021 and Slovenia will hold the presidency in the second half of 2021.

Source: Federal Ministry of Transport and Digital Infrastructure

EU to do more in the area of health

Call for adequate funding

The Pharmaceutical Group of the European Union (PGEU), the Council of European Dentists (CED) and the Standing Committee of European Doctors (CPME) consider the European Parliament's position on the proposal for the European Social Fund Plus (ESF+) to be a positive step towards keeping health high on the EU agenda. The three organisations call on Member States to endorse the European Parliament's amendments and to provide the EU with the capacity to face health related challenges. It is fundamental that the co-legislators do not compromise EU citizens' future and secure an appropriate budget for health during the upcoming negotiations. As 70 % of EU citizens want the EU to do more in the area of health, PGEU, CED and CPME support the European Parliament's proposal to increase the amount of the Health strand to EUR 473 million. This would allow EU Member States to enhance their cooperation in key policy areas including health promotion, disease prevention as well as better and equal access to high quality healthcare for all European citizens.

Source: PGEU, CED, CPME

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Healthcare professionals urge authorities to guarantee protection

Help those who are fighting on the front line against COVID-19!

The European health professionals and their students' organisations are calling on the European Commission and the governments to support and protect healthcare professionals fighting Covid-19. Staff must be provided with Personal Protective Equipment (PPE) and must be regularly tested, regardless of reported symptoms or exposure.

As Europe has become the global center of the COVID-19 pandemic, healthcare professionals are working hard to contain the spread of the virus, putting themselves at risk to protect the communities. Despite the unprecedented efforts to stop the pandemic, healthcare professionals are at the front line without adequate PPE. The number of infections and deaths of the healthcare staff is increasing every day.

Even in times of crisis, adequate working conditions must be ensured. Staff must have breaks and time off between shifts, to be able to carry on in what could be a long-term global crisis. The Working Time Directive should apply. Working in such conditions takes its toll on the psychological health of staff, so appropriate support services must also be put in place.

European healthcare professional organisations call on the European Commission to open a permanent line of communication with European health professionals to share experience and best practice across Europe and to ensure that the Commission's own support measures focus on operational priorities on the ground.

This is the list of the organisations signing the statement:

- AEMH – European Association for Senior Hospital Physicians
- CED – Council of European Dentists
- CEOM – European Council of Medical Orders
- CPME – Standing Committee of European Doctors
- EAHP – European Association of Hospital Pharmacists
- EFN – European Federation of Nurses Associations
- EJD – European Junior Doctors
- EMA – European Midwives Association
- EPSU – European Federation of Public Service Unions
- ERS – European Respiratory Society
- FEMS – European Federation of Salaried Doctors
- UEMS – European Union of Medical Specialists

Press release of CED

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(*) Anitua E.
A novel drilling procedure and subsequent bone autograft preparation: a technical note
Int J Oral Maxillofac Implants. 2007

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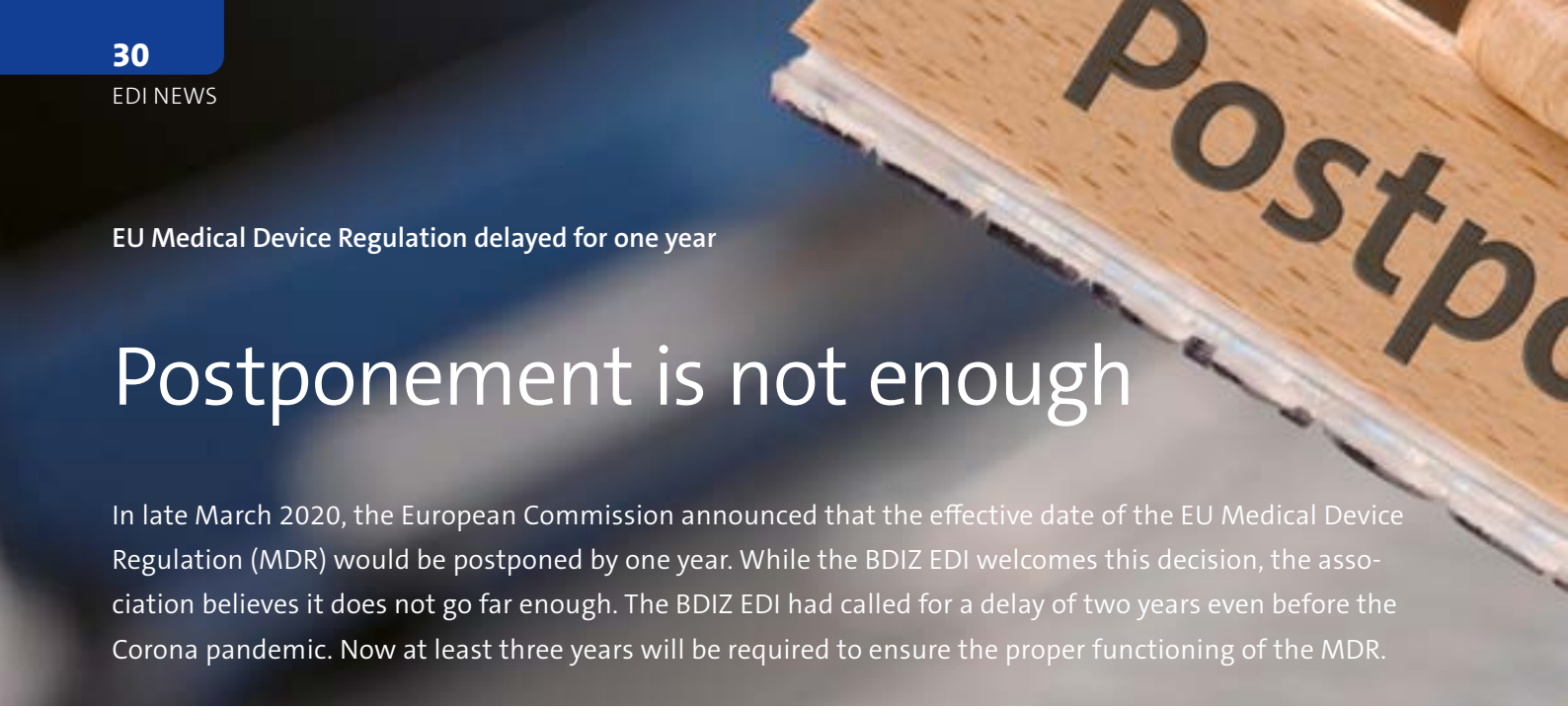


EU Medical Device Regulation delayed for one year

Postponement is not enough

In late March 2020, the European Commission announced that the effective date of the EU Medical Device Regulation (MDR) would be postponed by one year. While the BDIZ EDI welcomes this decision, the association believes it does not go far enough. The BDIZ EDI had called for a delay of two years even before the Corona pandemic. Now at least three years will be required to ensure the proper functioning of the MDR.

Even before the corona pandemic, the BDIZ EDI had demanded that implementation be postponed by two years due to – among other things – a lack of Notified Bodies and a non-functional central EUDAMED database. None of the objectives of the MDR can be achieved by the original effective date. There had been some movement in this matter; for example, at the end of October 2019, EUDAMED was postponed by two years, to 26 May 2022.

BDIZ EDI President *Christian Berger* said: "We welcome the fact that the EU Commission is moving. However, a postponement by one year will by no means be enough to guarantee the functionality of the MDR." Due to the economic standstill now caused and still to be caused by the COVID-19 pandemic, the BDIZ EDI President called for an extension of the transitional regulations by three years.

MDR – a roadblock to innovation

The MDR was originally supposed to apply throughout the European Union from 26 May 2020. Market observers and especially the entire dental sector see the MDR as a roadblock to innovation – with serious repercussions for the practice of medicine and dentistry and ultimately for patients as the stream of new and innovative products dries up. Our fear is that especially small and medium-sized manufacturers of medical devices will fail to clear the regulatory hurdles of the MDR as the certification process becomes more expensive and more complicated.

According to a survey (see page 32 and 33) conducted among dental companies by the law firm Ratajczak & Partner in Sindelfingen, Germany, on behalf of the BDIZ EDI, over 80 per cent of respondents feel sure that the MDR will lead to an increase in costs for existing as well as new products. It is feared that there will be a cost increase of 22 per cent on average. Almost 50 per cent of respondents forecast supply bottlenecks for existing products, bottlenecks that are related to the implementation of the MDR and therefore also have an impact on the supply of medical devices to dental practices. *AWU*

QUESTION TIME

Christian Berger, President of the BDIZ EDI

Should we fear a round of "product extinction"?

Yes, I am afraid we have to. Of course, dentists strive to ensure that all medical devices they use are safe. We require materials and instruments with which we can treat our patients safely – from materials for composite fillings all the way to dental implants. However, we are concerned that formal recertification will be mandated without any sense of proportion whatsoever. The medical devices currently in use are already tested and approved. We oppose the imposition of artificial barriers to the use of these medical devices from one day to another by introducing new risk classes and requiring recertification. I understand that new materials and products must be tested, examined and approved. However, simply withdrawing approval for existing and proven materials and medical devices without providing for a replacement puts our daily clinical efforts in jeopardy.

Photo: Wolfilser - stock.adobe.com

Which products are affected by this?

Affected medical devices range from intraoral mirrors to probes to forceps to implants to filling materials, such as the various composite resins. At least, risk class 1 r – simpler materials, but also reusable surgical instruments such as dental forceps – has been allowed a longer transition period – which is always something. The transitional period for these medical devices has been extended to 2024. But that is a temporary, not a permanent solution. Because the next big pileup is imminent as that deadline draws close in that all those medical devices will still have to be recertified by then, and at considerable expense. Not only are the Notified Bodies that test these materials understaffed, but their number is also much smaller than previously. Major change is needed in research, and in production, and in testing, but the regulations do not allow enough time for this change to take place.

Will this be a problem for smaller implant manufacturers, for example?

Not just for smaller implant manufacturers, but for all smaller manufacturers. Only big players can afford the complex and expensive certification of many medical devices within this short a period. For instruments sold in small numbers, the effort will not be worthwhile even for the major manufacturers, so those products will likely just disappear from the market. And there are far too few Notified Bodies – which on top of everything are deplorably shorthanded.

How can the BDIZ EDI help now?

We are fighting to ensure that the deadlines for the recertification of all already approved materials and medical devices is significantly extended and that proven products do not simply disappear from the market. For us, a first step was that the simpler materials and class 1 r medical devices were granted a longer transition period. This will mean that our treatments in June will not have to look completely different from our treatments in April or May. But as I said, we are fighting for significantly extended transitional rules, not just for the simple intraoral mirrors and dental forceps, but for all materials and medical devices previously approved under the old rules.

This interview has been reprinted by kind permission of Dental-Magazin.

Analysis of the survey on the EU Medical Devices Regulation

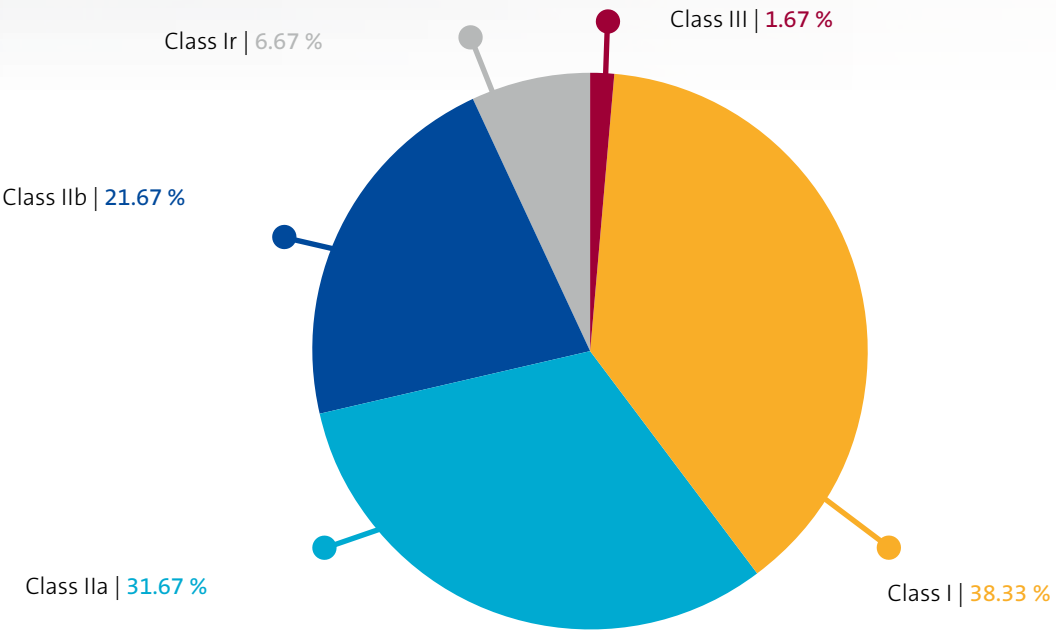
Dental companies to make changes to their product range

The EU's Medical Device Directive (MDR) will have a major impact on the dental industry, on dentists and of course on patients. According to a confidential survey conducted for the BDIZ EDI at the end of 2019 by the law firm of Ratajczak & Partner, more than half of the participating dental companies plan to make changes to their product range. Almost half plan to take products off the market. Although the survey was carried out before the EU Commission extended the transitional period by one year on account of the coronavirus pandemic, this will do nothing to assuage the prevailing pessimism when it comes to the MDR.

The reasons given by the participants included: the red tape and high expenses associated with the clinical evaluation and clinical trials, administration, (re-) certification, plus special efforts for product-specific requirements. The BDIZ EDI is afraid that despite the one-year extension, many products will be discontinued, something that will have a significant impact on the dental sector.

The survey was carried out anonymously. Participants included 24 dental companies that are active nationally and internationally; a third of them have been present on the market for more than 20 years, and half of them had annual revenues of between 5 and 20 million euros in 2018 in Germany alone. The majority of participants manufacture medical products, either exclusively or as more than 90 per cent of their output. Class IIa and IIb products make up a large part of their production (Fig. 1).

1 I What are the product classes in which your company manufactures medical devices? (Multiple answers were possible.)



Almost 57 percent of respondents assume that the MDR will affect the classification of their own products, especially class I and IIa products. More than half of respondents indicate that they will have to modify their product selection in response to the MDR. Only 5 per cent of them unequivocally deny that the changes will restrict their product range, whereas 46 per cent say they will take certain products off the market completely.

Products that are no longer considered profitable, according to the majority of respondents, will not only disappear from the market but will also fail to be replaced by equivalent products. A significant percentage of respondents also predict effects on non-European markets (Fig. 2).

Supply bottlenecks expected

Ultimately, the MDR is seen by market participants and observers as a brake on innovation that will not fail to affect dental practices as well. Half of respondents expect restrictions in available supplies of dental medical devices. And 41 per cent of respondents go so far as to say that patient care will suffer as a result of the MDR. Spokespersons for the dental industry recommend dental practices to prepare for supply bottlenecks, with class I and IIa products expected to be particularly affected. Class Ir devices, by contrast, play only a subordinate role in terms of these dreaded bottlenecks (Fig. 3).

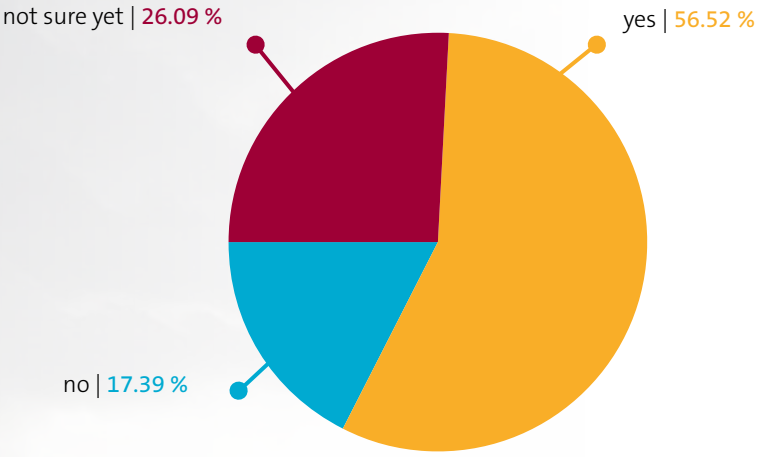
A full 80 per cent of respondents expect the prices for existing and new products to increase, by an expected amount of 22 per cent. They expect pressure to cut cost as a result of the MDR, but not to the extent of dismissing employees or going out of business. The situation may present itself in a different light for the many small manufacturers of class 1r products, as BDIZ EDI legal adviser *Professor Thomas Ratajczak* believes: "Here it is to be expected that the span between certification cost and profits will force quite a few to either sell their businesses or to cease operation."

If the transitional period for certification expires as planned in May 2021 (even though this date has been moved back from the original May 2020), this will inevitably result in reductions to the dental industry's product range, which will ultimately become a problem for dentists and their patients. A full 90 per cent of respondents consider a further extension of the transitional periods to be of vital importance; 30 per cent consider an extension of 24 months to be necessary (Fig. 4).

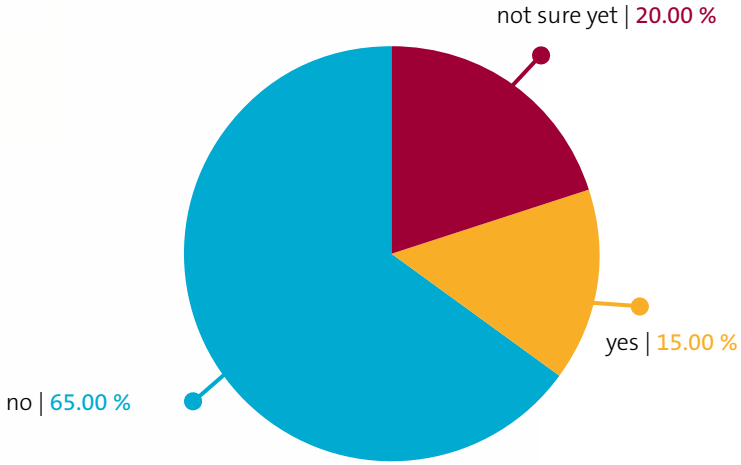
The survey results have ben published in EDI Journal 1/2020, which BDIZ EDI members can download from the "publication" area of www.bdizedi.org. ■

CNE/AWU

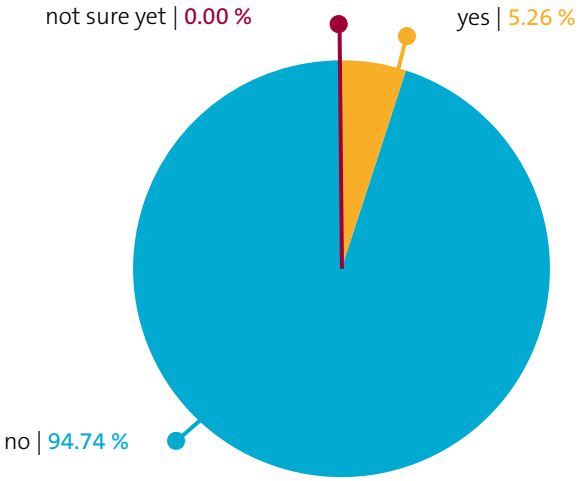
2 I Will your product range change in response to the MDR?



3 I Are the discontinued products to be replaced by alternative (equivalent) products?



4 I Have you been able to (re-)certify any products at all?



Female Dentists in Europe

A passionate dentist

In our series about female dentists in Europe we want to introduce Dr Eimear O'Connell from Scotland. Born in Ireland, she is living and practicing in the beautiful city of Edinburgh. She made her way up to the top of the biggest implant society in Great Britain: Since 2019 she is president of the Association of Dental Implantologist, ADI UK.

Dr Eimear O'Connell

Name: **Eimear O'Connell**
Profession: **Dentist; work in Edinburgh in Bite Dentistry**
BDS, MFGDP, DipImpDentRcsEd, FFGDP
Age: **50**
Family: **3 daughters**
Active: **ADI President**

What has influenced you to become a dentist?

The first major influence in my decision to become a dentist was waking up one morning in my grandmother's bed and seeing her without her false teeth 'in situ'. I was horrified! I remember I wanted to make sure I could prevent such a fate for myself. I was only 8 years old. As I got older, I was drawn to the sciences and briefly thought about becoming an engineer but after a year stuck studying for an electronics o-level, I dismissed that idea. It was then narrowed down to PE teaching or dentistry and luckily my PE teacher encouraged me to study dentistry. He suggested I could always coach sport as a sideline, which is what ended up happening.

How did your professional career get started?

I studied dentistry in Edinburgh and played a great deal of hockey. An early inspiration was doing my elective in a maxillofacial unit, where the wonderful surgeon, *Richard Kendrick*, really furthered my passion for dentistry.

My first job was in oral surgery and in those days, we were thrown in at the deep end. Within a few weeks of graduation, I was surgically extracting wisdom teeth and doing apicectomies. It was a steep learning curve, but it helped my confidence enormously. After a year in the dental hospital I had decided I wanted to have more control over the patients' treatments and outcomes. I further wanted to form a closer relationship to my patient group.

I worked for 18 months as an associate and then started my own practice. I was very naive but luckily full of energy and I did not need much to live on – thankfully. I soon realised how little I knew and started to attend lots of post graduate training to be able to deliver the best outcomes for my patients.

Luckily, I still work with lots of those early believers and I have built my practice with their investment in me. Now I am very fortunate to have a great team who deliver much of the routine care allowing me to concentrate on placing and restoring implants. When pregnant with my third child, I decided I needed some additional qualifications and it led to me attaining my MFGDP (Member of the Faculty of General Dental Practitioners), then my DipImpDentRCSEd (Diploma in Implant Dentistry at the Royal College of Surgeons of England), and then my FFGDP (Fellowship of the Faculty of General Dental Practice).

I love treating teeth and helping patients to better understand their own role in maintaining healthy teeth. Making good dentures is an amazing skill. I have been increasingly involved with CAD/CAM for restorative and guided implantation. The main impetus for this was to make treatment less invasive and to reduce the processes to a minimum of required appointments.

You are president of the ADI UK, what are your goals during your two year's term?

In my role as ADI president I would like to influence dentists in the UK to be more supportive of each other as only we understand and have sympathy for how difficult being a dentist is. I would also like to encourage more women to take a step forward if they wish to get involved in the world of implants. This will also involve trying to standardise education within the field of implants.

The interview was conducted by Anita Wuttke, Editor-in-Chief.

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The Z1® implants are medical devices intended for placement in the mouth, in case of partial or total tooth loss, by qualified healthcare professionals. These medical devices are regulated health products which, in accordance with this regulation, bear the CE marking. These dental implants are manufactured in France by Sudimplant SAS, owner of the Z1® trademark. For any information, please contact your dentist.

Find us online
www.tbr.dental

Implant care instructions brochure for patients

Implant maintenance is a team effort

The European Association of Dental Implantologists (BDIZ EDI) has published an English edition of its implant maintenance brochure. In easy-to-understand language, the brochure entitled “Implants – longer-lasting and longer beautiful” offers well-illustrated instructions and general information about oral health.

Teamwork of patient and the dental office is the most important aspect of the brochure. The maintenance brochure is intended for distribution to patients by dental practices and was written to assist them in teaching their patients take care of their dental implants in the appropriate manner. The 24-page patient information brochure in A5 format consists of a general section about oral hygiene and a main section on implant maintenance – all about the right cleaning tools and their use with single-tooth implants

as well as fixed and removable implant-supported restorations. "Good to know" provides background information on choosing the right toothbrush and using the proper brushing technique, describes the process of professional tooth cleaning and educates readers about risk factors. A checklist intends to alert implant patients to possible changes in the mouth and around the implant. This is the first English edition of the brochure, which has been completely redesigned with large images and short texts in easy language that patients can understand. The preface states: "It is up to you to ensure careful oral hygiene, and this is a prerequisite for a long implant life. Teamwork is of the essence!" *AWU*

Bibliography

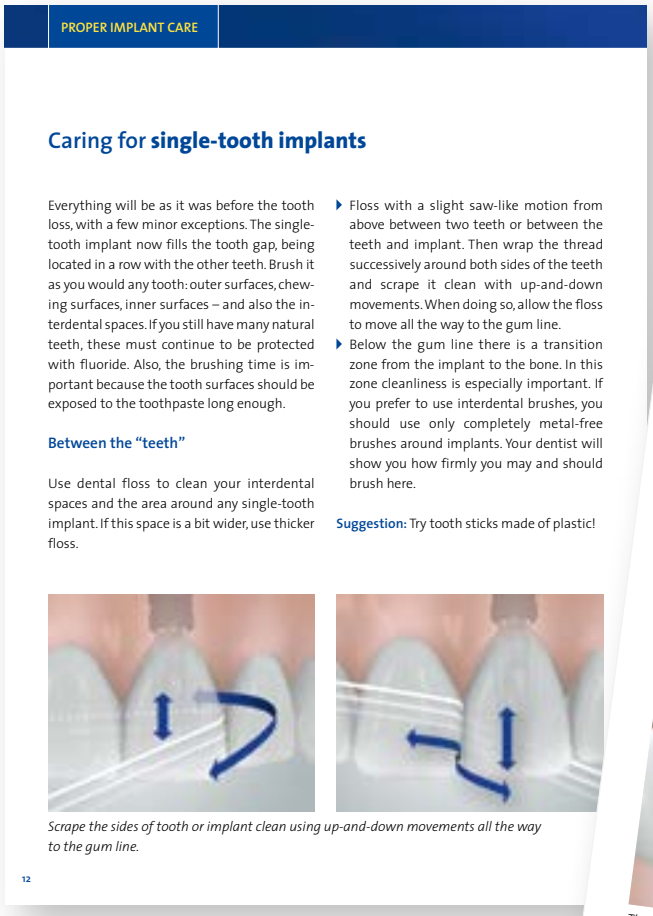
Implant care brochure of BDIZ EDI for patients „Long-lasting implants for long-lasting beauty"

A5 format, 24 pages, 32 images
Prize: 1,50 € + VAT + shipping (minimum order: 10)

Contact BDIZ EDI in Cologne/Germany
office@bdizedi.org · www.bdizedi.org > English

Via Phone: +49 89 720 69 888
Fax: +49 89 720 69 889

Detailed Information about the implant and its care.


PROPER IMPLANT CARE

Caring for **single-tooth implants**

Everything will be as it was before the tooth loss, with a few minor exceptions. The single-tooth implant now fills the tooth gap, being located in a row with the other teeth. Brush it as you would any tooth: outer surfaces, chewing surfaces, inner surfaces – and also the interdental spaces. If you still have many natural teeth, these must continue to be protected with fluoride. Also, the brushing time is important because the tooth surfaces should be exposed to the toothpaste long enough.

Between the "teeth"

Use dental floss to clean your interdental spaces and the area around any single-tooth implant. If this space is a bit wider, use thicker floss.

- Floss with a slight saw-like motion from above between two teeth or between the teeth and implant. Then wrap the thread successively around both sides of the teeth and scrape it clean with up-and-down movements. When doing so, allow the floss to move all the way to the gum line.
- Below the gum line there is a transition zone from the implant to the bone. In this zone cleanliness is especially important. If you prefer to use interdental brushes, you should use only completely metal-free brushes around implants. Your dentist will show you how firmly you may and should brush here.

Suggestion: Try tooth sticks made of plastic!

Scrape the sides of tooth or implant clean using up-and-down movements all the way to the gum line.

12


PROPER IMPLANT CARE

Caring for **fixed dentures on implants**

Your restorations are just as much a part of your dentition as your natural teeth. You should therefore clean all teeth "normally" (see page 9). Do not forget the interdental spaces!

Bridges on implants

What is new? There is now an area in the mouth that is supported by implants and bridges the tooth gap or gaps with ceramic teeth. The area under the bridge has to be kept clean. There are different ways to do this.

Cleaning under bridges

1. If the space between the bridge or implant and the gums is large enough, you can use an oral irrigator for pre-cleaning.
2. Use dental floss of different diameters by running the reinforced end of the floss under the bridge, pulling it until the fluffy part is within the space and move the floss back and forth and sideways from one abutment to the next.
3. Instead of flossing you may also use tooth sticks or interdental brushes (without a metal core!).

The floss is inserted into the space with the reinforced end first.

Cleaning of the interdental spaces "under the bridge" with an interdental brush.

Certification as an EDA Expert in Implantology

Qualification for experienced implantologists

For many years, BDIZ EDI has been catering to experienced and well-versed oral implantologists by offering the certification exam for EDA Expert in Implantology. Jointly with the European Dental Association (EDA), BDIZ EDI regularly invites interested dentists to take the certification exam, which we would like to present in this article.

That quality is of paramount importance to BDIZ EDI is no secret. BDIZ EDI has demonstrated this in many different areas – legal and accounting, materials testing, postgraduate education, the annual Guidelines of the European Consensus Conference (EuCC) on current implantological issues and finally the qualification of court experts. BDIZ EDI also supports dental education with its Curriculum Implantology that introduces aspiring dentists and young implantologists to this dental specialty in eight well-organized modules.

Admission requirements for the certification exam

Certification as Expert in Implantology requires very good to excellent skills and knowledge. Candidates must meet the following admission requirements:

- 250 EDA-recognized continuing education/training hours in various sub-disciplines of implantology
- Submission of ten documented, independently performed implantological treatment cases
- At least five years of professional activity, primarily in the field of implantology

Specific experience and primary activity in the field of implantology must be documented by at least 400 implants inserted and 150 implants restored within the past five years. Candidates who already obtained qualifications in oral implantology (e.g. from other professional societies) may submit the appropriate credentials with their application for certification as EDA Expert in Implantology.

The exam

Candidates meeting all the requirements will be admitted to the examination. The examination board of BDIZ EDI and EDA consists of recognized specialists. The exam has a theoretical and a practical part, both of which must be completed successfully.

The procedure is as follows: The theoretical part of the exam will start with a discussion of the documented cases. In addition, candidates are expected to answer questions related to oral implantology and closely associated fields. The theoretical examination usually takes no longer than 60 minutes; it may be administered to candidates in groups. The practical part of the examination covers one or more recognized, state-of-the-art treatment method or methods and/or treatment plans covering some aspect of oral implantology. Candidates will be informed of the respective topic two weeks before the exam date. Candidates are responsible for providing the required materials and instruments on the day of the exam. The examination as a whole is subject to a fee to cover the cost incurred by the examination board.

New EDA Experts in Implantology are nominated by the president or vice president of the EDA certification committee.

AWU

More information

To register for the next certification exam, please go to www.bdizedi.org and select English > Professionals > Expert or write to the BDIZ EDI office in Cologne at office@bdizedi.org.

European Association of Dental Implantologists

Applicant's address:

Full name _____

Full address _____

_____

_____

E-mail _____ Date _____

Forward by mail or fax to:

European Association of Dental Implantologists (BDIZ EDI)
Mühlenstr. 18
51143 Köln
Germany

office@bdizedi.org
Fax: +49 2203 9168822

Certification exam: EDA Expert in Implantology
Application for accreditation

I hereby apply for the EDA Expert in Implantology certification exam (EDA = European Dental Association).

I am qualified for this exam as defined below:

Member of BDIZ EDI ☐ yes ☐ no

Member of the following Societies/Associations: _____

I am: ☐ a dental clinician ☐ an oral surgeon ☐ a maxillofacial surgeon

I meet the training requirement of 250 hours of postgraduate education. ☐ yes ☐ no

Education and experience:

Surgery:

Inserted implants: ☐ less than 400 ☐ more than 400

Sinus lift: ☐ yes ☐ no

Close to nerve: ☐ yes ☐ no

Advanced atrophy of the jaw: ☐ yes ☐ no

Soft-tissue augmentation: ☐ yes ☐ no

Bone augmentation: ☐ yes ☐ no

Prosthodontics:

Implant-supported restorations: ☐ less than 150 ☐ 150 or more

During the exam, I will be able to present documentation for 10 treatment cases. ☐ yes ☐ no

I understand that the examination board will review my qualifications and vote to accept or reject my application. Furthermore, I declare that all images I present are my own and that the implants have been inserted and prosthetically restored by me.

_____ _____

Applicant's signature Date

Having successfully passed the exam and paid the requisite fee, I will be certified as EDA Expert in Implantology.

The commercial processing of your personal data on this form is based on the EU General Data Protection Regulation (GDPR – Regulation (EU) 2016/679 of 27 April 2016), Article 6 f GDPR by the European Association of Dental Implantologists (BDIZ EDI), Mühlenstr. 18, D-51143 Cologne/Germany. You have the right to obtain information about personal data concerning you (Article 15 of the GDPR). You can also request the correction (rectification) of incorrect data (Article 16 of the GDPR). More information: Privacy Statement on www.bdizedi.org.

Curriculum Implantology of the BDIZ EDI and the University of Cologne

A must – not only for beginners

The BDIZ EDI Curriculum Implantology is a must for beginners – but not only for them. The BDIZ EDI regularly offers profound basic training in oral implantology in cooperation with the University of Cologne, which stands out for the great emphasis it places on hands-on exercises. A special feature is that training modules that were not acquired at BDIZ EDI can be integrated into the BDIZ EDI Curriculum Implantology if their scientific character is recognized. Advantages of the Curriculum include high quality, small groups of no more than 20–25 people and low fees.

This is what sets BDIZ EDI's concept apart from many other approaches. Former attendees have particularly appreciated the surgical exercises on human specimens that make for realistic hands-on workshops. These practical units are an integral part of each Curriculum module. Human specimens at the Anatomical Institute of the University of Cologne have been prepared in different stages and tissue depths so that not only the tissues' spatial orientation can be studied, but it can also be appreciated which structures should be preserved wherever possible.

Each module is designed to systematically build on previous modules, so that Curriculum participants will receive a complex total implantological package for their future practical work, ranging from simple standard protocols to 3D-supported augmentation techniques and elaborate implant prosthetics.

The integration of current topics and treatment methods (3D-supported surgery, bone preparation using ultrasound, CAD/CAM technology for bone regeneration, etc.) round off the practical benefits of the Curriculum Implantology.

For the final examination, candidates are expected to present and discuss two surgical and/or prosthetic implantological cases, followed by an oral examination and the presentation of the Curriculum certificate to the successful candidate.

Currently, the Curriculum Implantology in this form is only offered in German, at the University of Cologne under the direction of *Professors Joachim E. Zöller* and *H. J. Nickenig*. Similar curricula are now also available at some partner associations of the BDIZ EDI, namely in Poland, Greece and Serbia.

The 8 modules of the BDIZ EDI Curriculum Implantology

Module 1

- Fundamentals of oral implantology
- Anatomy and histology of the stomatognathic system
- General diagnostics in oral implantology
- Patient education
- Cologne ABC Risk Score

+ external presenters

Module 2

- Indications, diagnosis and treatment planning
- High-risk patients and monitoring
- Description of indications
- Avoiding malpositioning
- Patients with coagulation disorders

Workshop I: *Surgical and prosthetic protocols*

+ external presenter

Module 3

- Implant systems, instruments, advanced diagnosis
- Diagnostic tomography
- Fundamentals of 3D diagnostics
- Surgical templates/guide sleeves
- Choice of implants
- Comparison of implant systems

Workshop II: *3D workshop with interactive planning*

Demonstration of different instrument sets

Case presentations by participants I

Module 4

- Implant prosthetics I and minimally invasive surgery
- State of the art in tooth extraction
- Implant prosthetics (instruments, impressions, abutments)
- Minimally invasive procedures (flapless surgery, 3D bone splitting, sinus floor elevation)
- Emergencies in the dental practice

Workshop III: *Surgical and prosthetic protocols, instrument sets*

Modified bone splitting using Piezosurgery

Case presentations by participants II

Module 5

- Augmentation I: Regional bone augmentation
- Unfavourable biomechanics vs. augmentation
- Immediate implant placement
- Sinus floor elevation

Workshop IV: *Sinus floor elevation training on models and animal specimens*

Exercise in customized bone regeneration

Case presentations by participants III

+ external presenters

Module 6

- Implant prosthetics II and soft-tissue management
- Antibiotic therapy
- Implant re-entry and soft-tissue corrections
- Implant prosthetics II: Teeth and implants
- Implant prosthetics III: Removable restorations

Workshop V: *Hard- and soft-tissue management: Exercises on porcine jaws*

Soft-tissue techniques I and II for augmentation, implantation and exposure

Case presentations by participants IV

Written examination

Module 7

- Augmentation II: Bone grafting and distraction
- Iliac-crest transplants
- Fundamentals and results of distraction osteogenesis
- Implant prosthetics in the anterior region

Practical exercises on human specimens; practical training of the acquired surgical techniques

+ external presenters

Case presentations by participants V

Module 8

- Recall – Coping with complications – Future perspectives
- Recall
- Peri-implantitis therapy
- Oral implantologists in court
- Ceramic coating of implants

+ external presenters

Final exam

Medical treatment provided by telephone

VAT-exempt?

In its decision of 5 March 2020 (C48/19), the European Court of Justice (ECJ) once again interpreted Directive 2006/112/EC ("VAT System Directive"), Art. 132(1). The point in question was whether medical consultations and treatments carried out by telephone, without personal contact, are subject to VAT. The ECJ decided that the answer to this question depended on the individual treatment objective.

The case

In February 2014, a German limited liability company (GmbH) was commissioned by statutory health insurance providers in Germany to provide a telephone consultation service on various health-related topics and patient support programs by telephone for patients suffering from chronic or long-term illness.

The consultation services were provided by nurses and medical assistants, some of whom were also trained as "health coaches". In more than a third of cases, a physician was consulted to provide advice, give instructions if the patient had questions or offer a second opinion.

This telephone consultation service allowed participants to phone the company's employees at any time and request information. At the request of callers, the company's employees carried out a computer-assisted survey of findings to let them assess the medical context of the case and provide advice to the insured person on his or her treatment situation. The company's employees explained diagnoses and possible therapies or gave advice on changes in behaviour or treatment. The company's medical director audited completed cases on a random basis.

Potential participants for the patient support programmes were identified by the health insurance providers on the basis of the billing data and patient conditions, contacted by mail and, if they wished, included in the programme. As part of these programmes, participants could be phoned by company employees over a period of three to twelve months or phone them on their own initiative if they wanted to receive specific information on their clinical situation. The main aim was to help participants and their relatives understand the respective conditions and to improve compliance with medication or participation in other therapies, to avoid medication errors and to provide an adequate response to any symptom increase and to social isolation. The programmes aimed at better managing the treatment costs of patients, mainly by reducing the number of repeat hospital admissions. Furthermore, support was to be given to parents of young patients with a suspected attention deficit syndrome, and the number of secondary conditions was to be reduced.

The company declared the resulting revenue to be VAT-exempt, whereas the competent tax office treated it as taxable revenue. The company filed a complaint against the tax assessment. Having lost in the first instance, the company brought an appeal before the Bundesfinanzhof (Federal Finance Court).

The latter court had doubts as to whether medical consultations conducted by telephone that take place independently of or in advance of specific medical treatment, were subject to VAT and whether the tax exemption also covered treatment provided without face-to-face contact. It therefore stayed the proceedings and referred the following questions to the Court of Justice for a preliminary ruling:

1. In the circumstances of the case in the main proceedings, is the medical advice provided by an entrepreneur to insured persons on various health and disease issues by telephone on behalf of statutory health insurance a VAT-exempt activity under Article 132(1)(c) of Directive 2006/112 on the common system of value-added tax?
2. In the circumstances of the case in the main proceedings and related to the services outlined in the first question, does a setup where the telephone consultations within the framework of the patient support programme are carried out by "health coaches" (medical assistants, nurses) and a physician is consulted in about one third of the cases meet the required professional qualification criterion that is a prerequisite for the VAT exemption?

The ECJ's decision

The ECJ came to the conclusion that medical treatments provided by telephone may be covered by the VAT exemption provided for in Article 132(1)(c) of Directive 2006/112/EC to the extent that they pursue a therapeutic objective (no. 34).

The court first pointed out that the wording of Article 132(1)(c) of Directive 2006/112/EC stipulates that a service is VAT-exempt if, firstly, it represents the provision of medical care and, secondly, it is provided in the context of practising the medical or paramedical professions as defined by the member state concerned (no. 17). The ECJ also stated that the provision in question does not

contain any limitation as to the place where the service is performed. Unlike Article 132(1)(b) of the Directive, which relates to the provision of care in hospitals, Article 132(1)(c) relates to medical care outside hospitals that may be performed at the physician's practice, at the patient's home or in some other location (no. 20; see also ECJ, 18 September 2019, C-700/17, EU:C:2019:753, no. 21).

Services pursuant to Article 132(1)(c) may therefore be VAT-exempt regardless of where they are performed. Therefore, medical treatment provided by telephone is also covered by Article 132(1)(c) of Directive 2006/112/EC (no. 23).

Nor does the purpose of the provision indicate otherwise, since the tax exemption is intended to reduce the cost of treatment and make it affordable for patients (no. 24).

According to the ECJ, it is for the referring court to determine whether the specific case in the main proceedings concerns medical care in the field of human medicine. The decisive factor for applying the VAT exemption (see no. 26, 27) is whether the consultations performed had a therapeutic purpose. Medical care in this sense are services that have as their aim the diagnosis, treatment and, as far as possible, cure of diseases or health disorders (ECJ, 18 September 2019, C-700/17, EU:C:2019:753, no. 20 with further details). This also includes medical services that serve to restore or maintain, i.e., protect, human health (para. 29). To resolve the issue as to whether medical care as defined in case law has been provided, it is not sufficient to examine whether a medical prescription has been written or a follow-up treatment performed.

While information on diseases and therapies, because of its general nature, is not suitable for contributing to the protection of human health, consultations which explain the diagnosis and therapy and suggest changes in treatment, thus enabling the patients concerned to understand their medical situation, may have a therapeutic purpose (no. 31, 32).

As regards the second question, the ECJ held that Article 132(1)(c) must be interpreted as meaning that the provision of services by telephone does not require any additional special qualifications for nurses and paramedical staff (no. 47).

The definition of the medical and paramedical professions is subject to national law. The member states therefore enjoy discretionary power in the definition (no. 39, 40). However, this discretionary power is limited, as on the one hand, member states must ensure that the exemption applies only to providers that demonstrate a certain level of quality – and this applies regardless of whether the consultations are by telephone. The required level of quality is determined by the member states themselves. On the other hand, fiscal neutrality must be maintained at the same time. Fiscal neutrality is not preserved if similar competing service providers are treated differently.

Article 132(1)(c) does not require that nurses and medical assistants meet additional demands on their professional qualifications for the provision of telephone services; however, a comparable level of quality must be ensured.

Summary and conclusion

In principle, therefore, consultations by telephone can be VAT-exempt. However, the ECJ has also made it clear that this will depend on the individual case. As a rule, while the provision of general information will probably not qualify, more extensive topical consultations probably will. The determining factor is whether the consultation can contribute to protecting the health of the patient in the specific case. No additional qualification requirements must be met if nurses and paramedical staff can offer an appropriate level of quality.

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Socket grafting with bioactive self-hardening synthetic graft materials

Ridge preservation and regeneration

JONATHAN COCHRANE, BDS, MSC, BRISTOL, UK

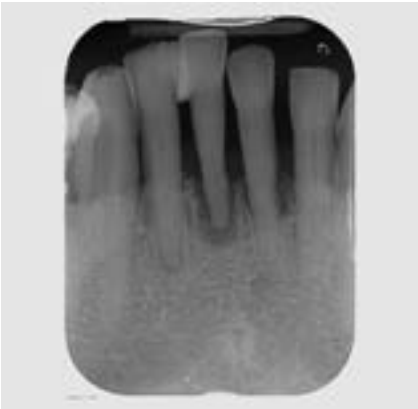
The preservation of the alveolar ridge after dental extractions is an important concept to retain the host bone for future placement of implants. It is well-researched that after the removal of teeth or retained roots, the sockets and the ridge will model and reduce in size with time generally starting just a few weeks post-removal. The use of novel bioactive self-hardening synthetic graft materials composed of beta tri-calcium phosphate (β-TCP) and calcium sulfate (CS) for socket grafting may not only aid the preservation of the architecture of the ridge, but also will up-regulate host hard and soft tissue regeneration to improve the ridge quantity (volume) and quality.

Case report

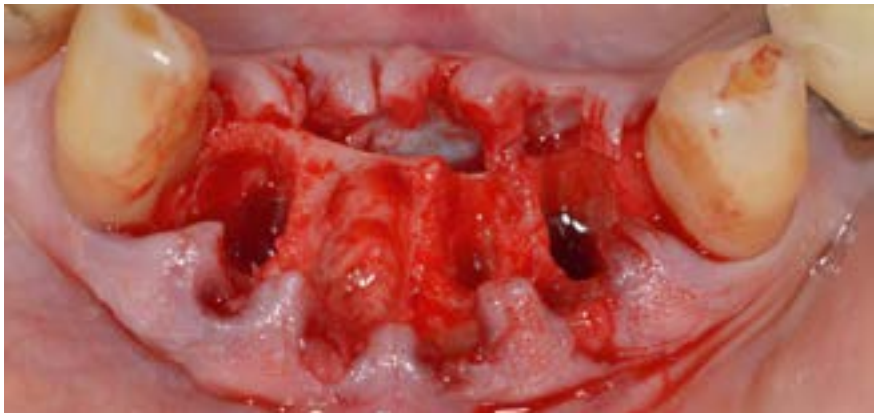
A 79-year-old female patient presented with mobility of the lower central incisors. The patient suffered from localised periodontitis affecting all lower incisors (Fig. 1). Clinically, tooth 41 was splinted with composite to the neighbouring tooth 42. The patient was a regular dental attender and the periodontal health of the rest of her teeth was well-managed. Medically, she was generally well, only taking low dose medication for acid reflux, hypercholesterolemia and moderately high blood pressure. Radiographic examination of her lower incisors with periapical x-rays showed severe bone loss of between 60 – 100%, affecting her lower four incisors; providing for a hopeless prognosis. The patient opted to remove the four failing, grade 2 mobile, lower incisor teeth and have an implant bridge replacement.

The treatment plan consisted of simple extractions, socket/ridge preservation, and subsequently the placement of two dental implants ten weeks post-op, with loading of the implants a further fifteen weeks later. The patient used an immediate acrylic partial denture as a provisional prosthesis during the whole healing period, but without applying pressure on the surgical site.

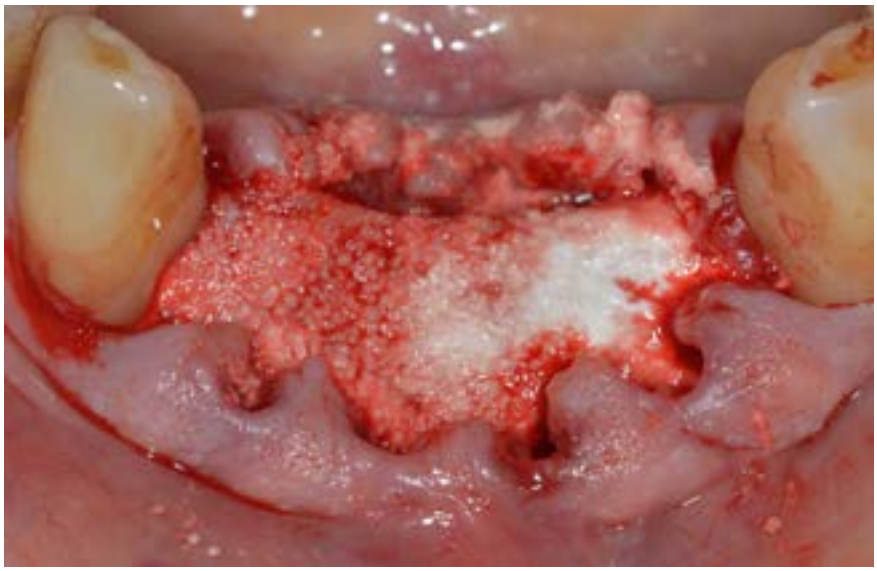
Under local anaesthesia, the hopeless prognosis four lower incisors were 'atraumatically' removed with forceps without raising a flap. Attention was given not to damage the surrounding soft and hard tissues. Then a crestal incision was made to fully expose the extraction sockets, and periosteal relieving incisions were made under the lingual and buccal flaps to allow for later tension-free closure. It is very important that at this stage any bleeding arising from the incised periosteum must be thoroughly managed with the appropriate haemostatic measures. Usually application of pressure with a sterile gauze for a few minutes is sufficient. In this way, the clinician can operate in a clean surgical site with no bleeding, and the periosteum is already released, so that there is



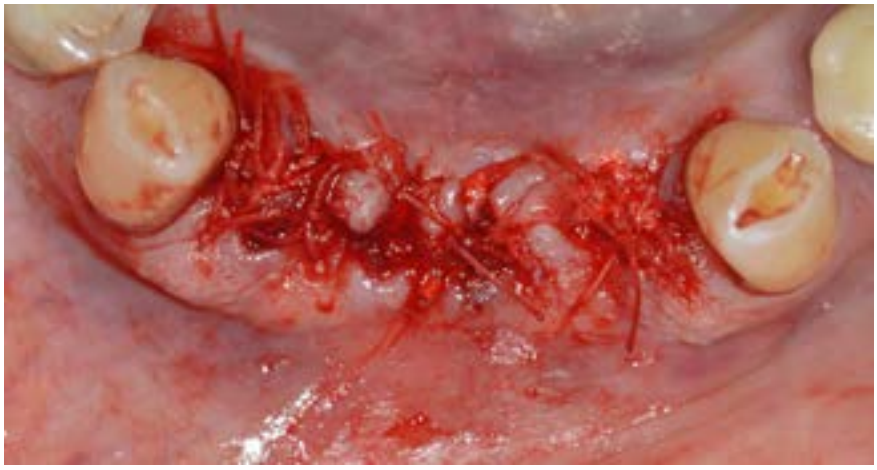
1 I Initial periapical x-ray.



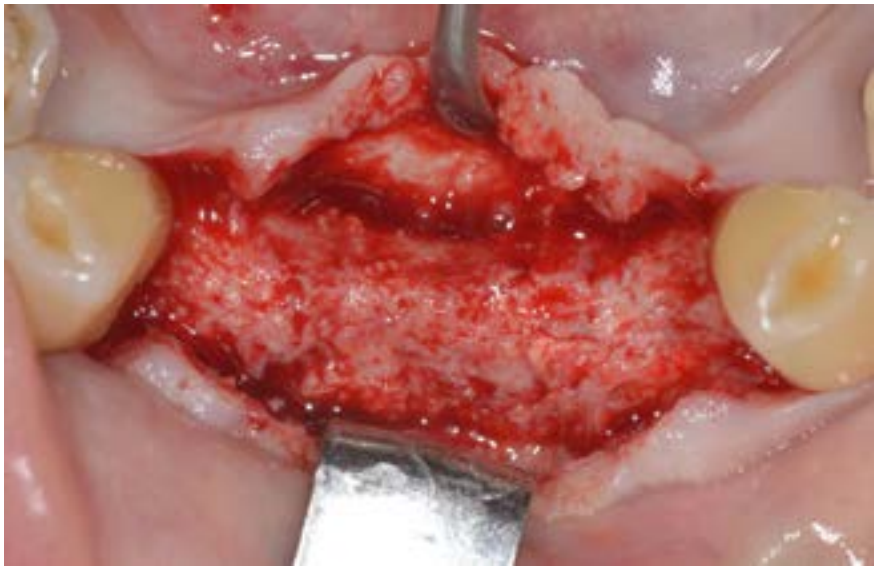
2 I Clinical view immediately after extractions and socket curettage, flap raised and released both lingually and buccally.



3 I Intraoperative situation after the application and setting of EthOss in situ. No barrier membranes were used.



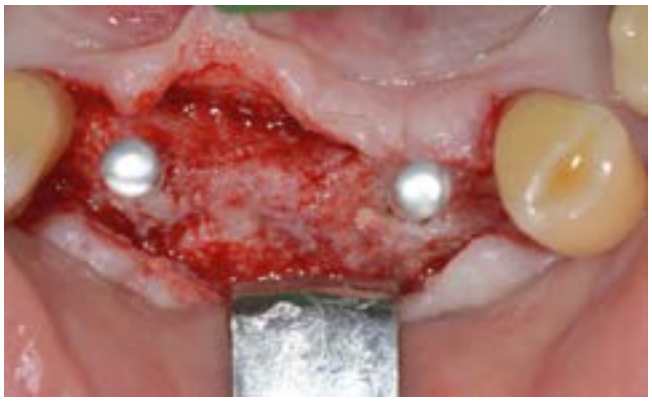
4 I Surgical wound sutured with Vicryl Rapide–primary closure almost achieved but not completely as can be seen.

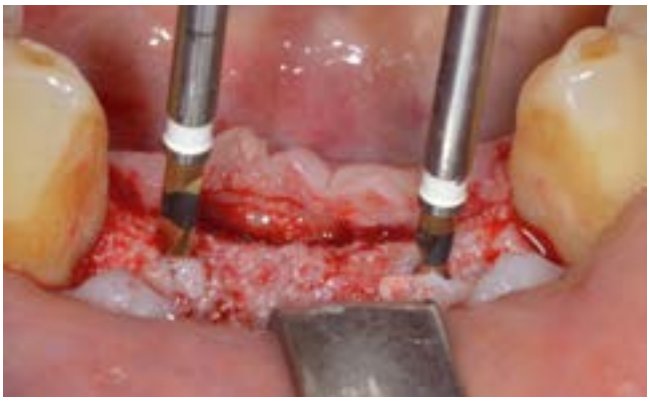


5 I Re-entry 10 weeks later, single crestal incision made.

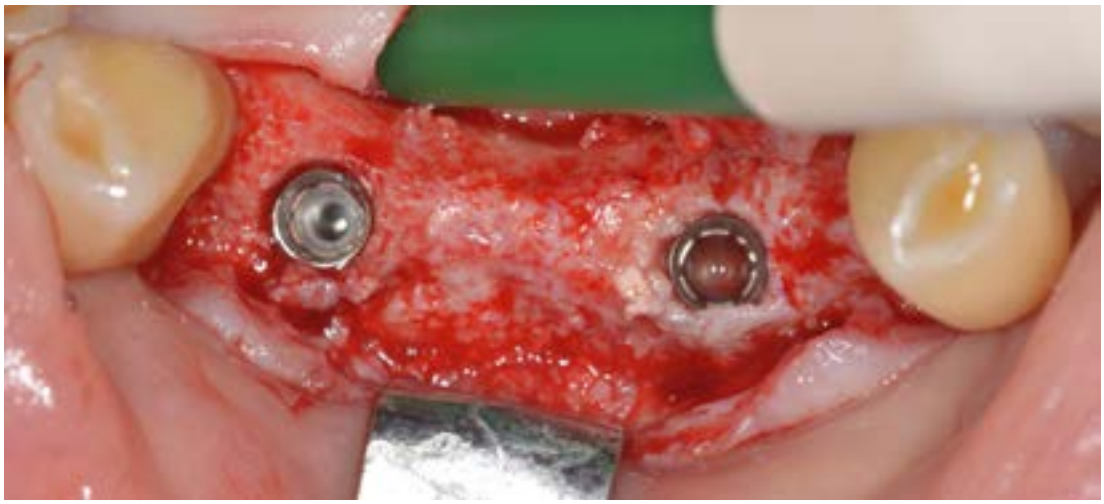
no need to perform this after grating and risk initiating bleeding then, that could wash out the placed biomaterial. Inability to control bleeding at any stage of the socket grafting procedure will result in poor setting of the graft in situ. The sites were then thoroughly curetted using hand instruments (Lucas hand bone curettes) followed by rinsing with sterile saline (Fig. 2), and subsequently grafted with a self-hardening resorbable synthetic bone substitute (EthOss; EthOss Regeneration Ltd, Silsden, UK), consisting of 65 % β-TCP and 35 % CS. The grafting material comes in a delivery syringe where the piston is drawn back and sterile saline is added to the powder. It is allowed to seep through the particles and then the excess is discarded by compression into a sterile gauze. The hydrated material is now taken to the surgical site and extruded into the defect, then compressed with another sterile gauze using an instrument to pack the material into any cavities. The gauze is then held over the graft for three to five minutes until the CS element sets, making sure to restrict and control any bleeding, as blood from the surgical site may inhibit the proper setting of the biomaterial in situ. It is also important not to overfill the augmented area for tension-free closure. No barrier membranes were used (Fig. 3). The flaps were then repositioned, slightly advanced and sutured without tension with 4-0 resorbable sutures (Vicryl Rapide, Ethicon, Johnson & Johnson) (Fig. 4). Single interrupted sutures were used. Antibiotic therapy consisting of 500 mg amoxicillin every eight hours for five days, and mouth rinsing with 0.2 % chlorhexidine every eight hours for ten days were prescribed. The sutures were removed one week post-op.

The post-operative healing was uneventful. After ten weeks, the architecture and the dimensions of the ridge were adequately preserved, and the site was covered with thick keratinised epithelium. Under local anaesthesia, a site-specific full thickness flap was raised using a linear crestal incision, without any vertical incisions, revealing a well regenerated bony volume (Fig. 5). Two 3.6 mm X 11 mm implants (Astra-Tech EV, Dentsply Sirona) were placed

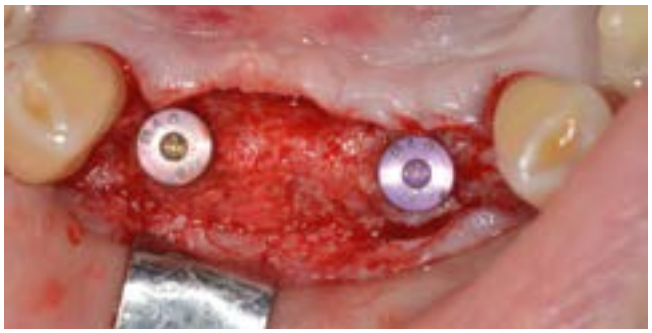


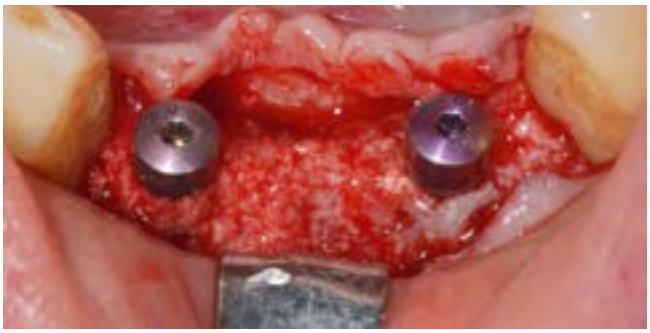


6a and b I Freehand placements with the initial twist drills in the lateral positions, no surgical guide used – occlusal and buccal views.

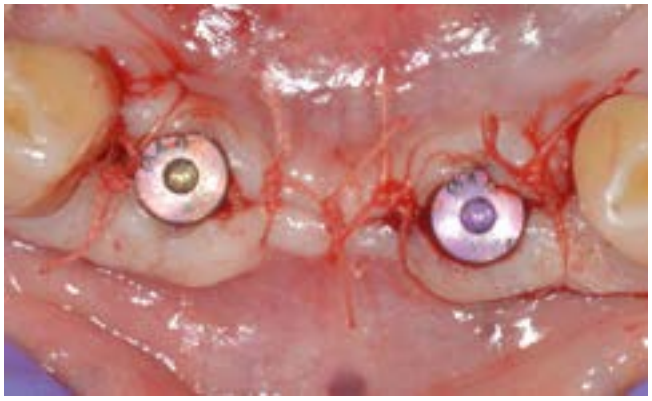


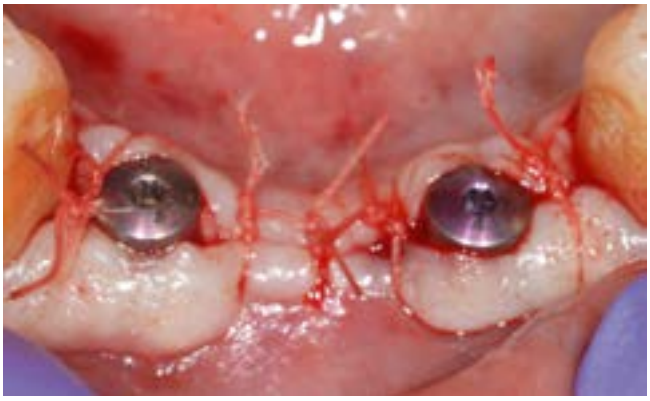
7 I Immediately after placing the implants in the optimal three-dimensional position – occlusal view.



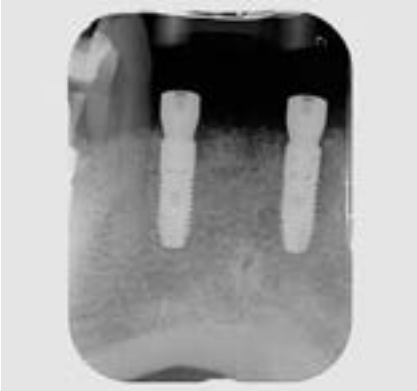


8a and b I Healing abutments placed, – occlusal and buccal views.

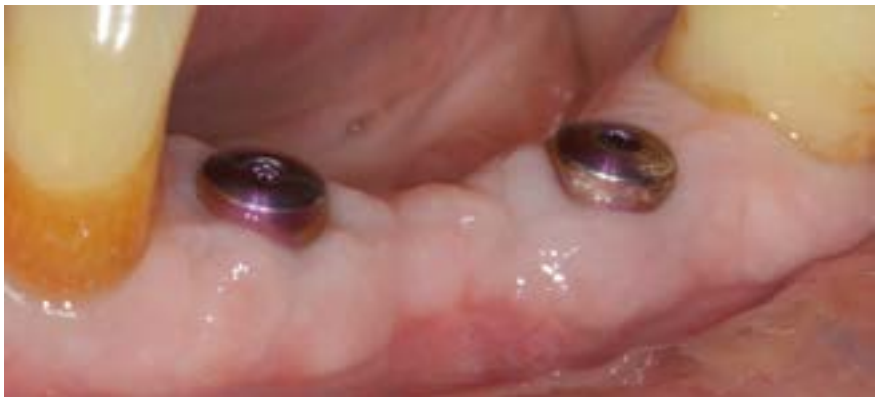




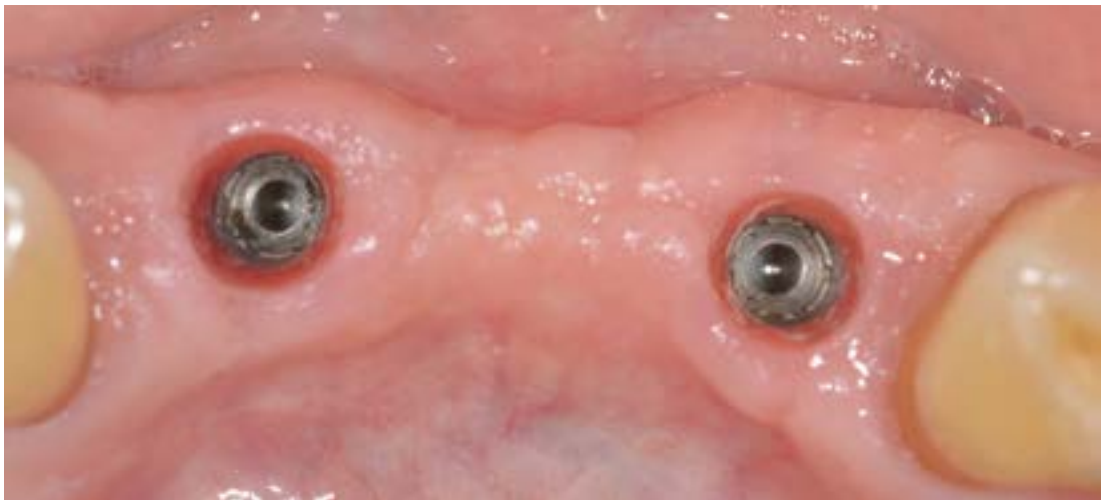
9a and b I Surgical site suture closed – occlusal and buccal views.



10 I Periapical x-ray immediately post-op.



11 I Restoration phase, 10 weeks later, showing nicely healed, regenerated keratinised soft tissues.



12 I Occlusal view of implants and peri-implant soft tissues immediately prior to fit of the final implant bridge.

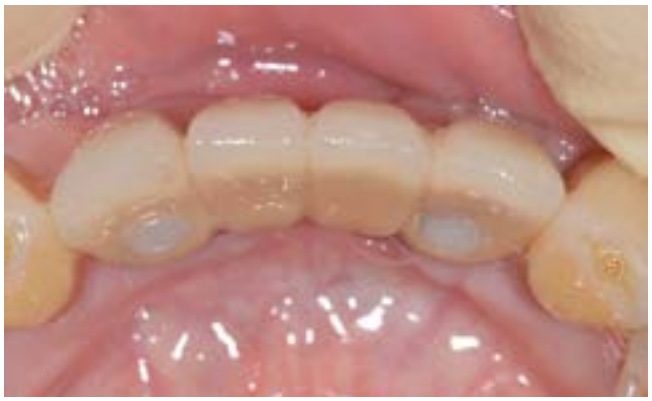
at the optimal lower lateral incisor positions, well surrounded by adequate newly formed bone. After placing the healing abutments, the mucoperiosteal flap was repositioned and sutured without tension with 4-0 resorbable sutures (Vicryl Rapide, Ethicon, Johnson & Johnson) (Figs. 6 to 10). Antibiotic therapy consisting of 500 mg amoxicillin every eight hours for five days and mouth rinsing with 0.2 % chlorhexidine every eight hours for ten days were again prescribed after the surgery. The sutures were removed one week post-op.

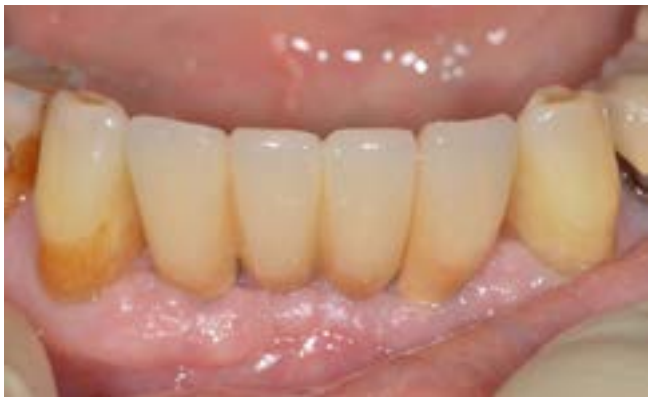
After ten further weeks of uneventful healing (Fig. 11), pick-up impressions were taken with open tray technique. Two weeks later a verification jig was used, and the bite registration was recorded. Three weeks later, the final 4-unit metal-ceramic bridge with customized Atlantis abutments (Dentsply Sirona) was placed and torqued at 25 Ncm, resulting in a successful outcome regarding aesthetics and function (Figs. 12 to 14).

Discussion

Bone modelling post-extraction can be variable from case to case, dependent on several factors such as the thickness of the buccal plate, the presence of infection and host physiology [1, 2]. However, tooth removal always leads to atrophy of the alveolar ridge and clinical studies reveal horizontal bone loss of 29 to 63 % and vertical bone loss of 11 to 22 % during the first 6 months [3]. It is well researched that preservation of the ridge with grafting of the extraction site can be a viable option instead of allowing for spontaneous modelling, and then augmenting the ridge in a delayed case scenario [4–7]. Allografts, xenografts and synthetic biomaterials, with or without membranes, are extensively used for socket grafting [8].

As in any bone reconstruction procedure, it is of great clinical importance that these bone substitutes vary in terms of origin, composition and biological mechanism of function regarding graft resorption and new bone formation, thus leading to different amounts and quality of regenerated bone at the extraction site where they are implanted [9]. In a systematic review, *Jambhekar et al.* [10], analyzing the outcomes of randomized controlled trials on ridge preservation with different materials, concluded that sockets filled with synthetic biomaterials had the highest amount of newly-formed bone (45.53 %) compared to sites subjected to spontaneous healing with no graft material (41.07 %) and xenografts (35.72 %), after a minimum healing period of 12 weeks. In parallel, the amount of remnant graft particles was





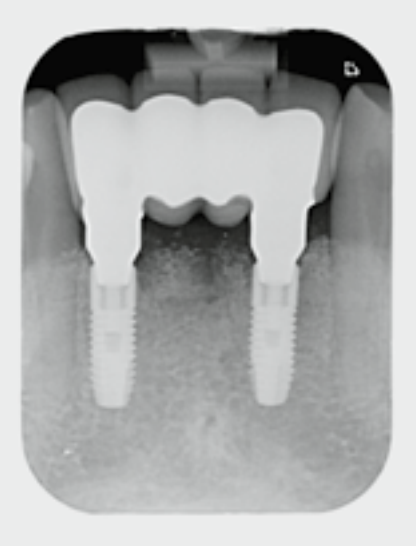
13a & b I Final implant bridge immediately after fitting - occlusal and buccal views.

highest for sites treated with xenografts (19.3 %) compared to synthetic materials (13.67 %).

In the presented case, a fully resorbable self-hardening synthetic bone substitute (EthOss) was used in an attempt to preserve the architecture of the ridge after the extraction of the 4 lower incisors, and to promote the regeneration of high-quality new bone for subsequent implant placement. EthOss is a mix of β-TCP (65 %) and CS (35 %) where the CS helps stabilize the material as well as provide a barrier function. This allows the graft to be used without a traditional collagen membrane, for improved host blood supply to the healing site and for flap releasing to be minimized. Current medical research has confirmed that the importance of angiogenesis to host bone regeneration and the role of periosteum on bone regeneration should not be under-estimated [11-14]. Here, the ability of EthOss to be used without a traditional membrane enables direct and increased access to the host periosteal blood supply and no interference with host induction of stromal cell derived factors, vital for the presence of mesenchymal cells. As the CS element dissolves in 3-5 weeks it further helps angiogenesis by increasing the graft porosity and creating space for neo-vascular ingrowth. The biphasic nature of the biomaterial means that the longer-term resorbing β-TCP will provide a scaffold for gradual replacement and formation of new bone in line with the body's own natural healing processes, leading to regeneration of high quality vital new bone. A growing body of literature in the medical and dental research field reveals and demonstrates the osteoinductive potential of novel calcium phosphate materials and the up-regulation of host regeneration as a result; explaining the findings of further animal and human histological analyses of these materials which show this improved osteogenic potential. Hence, it is seen that a higher quality of new host bone in a shorter period of time is regenerated [15-22].

Since the grafted area will be the site for future implant placement, it is preferable that the material fully turns over to host bone to maximize bone to implant contact [9]. Without the long-term presence of residual graft material, the new regenerated bone can turn over fully and adapt/remodel to the strains and stresses of being in function [22]. In a clinical report, Fairbairn et al. [17] used EthOss for alveolar ridge preservation. Twelve weeks after socket grafting with this biomaterial, a trephine biopsy was performed before implant placement, and the authors histologically and histomorphometrically analyzed the sample of the regenerated bone, revealing 50.28 % newly-formed bone and 12.27 % remnant biomaterial. In accordance to the above findings, in the presented case, surgical re-entry ten weeks after socket grafting with EthOss revealed pronounced regeneration of new bone, without clinical evidence of residual graft particles, allowing for the successful placement of two dental implants.

Additionally, as shown in this case, and in other recent publications [22-27], bone reconstruction with the use of β-TCP/CS appears to routinely improve soft tissue quality, as a result of creating vital high-quality bone underneath. The regeneration of both healthy bone and attached keratinized gingivae, is an important parameter in achieving esthetic implant restorations, preventing future mucosal recessions, and improving the overall long-term implant stability [9, 28, 29]. ■



14 I Periapical x-ray after fitting the final implant bridge. The grafting material is turning over, being gradually replaced by newly formed bone. The loading of the implants will lead to further consolidation and remodelling of the regenerated bony tissue.

The references are available at www.teamwork-media.de/literatur

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Immediate placement and loading of a zirconia implant

High efficiency and primary stability

DR HARALD FAHRENHOLZ, VIENNA, AUSTRIA

Health awareness among our patients has resulted in an increasing demand for metal-free implant treatments. My friend *Dr Johan Feith* introduced me to zirconia implants in general and the ZV-3 system in particular – now called the Patent implant system. I started using the system in 2008.

Introduction

To evaluate the clinical performance of the system, I performed a retrospective evaluative study of my own patients between 2009 and 2015, together with *Dr Sofia Karapataki* (Athens, Greece). The follow-up included 114 Patent implants. Our clinical survival rate was 97.6%; no fractures were reported for this period. Any cases of implant loss were related to bone augmentation, sinus floor elevation or immediate implant placement. To date, I have placed 700 Patent implants and experienced only three fractures, all of them two-piece implants. By hindsight, all failures were caused by incorrect prosthetic design. Nor did we see any detachment or fracture of fiberglass abutments.

These results correlate well with the reports by *Becker et al.* (2017) and *Brüll et al.* (2014) [1, 2]. Both confirm the favourable soft-tissue response, which Brüll et al. state even holds when compared to titanium implants. Our own results confirm this: we have not seen any case of peri-implantitis associated with these implants. The retrospective study by Brüll et al. also reported good results with immediate implant placement.

The present case report demonstrates how the Patent implant system can be applied in immediate placement and loading situations.

Initial situation

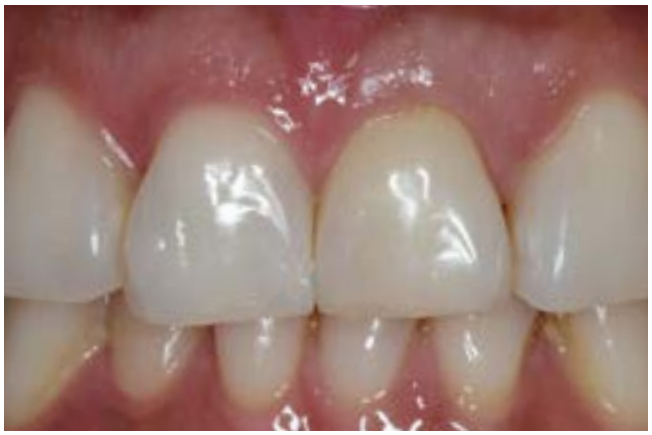
A 30-year-old female patient presented for emergency treatment at our clinic with a fractured upper left central incisor (tooth 21). The fracture was not visible (Fig. 1), but the crown soon chipped and splintered (Fig. 2).

Based on a conventional radiograph (Fig. 3) we decided, together with the patient, to extract the tooth and immediately place a two-piece Patent implant 13 mm in length and 4.5 mm in diameter (Fig. 4). We also decided that an immediate-loading protocol was appropriate and a provisional crown should be placed in the same session [3, 6].

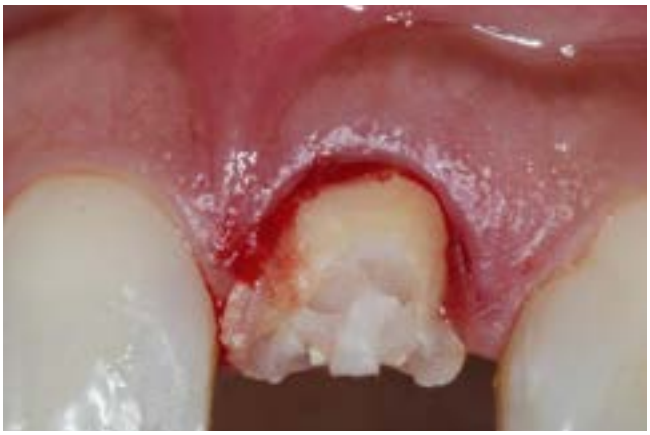
We had considered three alternative courses of treatment:

- Extraction with no immediate other action besides provisionalization
- Extraction, augmentation with platelet-rich fibrin and bone-grafting material and subsequent provisionalization
- Extraction, immediate implant placement and, if possible, immediate restoration with a temporary crown

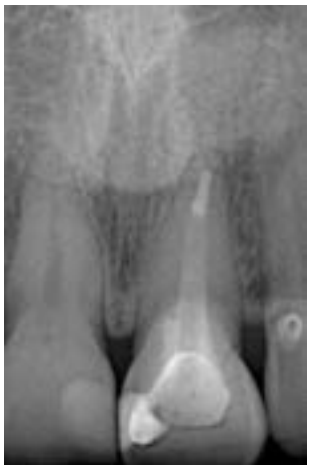
If immediate restoration had not been



1 I Initial situation, the fracture is not recognizable

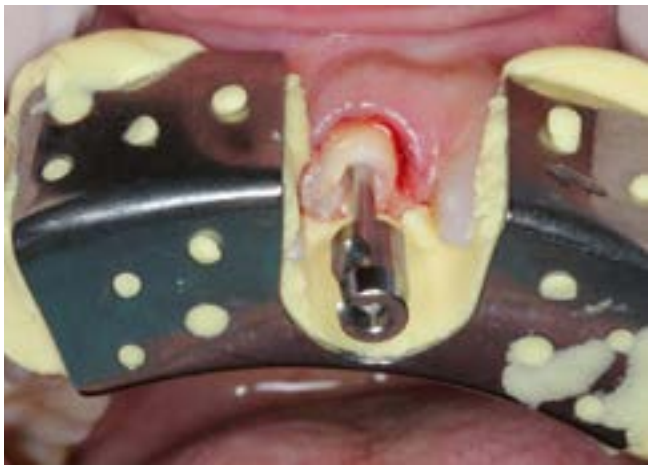


2 I Initial situation with the fractured tooth 21



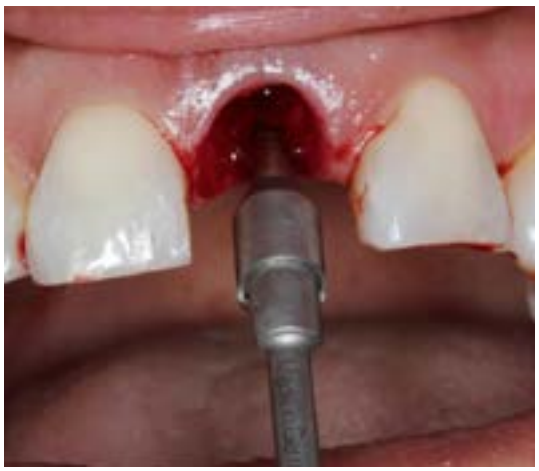
3 I Initial situation on X-ray

4 I Patent implant size 13x4,5 mm

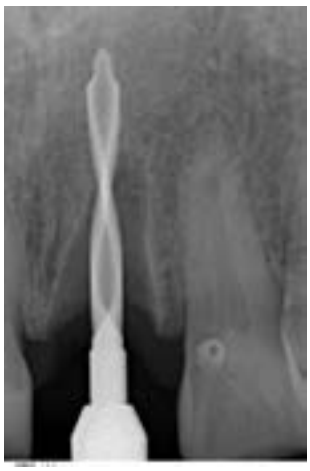


5 I Relined root extractor in situ.

6: The extracted root.



7 I Drilling the osteotomy in the palatal wall of the extraction socket.



8 I Drilling position on X-ray

possible because of insufficient primary stability of the implant, another fixed prosthetic solution would have had to be found. The great advantage of immediate restoration is that all structures – including the gingiva (papillae) and the bone – are optimally preserved [4, 5].

Pretreatment

A root extractor was deployed and supported by the neighbouring teeth (Fig. 5) to allow atraumatic extraction to preserve the buccal bone.

A complete and healthy alveolar bone is a prerequisite for a securely anchored implant. We choose an atraumatic extraction protocol that created favourable conditions by preserving the bone volume and preparing the bone optimally for the placement of the implant. The three-dimensional preservation of hard and soft tissue after extraction is also important for flawless aesthetic and functional implants and restorations. The vestibular bone wall in particular is extremely important for the correct three-dimensional implant placement as well as for the preservation of the soft tissue under the superstructure, particularly in the anterior region. It is therefore essential to prevent or minimize resorptive remodelling processes.

After local anaesthesia, the force vector of the extractor was applied in the direction of the central axis of the tooth. The remaining root was removed (Fig. 6). The extraction socket was carefully curetted, removing all fibrous tissue.

A silicone key was prepared to facilitate chairside fabrication of the provisional crown.

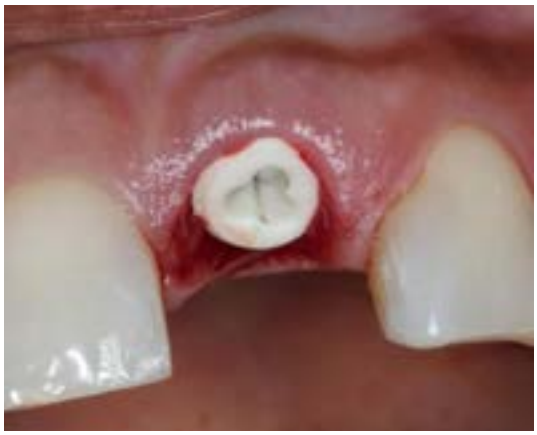
Surgical procedure

To prepare the osteotomy, drilling was performed on the palatal side of the extraction socket (Fig. 7) such as to preserve the buccal plate and to avoid putting too much pressure on it as the implant is inserted.

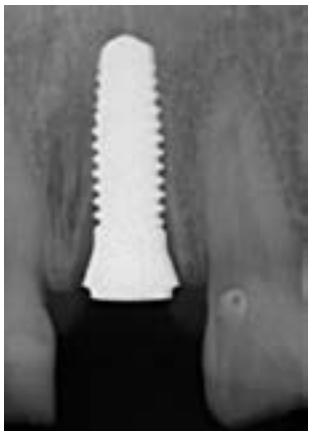
Once the osteotomy had been completed using the dedicated surgical kit, the implant was placed at an insertion torque of 40 Ncm (Fig. 8).

Implant placement

After the extraction, the wound had to be cleaned thoroughly with a sharp curette. It is important to treat the implant site gently, and especially not to destroy the buccal bone lamella. Therefore, I marked the site palatally with a round burr and prepared the implant bed to a depth of

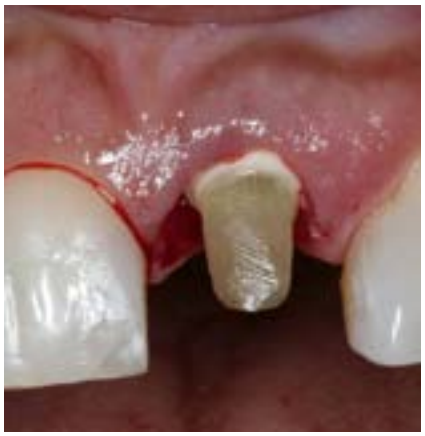


9: Patent implant in situ

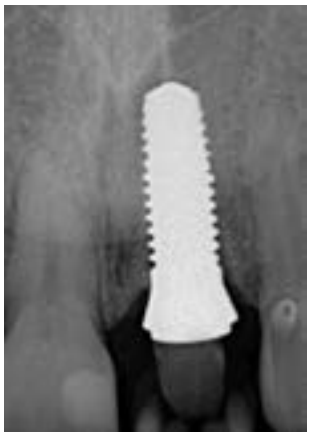


10 I Implant position on X-ray

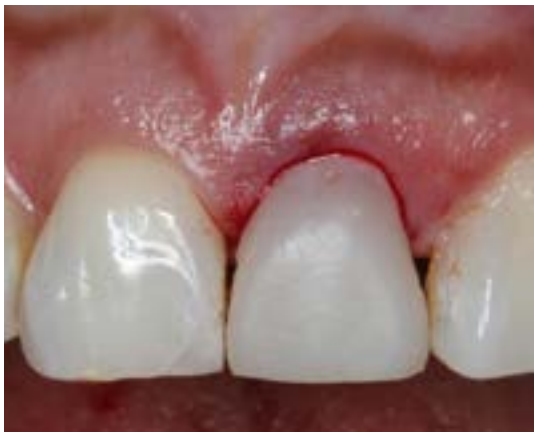
11 I Chairside preparation (extra-orally) of the glass fiber post.



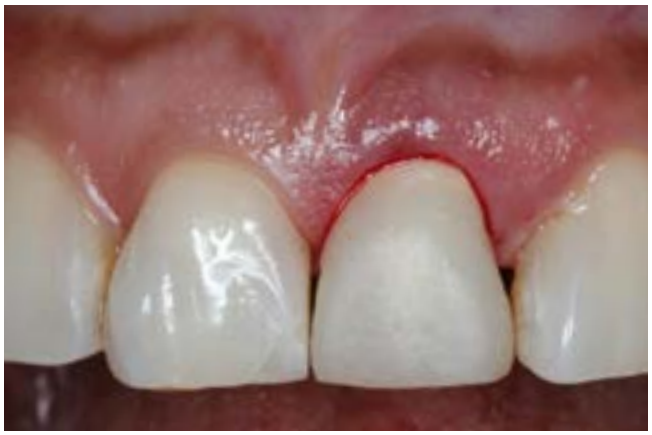
12 I Glass fiber post cemented after try-in.



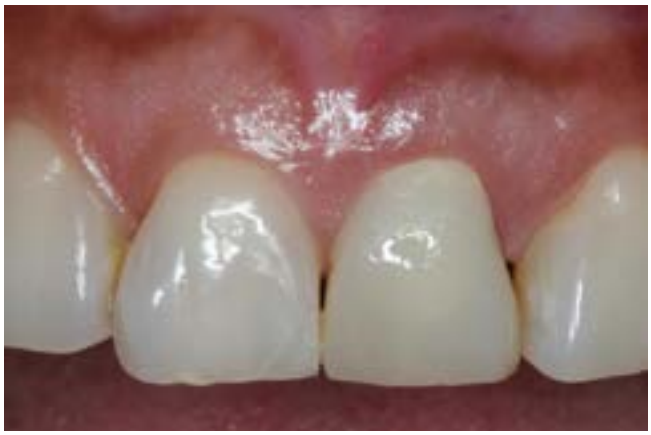
13 I X-ay after the implantation



14 I The temporary crown immediately after surgery.



15 I Situation after one day.



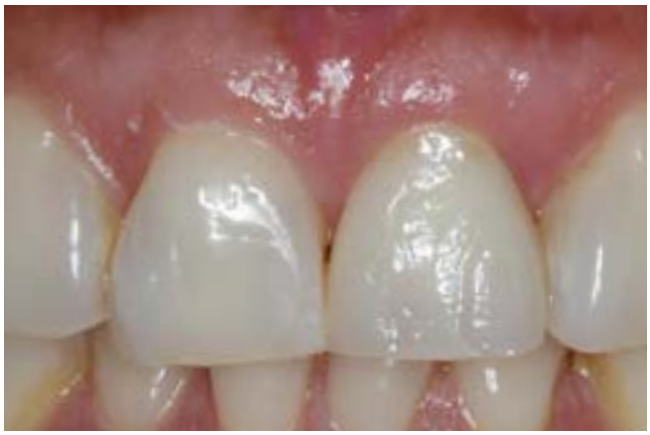
16 I 2 weeks later. You can see the perfect soft tissue healing.

13 mm with the 2-mm pilot drill. Once the pilot bore is in place, it is not difficult to extend the implant site to a diameter of 4.5 mm [7].

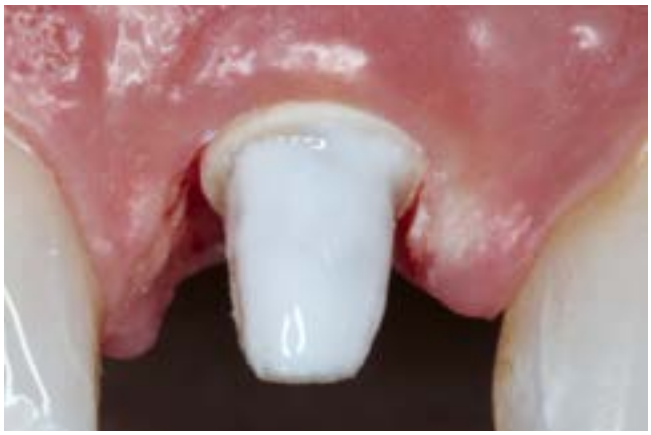
The implant bed was checked with an appropriate instrument and disinfected with ozone. The implant can be placed either manually with a ratchet or with a suitable drill. In this case, primary stability was achieved at a torque of 40 Nm (Fig. 9).

A control radiograph was taken (Fig. 10), and the fibreglass post was prepared – at chairside but extraorally. To facilitate the preparation, a dummy implant was used to hold it (Fig. 11). After the try-in, the fibreglass post was cemented with RelyX Unicem.

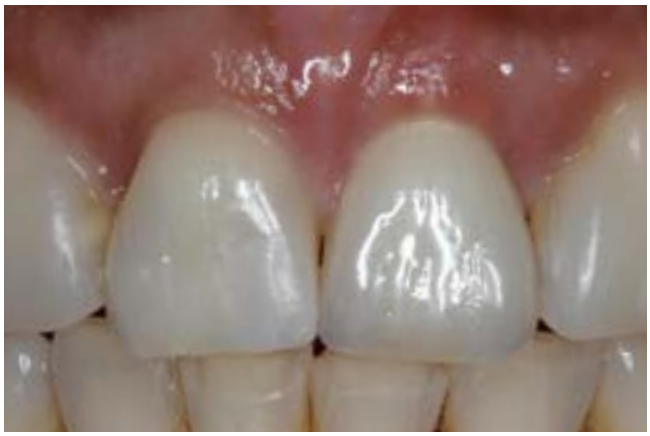
Finally, the provisional crown was fabricated at chairside using the silicone key [8]. The fibreglass post was isolated with vaseline oil and the crown was cemented with temporary cement to be retrievable later (Fig. 12). Control radiographs showed that the bone was well preserved (Fig. 13) and that the temporary crown could be delivered (Fig. 14).



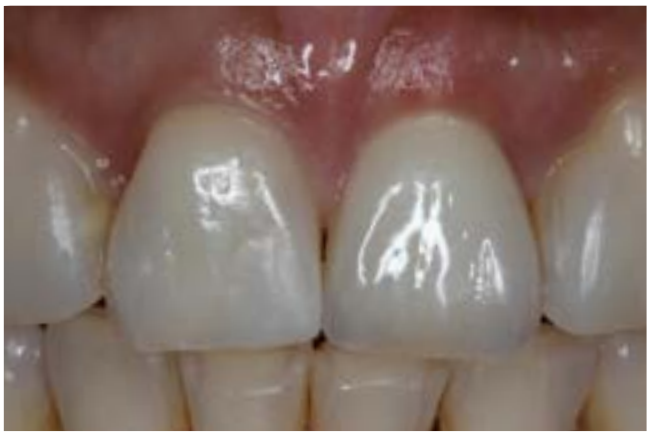
17 I Lab fabricated provisional in place.



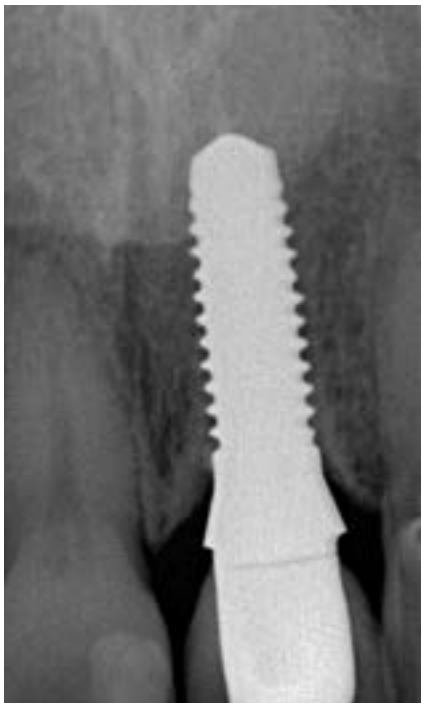
18 I Prepared stump with white liquid composite



19 I Final crown.



20 I Final result.



21 I X-ray five years after finalization.

The crown had no contact with its antagonists in either static or dynamic occlusion. At one day (Fig. 15) and at two weeks (Fig. 16), the soft tissue was healing nicely.

Prosthetic reconstruction

After six weeks, the dental laboratory provided a second provisional crown (Fig. 17).

We had some problems with the shade of the crown due to the transparency of the fibreglass post. Following deliberations with the dental technician, we concealed the die with white composite resin (Fig. 18).

After four months of healing, the case was finalized by delivering the definitive crown (Figs. 19 and 20). The soft tissue had remained perfectly healthy [9, 10].

At the five-year follow-up, the marginal bone levels presented fully maintained (Fig. 21).

Conclusion:

The Patent implant system is very conducive to immediate placement and restoration. The risk of implant loss is certainly higher than with a two-stage procedure, but after weighing up all the advantages and disadvantages, patient comfort and above all the preservation of the surrounding structures was deemed more important.

The references are available at www.teamwork-media.de/literatur

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Impact of the current crisis on the dental industry

Will the dental industry be affected?

The corona pandemic seriously affects the dental industry. We have asked several renowned companies in the field of implantology about their experience during the crisis and how they see the future orientation of the dental industry and of dentists.

Dentsply Sirona

The COVID-19 pandemic is boosting digitalization in all areas. We continue to offer educational solutions by leveraging technology to provide virtual education, training, and technical support whenever possible. The clinical education webinars offered by Dentsply Sirona are seeing strong attendance, reaching about 130,000 people during the 8-week period this spring. Enrollment in our on-demand courses is also growing. In Germany, we offer a fully digital 1:1 product demonstration system. Going forward, we will focus our communication channels on new digital solutions.

Don Casey, CEO

EthOss Grow Stronger_

The coronavirus pandemic has obviously affected us through a reduction in demand as dental surgeries have been forced to close. We took the decision not to furlough any of our staff and use this as an opportunity to grow –to invest in our Education and Marketing programmes which has been very productive, so whilst sales have fallen we have seen massive increases in attendees on our online training and a rise in clinical interest in the material. We are also fortunate to be selling EthOss globally, so as different markets have opened up our turnover has quickly picked up again.

Paul Harrison, Managing Director, EthOss Regeneration Ltd

mectron medical technology

Dental community is facing extraordinary times, and it has responded by adapting and implementing new strategies. The related restrictions on travel and events, made maintaining customer relations almost impossible, E-learning has become an effective tool to stay in contact with the customers and reach out to new customers. With the webinars presented on our new platform education.mectron.com, we managed to provide dental professionals with a comprehensive overview of the advantages of Mectron products in daily practice. Beside of it, Mectron R&D is nowadays very focused on the development of new products and technologies which will support Mectron customers in facing one of the most terrible crises ever.

Andre Reinhold, Marketing Manager

mis®

The COVID-19 crisis has emphasized the need for fast and ongoing responses to the developing situation. During this time it has been critical to maintain open communication channels with staff and customers. Even if there was nothing to update about, we needed to stay in touch with everyone that was at home. As a company, we have realized that there are merits to having a more flexible work environment. I believe that doctors will appreciate products that put emphasize on sterility and single-use to help them reduce the exposure to germs/viruses such as COVID-19.

Shlomi Magal, General Manager

Osstem Implant considers the dynamic developments regarding the coronavirus outbreak as a chance for reorientation and facilitation, especially of our value in social sustainability and of our vision towards digital transformation. We are actively providing solutions to best support dental professionals and to accellerate the consolidation of the European dental market. As a trusted partner for professional training, we are offering via our newly launched digital education platform a comprehensive education program "Osstem OnDemand". Furthermore, we are holding "Osstem Meeting Online", a global virtual live conference combined with a solidary COVID-19 fundraising campaign. At the front end of the digital innovations, we will keep navigating and enhancing our solutions, in order to help the global dental industry to recover from the COVID-19 situation.

Jun Park, Managing Director of European Headquarter

We initially experienced little or no impact, but this changed quickly in March. We acted fast to adapt to this new reality, ensuring that no customer would experience any delays or reduced service level. As the lockdowns started, we experienced a big uptake in the interest for our online educational content. This will remain a core focus going forward. We want to ensure that relevant and personally adapted content is easily available and support by being available and easily accessible online and worldwide for any needs concerning the Osstell technology.

Osstell CEO, Jonas Ehinger

The coronavirus crisis has undoubtedly implied a strong adaptation of the TBR teams. Thus, they have shown a strong reactivity and a great cohesion which allowed us to maintain our activity and to remain attentive to our users. Our strategy was already oriented towards an offer of products and services available online. We therefore took advantage of this period of containment to accelerate our current projects by promoting the creation of "dematerialized" media.

A whole range of products is now available online: downloadable supports, product videos & training, and new online ordering tools (implants, prosthetic parts and instruments). TBR has also decided to support practitioners and labs by lauching the #GetReadyWithTBR action. We selected and propose a range of anticovid products dedicated to the protection and safety of dental practice. This range is, of course, available through our website!

Luc Trevisan, Chief Strategy Officer

A key focus for the Straumann Group has been on preventing the spread of the disease, while ensuring the availability of all services and solutions wherever possible. Our entire sales and customer services teams have remained reachable throughout the pandemic and we are processing orders on time. Another priority is on offering even better services to help customers and their patients adapt to the new norms that have resulted from the corona virus. Many dental professionals have used the shut-down to expand their knowledge – for example by taking advantage of our new #TogetherStrong initiative. This offers a multitude of web-based learning opportunities in multiple formats on clinical topics and also on the practicalities of running dental practices during and after the pandemic – with the aim of 'bouncing back' as quickly as possible.

Guillaume Daniellot, CEO, Straumann Group

Daniela Felipucci on online education during practice downtime

#TimeForEducation: Using digital tools to bounce back

The COVID-19 situation has been a huge challenge to the dental world. But the last months have also given dentists the opportunity to reassess protocols and use practice downtime to update themselves on what is happening in the field of implantology. As a "new normal" is ushered in, the focus will be on bouncing back from the pandemic and using innovations within the immediate implant space to help clear procedural backlogs. Daniela Felipucci, Vice President, Head of Global Medical Education at Straumann speaks about the current environment and some of the new tools that have proliferated lately.

How have dentistry professionals been able to use the recent weeks of closure and reduced business to reeducate and update themselves on the latest developments within their field?

Many of our customers had to close their practices and only open for essential procedures. These unprecedented times could be reinvested into reading, sharing, and growing, to make the best out of the situation. Moments of crisis are an opportunity to improve and train the teams and connect the people, to come up with new ideas and make structural changes within the practice organization. Our business will change after this pandemic and we need to be prepared for what is coming next.

How has Straumann been able to keep customers "clinically entertained" while their clinics were closed?

Straumann has been working on the #TogetherStrong campaign. This involves providing everything required to aid our customers in their recovery plans once the pandemic is over. #TimeForEducation stands for state-of-the-art education and insights that have been developed by leading clinicians and researchers from all around the world. Visitors have been able to access live and recorded webinars, read up on COVID-19 implications for dentistry and gather clinical expertise through

Daniela Felipucci

interviews with leading experts. We also opened the Straumann Smart platform, a complete curriculum for starters in implantology, for a 2-month free trial during spring 2020. This features more than one hundred clinical contents including practice and business management, also offering the latest scientific evidence in implantology.

How important do you believe that digital communication strategies will be going forward and what can we expect to see from Straumann in the months ahead?

During the last months, we have mainly focused on our #TimeForEducation pillar, releasing a lot of clinical topics for our customers. We also kept the primary focus shifted to the "Bounce Back" pillar. Here we organized material to support our clinicians to prepare themselves for coming back to the practice, and for communicating with their staff and patients to bring their confidence back for dental treatments. We also want to prepare our clinicians to use our efficient and safe solutions, especially by enabling them to adopt our protocols for reducing chair time and number of appointments. When protection protocols are combined it is possible to significantly reduce the risk of contamination. Here immediacy and digital workflows, like "Smile in a Box," play an important role. We will also further develop our digital communication channels, including our Straumann Group Campus Live and youTooth platforms, which is brimming with hot news from across the dentistry world.

Check all our education opportunities at www.straumann.com/tfe and business insights and recovery plans on www.straumann.com/togetherstrong.

Osstell will host for the 12th time the ISQ Symposium at the digital EAO Congress

1000+ studies, 1 evidence-based company

Osstell has worked exclusively and systematically with an evidence-based approach since its inception more than 20 years ago, constantly reviewing research to share knowledge and improve its proprietary technology to best serve both clinicians and patients. Today, the company is happy to announce that there are over 1070 studies supporting Osstell's proprietary technology and focuses more than ever on education.

Extensive searchable scientific database

Osstell has collected all of this important work in a convenient way and made it accessible in its regularly updated searchable database, accessible on www.osstell.com/scientific-database, where all scientific research relating to Osstell and Osstell ISQ is compiled, now including over 1070 scientific, peer-reviewed studies and publications.

It is easily searchable by topic, such as implant surface treatment, sinus lifts and augmentation, or patient risk factors like diabetes, medication, smokers, among many other topics.

Evidence-based technology for an evidence-based practice

Osstell ISQ enables clinicians to evaluate the implant through a non-invasive way to measure implant stability and assess osseointegration. It gives the patient and the referring clinician a basis of scientific information that tells them that the placed implant is stable in the bone, through an objective measurement, the Osstell ISQ value, based on more than 1070 studies.

Helping clinicians provide patients with optimal time to teeth is the company's top priority. Osstell has therefore developed OsstellConnect, the online service enabling clinicians to compile, analyze and make well-informed and objective decisions based on their Osstell ISQ readings, utilizing evidence-based data from thousands of fellow ISQ users worldwide.

Annual Osstell ISQ Symposium

As part of its educational efforts, well rooted in science and evidence-based practice, Osstell has hosted the annual Osstell ISQ Symposium at the digital EAO Congress over the past 12 years, featuring world - renowned speakers.

This year's edition will feature *Professor Daniel Buser* (Switzerland), *Dr Raquel Zita Gomes* (Portugal), *Dr Nicole Winitsky* (Sweden) and moderator *Dr Marcus Dagnelid* (Sweden), who will discuss "How to determine optimal time to teeth for each patient: experience sharing from real cases".

These speakers represent more than 40 years of combined experience with Osstell and the ISQ scale in clinical practice and will present and discuss the use of Osstell ISQ diagnostics in various treatment indications, illustrated by cases and clinical evidence. We invite everyone to join the 12th Osstell ISQ Symposium, on Thursday 8 October 2020, at the digital EAO Congress.

Online education

As many countries went into lockdowns and clinics were closed, Osstell quickly made available free webinars to enable clinicians to earn CE credits during down time and gain insights into several aspects of implant dentistry. *Dr Barry P. Levin DMD* (USA)'s webinar, entitled "Post-extraction implants, ITV & ISQ – How To Value Each Measurement And When To Restore Implants In Immediate And Grafted Sites", is an excellent opportunity to get a deeper understanding of implant stability in immediate and grafted sites.

Dr Paul S. Rosen, DMD (USA) reviews in an insightful webinar the need for resonance frequency analysis with dental implants since both treatment protocols and patient pattern of healing fails to follow preconceived norms. The learning outcomes for the participants are to list the benefits with immediate implant placement and provisionalization in patients who are 70 years of age and older, discuss what are the dip and bungee dip in dental implant healing and identify those situations where using resonance frequency analysis could assist in the earlier restoration of dental implants.

More information and registration
www.osstell.com/webinar

The first digital IRED Lugano Symposium

On 9 May 2020, the IRED Lugano Symposium took place as an online event – a premiere in Swiss dentistry and a great success. In an interdisciplinary discussion, international experts dealt with the topic "Safe navigation in the Bermuda Triangle: Periodontology – Implantology – Prosthetics"..

The Institute for Research and Education in Dental Medicine Lugano (IRED), an independent non-profit organization with a charitable purpose, aims to support scientific research projects and promote the dissemination of new knowledge in dentistry. As a link between science and practice and in collaboration with Swiss universities, it provides expanded access to clinical research and teaching. The IRED Lugano Symposium was organized in collaboration with SSO Ticino. In accordance with the congress motto "Safe navigation in the Bermuda Triangle of Periodontics, Implantology and Prosthetics", a practice-relevant overview of the currently known relationships between periodontics, implantology and prosthetics was presented.

The scientific directors *Professor Christoph H. F. Hämmerle* (University of Zurich), *Professor Giovanni Salvi* (University of Bern) and *Professor Irena Sailer* (University of Geneva) have put together a comprehensive program. Together with nine other internationally renowned speakers, they presented the current state of knowledge and research in terms of its practical relevance. The symposium, which was highly interesting from the technical point of view, naturally offered sufficient space for exciting online discussions.

More information
www.ired.swiss

Photo: Eva Bocek - stock.adobe.com

World-class for the third time

The dental clinics of the University of Bern (ZMK Bern) are world-class. The QS World University Ranking has listed the Bern dental clinics among the global Top Ten in their field. The dental clinics are currently the only Swiss institution in the Top Ten.

In the Subject Ranking of the QS World University Ranking, which evaluates departments in 48 subject areas at more than 1,000 universities, ZMK Bern have once again performed very well: for the third year in a row, they are now listed among the top ten dental clinics and centers worldwide.

Bern ranks second of all dental clinics worldwide in the H-index, which measures the productivity and published work of researchers in the ranking.

"These results show that we are very strong in research", says *Prof Anton Sculean*, Managing Director of ZMK Berne. "Our researchers publish successfully in various fields, and our work is frequently cited by other researchers." There have been various factors promoting this positive development in recent years, explains *Sculean*: "The close and synergistic cooperation between the individual clinics, the consistent promotion of young academics and extensive international networking have helped us achieve this ranking."

"That our ranking is excellent yet again is proof that earlier rankings were by no means a random result", says *Christian Leumann*, Rector of the University of Bern. "They are an acknowledgement of our excellent research efforts, some of which have been going on for several decades, for example in oral implantology or periodontology."

Dentistry at the University of Bern is distinguished not only by its publication activities but also by its translational research, or in other words, the collaboration of researchers with clinical specialists. ZMK Bern can look back on more than 40 years of successful cooperation with leading Swiss med-tech companies, including Straumann (Basel and Bernese Jura), BienAir (Biel/Bienne, Bern), Geistlich (Wolhusen and Root, Lucerne) and Thommen Medical (Grenchen, Solothurn). "This makes the ZMK Bern a prominent component of the academic medical infrastructure at Bern," says *Sculean*.

The International Team for Implantology (ITI) celebrates its 40th birthday

Four decades of innovation, education and growth in the service of implant dentistry and the global dental community.

In May 2020, the International Team for Implantology has launched celebratory activities around its anniversary. Founded in 1980 by 12 implant dentistry pioneers led by *Professor André Schroeder* and *Dr h.c. Fritz Straumann*, the ITI was established to promote the emerging field of implant dentistry through independent research and the dissemination of knowledge. Since then, the ITI has developed into the largest international academic organization in this field.

Originally planned to coincide with the ITI World Symposium 2020 in Singapore (postponed to 2021 due to the corona virus), the celebrations have now been shifted to an online venue: www.40yearsITI.org. This dedicated microsite takes visitors on a journey through the organization's past up to the present day using various interactive media.
The ITI community is invited to contribute and participate in the website by uploading videos or adding content to the social wall using the hashtag #40yearsITI on Instagram or Twitter.

Key moments from the ITI's history are presented in an accessible and engaging format using a visual timeline, and background videos delivered by key players provide personal insights into different aspects of the organization. ■

More information
www.40yearsITI.org

8,500 participants deal with regeneration

On 20 May, the Online Congress Geistlich + YOU took place on the virtual stage with overwhelming popularity. The international event covered the entire spectrum of extraordinary situations and focused in particular on the corona topic in dentistry.

The 8,500 participants in the online congress with 16 international speakers from 13 countries dealt with topics such as "The preservation of periodontally compromised teeth in dental care following Covid19" or addressed the question: "How do I react to the corona pandemic in the dental practice?" In addition, numerous speakers addressed the handling of various extraordinary situations in everyday dental practice. Geistlich *COO Matthias Dunkel* takes stock: "Initial feedback shows that the congress participants greatly appreciated the relevance of the topics, the competence of the speakers and the easily accessible educational offerings in these challenging times".

Established and young voices in dentistry

The regeneration specialist Geistlich Pharma was in the fortunate position of being able to obtain the unbureaucratic promises of twelve sought-after dentists within a short time. In order to win not only these established names but also ambitious young talents for an appearance, Geistlich organised the competition for "Become a Speaker". The registered congress participants were invited to judge the 80 video contributions received based on their form and content. Four speakers from Brazil, Lebanon, Turkey and India emerged as winners of the voting. Their presentations rounded off the "Geistlich + YOU" program. After this first appearance on the international congress stage, Geistlich Pharma wishes the four winners all the best and every success for their future engagements. *Matthias Dunkel*: "We are honoured to have offered four talents a springboard. We are even more pleased to continue to accompany them". ■

Interview with Dr Tali Chackartchi, Tel Aviv, Israel about the current situation in the dental offices

Be creative, keep flexible!

Is implantology challenged by the corona situation? *Dr Alina Ion* from EDI Journal was inspired talking with *Dr Tali Chackartchi*, an international speaker on implantology, researcher in the field of combined ortho-perio treatment and digital and guided implantology and owner of a private clinic in Tel Aviv, Israel, about the effects of the corona crisis.

Dr Tali Chackartchi

It seems the dental field was strongly affected by the corona crisis. How does it influence your work as a dentist?

There's no doubt the dental office is a high-risk environment considering the corona threat. But, in dental offices, the infection control regulations are very strict regardless of the COVID-19 threat, especially when it comes to implant surgery. All we had to do was to implement the same regulations to all other procedures. The characteristics of the disease are still not fully understood. So in order to keep a safe environment, we made some adjustments, slightly changing the protocol for the patient's intake in office, monitoring possible risk factors and reducing paper use. We changed the flow in the waiting room to minimize the number of people present, not allowing escorts staying in the waiting room. However, the adjusted protocol of patient intake and the need to minimize presence in the waiting room reduce effective treatment time. Due to global shortage in disposables and PPE, the costs were elevated by our suppliers, so we constantly monitor our financial administration.

Treatment of patients in times of corona: how does it work? How is the patient and the dental staff protected in the practice?

We are providing a lot of protection, to be safe and to feel safe. The dental staff is wearing hair covers, surgical caps, NK95 mask, shoe covers, a full gown and a second disposable gown replaced between every patient, protective glasses when just speaking with the patient and plastic face shields during treatment. Basically, we look like astronauts! At the front desk, we have a transparent shield to separate the customers from the secretaries. We try to maximize the use of electronic ways of communication, not compromising the personal touch.

You are a Key of Opinion Leader and a renowned international speaker. How do you share your experiences with your colleagues nowadays?

The communication is currently just online. Due to the corona crisis, many international events were postponed or cancelled. Online webinars and zoom lectures were a fast and effective substitute. Personally, I miss meeting colleagues, brainstorming and creating new collaborations which are always an added value when traveling to meetings. As a lecturer, I miss the eye-to-eye contact, the feedback from listeners which is very different when conducting an online lecture. The changing reality required fast adjustments, adaptation of online platforms, becoming more digital. The online communications overcome borders of time and distance, so now small groups of international discussions are more frequent and comprehensive.

How do you see the future of implantology after the pandemic? Will it change?

For now, I do not see any marked changes in implantology. I am a strong advocate for using digital platforms in implant surgery. Our world is already deeply integrating digital means, especially augmented reality and artificial intelligence. Dentistry is a little bit behind but I'm confident the new reality will speed up the adaptation of these technology also in the field of implant dentistry.

Thank you for your time and for the interview!

AIO

Navigating the COVID-19 crisis in implant dentistry

Attitude towards implantology matters!

As we steer through the consequences of the coronavirus pandemic, there is a great deal to cope with; physically, mentally, professionally, and financially. There is no doubt that this is a tough situation. It is now time to think about what the dental industry can learn from this. We spoke with Dr Pooja Nair, Global Scientific Communications Manager at Straumann about the current challenges in the dental industry.

Dr Pooja Nair

Millions of cases of coronavirus disease (COVID-19) have already been reported globally. This crisis had challenged the health systems all over the world.

However, many countries are now slowly re-opening their dental offices. It is obvious that dentists and dental hygienists are at high risk of infection due to their direct exposure to saliva, blood, aerosol and droplet producing dental procedures [1, 2]. SARS-CoV-2 is mainly transmitted through inhalation of aerosol/droplets from infected individuals or direct contact with mucous membranes, oral fluids, and contaminated instruments and surfaces [1, 2].

Professor Bian based his recommendations on his experience of treating dental patients in China during the pandemic [1]. Along with the relevant guidelines and new research findings, dentists and their teams must carry out an individual risk assessment for their practice [1].

The next significant part of the effort must be to adapt to the situation by adopting the recommendations from the authorities and resume vigilant patient care and realize what practice changes will be needed to provide that care. There is a need to prepare for a new "future" in dentistry.

The president of DGI, *Professor Grötz* expressed that there is a paradigm shift in implant treatment from the initial days, to the "personalized implantology" of the present day [3].

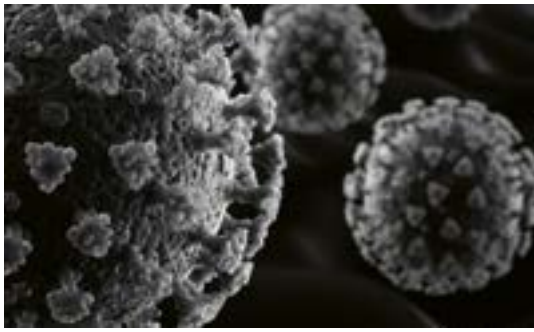
Patients might feel scared to visit the dentists due to the potential risk of contagion. However, dentists and dental hygienists have been trained to do infection control daily even before a pandemic, and this process is taken very seriously. If all the recommendations are followed, the dental practice is a comparatively safe place. If the procedures are adapted overall, and on an individual basis, dental care can be resumed if it complies to the recommendations from your local authorities. Like *Professor Al-Nawas* expressed, the mental attitude should be changed from the perception "I am inserting an implant" to the conviction "I am carrying out functional masticatory rehabilitation" [4].

Straumann group has been supporting the dentists by obtaining information from all the trusted resources and believe that we can overcome this crisis together. Follow #togetherstrong for more information and bounce-back strategies.

Professor Frankenberger, the President of DGZMK voiced that it is important for the patients to prepare themselves immunologically against COVID-19 in the best possible way. "The intraoral status is a fundamental part of that and should not be neglected"[5].

In this outlook, all the dentists should keep in mind the medical aspect of the profession and continue along the path of individualized and personalized medicine in the field of dentistry and implantology. Dentists are an essential cornerstone in maintaining the good medical condition of our patients. There are currently no scientific reasons to refrain from implant treatments, provided the patient does not belong to a risk group or shows the associated symptoms. ■

The references are available at www.teamwork-media.de/literatur



A new era and a new beginning in dentistry

Uncertainty principle

Dr Eduardo Anitua has a private practice in Vitoria, Spain, where he focuses his activity on implantology and oral rehabilitation. He is also the founder and scientific director of the BTI Biotechnology Institute. We asked Dr Anitua on his opinion about the current situation due to the corona pandemic.

In quantum mechanics, the uncertainty principle (also known as Heisenberg`s uncertainty principle), implies that in general it is not possible to predict the value of a quantity with arbitrary certainty, even if all initial conditions are specified. This, in physics, means that the more precisely the position of some particle is determined, the less precisely its momentum can be predicted, and therefore its mass and velocity.

This principle can be extrapolated to the position of dentistry at this time. We find ourselves in a situation of total uncertainty where everything that we took for granted in our profession and in our day-to-day life is changing. This change is happening at such a dizzying rate that it is difficult for us to determine our position. The speed of the events that have been happening in the last days cause us confusion and the feeling of not knowing where we are.

Closeness to the patient is inherent to the course of our profession, both physically (because of our work area) and personally. The dentist-patient relationship is based on trust, which makes the personal involvement and empathy with our patients the fundamental pillar where our relationship is sustained.

The current situation requires us to distance ourselves, as this is the way to curb this pandemic and thus to protect our essential heritage which is our health and that of the people around us. But this necessary distance prevents us from treating our patients with the usual closeness. The means of protection are to guarantee our health and the health of our patients and by extension that of all the people around us, but at the same time they are a physical, and to some extent psychological barrier that reminds us of the situation in which we live every second. We must learn to work in a different way, with more protection, controlling our physical and immunological defenses, we must also improve our habits, control our immunity and as a final step, to obtain a physical and mental balance, so necessary at this time.

This implies a series of changes that will bring us closer to control these uncertainties and distancing our fears away. We must be more energetic, and this strength has to come from within, with a scientific basis and emotional control. If we overcome this virus with perseverance, work, and science, it will make us stronger on the path to be followed. From this new perspective, we will be at the starting point of a new and different future, keeping uncertainties away, based on the certainties that science brings us.

At this time, when the most honest and, in many cases, supportive and heroic behavior is emerging in our society, we must necessarily face up to our responsibility. Our clinic should be transformed into a more “aseptic” and perhaps less welcoming place, as it has already been so far. Our patients will have to distance themselves physically, and we will have to show our affection and closeness to them in a different way. Our agenda will be conditioned by the fact that patients do not meet in the same space and time. Our uniform will become something that we surgeons are already used to, although perhaps not so much the patients, but they will know that we are looking after their health.

It is a new era, a new beginning, and although it is being strange, we must face it with conviction and by removing the uncertainties. We have protocols and information, and I encourage you all to incorporate them in order to show how to live in a safer (healthier) way, but now, what we need the most is certainty, and that is why we will fight tirelessly day after day.

Come on, we can handle this, there is no doubt about it. Together we will overcome it, by separating and distancing ourselves. It is a nice contradiction, but architects already taught us that by moving the pillars away, the structures are more solid.

MIS celebrates 25 years in dental implant technologies

Reliable, experienced and succesful

MIS has long stood worldwide for quality and reliability in implantology. In 1995, with the help of a single machine, the small, family-owned MIS Implants Technologies produced their first implant. Just a few months later, the company successfully completed their first order for 100 implants and was on its way to becoming one of the top players in the field. During the next five years, MIS had gained much experience, as well as new customers in Israel, Turkey, Spain and Portugal, and set their sights on a global market.

The young company focused their efforts on a few strategic locations in Europe, where they opened their own distribution channel, entirely devoted to that market. In the course of the next ten years, the company expanded both globally and locally with more personnel, and dozens of state-of-the-art machines for production, and opening distribution channels in many new countries and regions.

With this expansion and growth, the company moved into a much bigger location. Despite significant changes to the team, the culture stayed the same. The company wanted to preserve the same family-run business feel, and looked for people who felt just as passionate about the products, partners and customers. At its core, this passion included a mission of genuinely making things simple for their customers and their patients. Within these two and a half decades, the MIS R&D team has continuously searched for innovation that would keep them on the right path towards the goal to creating simple products that would make a real difference. Over the years, the search has led them to conical connection implants and digital dentistry solutions, among many others. The SEVEN implant, which will soon celebrate 15 years since being released to market, is an excellent example of MIS simplicity, and was the first to include a unique final drill with each implant, with the goal of making the procedure as simple as possible for the dentist.

Alongside exploring product innovation, the company also focused its efforts on innovating their business model, and made a move towards a subsidiary structure, with localized regional centers that would provide distribution and support points of focus around the world. This has strengthened the company's relationship with its global customers and partners, and has led to many new and exciting collaborations and projects.

Some of these joint endeavors include the many educational programs developed by the MIS Academy, including the MIS Expert Experience Team, or Meet, courses by various leading experts throughout the world as well as at MIS Headquarters which are offered on a regular basis, and the many online webinars, lectures, and research studies available in the company's online library.

Recently, with the worldwide spread of the coronavirus and the effect of social distancing, the MIS Academy's online resources have proven indispensable, and have provided a rich collection of valuable information for the many who have taken advantage of it, enjoying lectures, demonstrations and educational videos that helped make the time spent away from patients and clinics worthwhile. In a personal message to all of the company's customers and partners, MIS General Manager Shlomi Magal, expressed that although "we may not be able to meet in person, or travel to see our partners in their boardrooms and offices, we are doing everything we can to keep you all close. Separate, but together". Despite the fact that the much awaited global conference in Marrakech, scheduled for this May has been postponed, MIS continues to help customers and partners keep learning in the many creative alternative ways the company offers, and will surely continue to do so in the next twenty five years to come.

Osstem Meeting Online 2020

Driving digital transition towards dental solidarity worldwide

On 21 April, having reached over 95,000 total live cumulative views from over 60 countries within 2.5 hours, the very first virtual conference of Osstem Implant has got off to a successful beginning. On 27 June, with its grand finale combined with a socially sustainable fundraising campaign, "Osstem Meeting online" has called the dental professionals around the globe successfully towards the global solidarity.

Driving a digital transition of dental conference

The world is holding its breath in times of corona. The COVID-19 crisis is having a profound impact on social life and posing acute economic challenges for many industries, and the dental industry is not the exception. Many of the events, conferences and conventions in the field are being cancelled or postponed. Osstem Implant has also announced to postpone its 13th annual global symposium "Osstem World Meeting 2020" in Istanbul, Turkey to 2021.

At the same time, however, adopting new technical solutions of digitalization and high-tech forces, Osstem Implant is taking a crucial leap towards the new era of implantology. Since 2018, Osstem Implant has already been providing dental professionals opportunities to participate in its annual global symposium, "Osstem World Meeting" by offering live-streaming services. Based on its years of experiences in digital transformation, Osstem Implant invited dental professionals around the world to a total virtual global conference experience this year. "Osstem Meeting Online" continued until 27 June 2020, and the entire program including 9 Lectures and 5 Live-Surgeries has come alive via its own interactive live-streaming platform. "Hoping that the global situation will get better, we provide an ultimate virtual live-conference experience this year, bringing dental professionals of the world closer to the innovative ways of living together", says the directing manager of Osstem Implant in Germany.

Knowledge transfer through real-time interactions

Whether entry-level keen to learn or experienced dental professionals seeking a new challenge, the attendees could find relevant standard and highly advanced live surgeries and comprehensive seminars by world-renowned speakers. Allowing the maximum knowledge transfer through real-time interaction between speakers and attendees, the 5-days sessions have delivered participants first-class implant treatment educational contents successfully. All the participants of the conference had the opportunity to raise real-time questions and discuss further with speakers and other participants after the session.

Towards the solidarity of dental implantology

On 27 June 2020, the conference celebrated its grand finale with the Live-surgery of *Professor Marco Tallarico* from Italy. It was combined with a socially sustainable fundraising campaign where the speaker, the event organizer Osstem Implant and all the attendees can actively participate and engage themselves. The entire value of the fund will be donated to an organization in Italy to support for overcoming the COVID-19 crisis.

E-learning as an effective tool to stay up to date

Mectron introduces its own continuing education platform

Mectron has recently launched a web-based education platform, which will provide dental professionals access to clinically relevant presentations free of charge.

After quick and easy registration, dental professionals will be able to attend live webinars and watch recorded webinars on-demand, and these will cover a wide range of topics relevant to the oral healthcare professional community, including implant treatment and prophylaxis. Eight live webinars in English, French, German, Italian and Portuguese are already planned and nine on demand webinars are available on the platform. More webinars will be scheduled in the second half of this year.

Due to the recent COVID-19 outbreak and the related restrictions on travel and events, which have rendered maintaining customer relations almost impossible, E-learning has become an effective tool to stay in contact with the customers and reach out to new customers. The dental community is facing extraordinary times, and it has responded by adapting and implementing new strategies. Through the webinars, dental professionals are provided with a comprehensive overview of the advantages of Mectron products in daily practice.

More information and registration
https://education.mectron.com/

Osstem Implant brings solutions for abutment placement

Transfer Abutment, a simple prosthetic solution

Abutment placement can be challenging, due to the risk of several postoperative complications such as screw loosening, screw and abutment fractures. One of the solutions to prevent these complications is to configure an accurate and passive fit on the mating implants, which – as well known – is hard to achieve. Osstem Implant's Transfer Abutment offers dental professionals opportunities to overcome these challenges by providing optimal and distinct solutions.

A wide range of specifications

Osstem Implant's Transfer Abutment is a simple prosthetic solution equipped with a wide range of specifications. It has 196 different specifications in total, which vary in terms of diameters, gingiva heights and bone heights. According to the needs of the case, the users can choose the right specification of abutment readily at their convenience, while effectively securing the accurate and passive fit of the abutment. Without the additional process of customizing abutments, Transfer Abutment allows practitioners to save time and costs.

Accurate impression both on implant and abutment level

Depending on the preference, the users can take impressions not only on the level of the mating implant, but also on the level of abutment. In addition, Osstem Implant's Transfer Abutment system is equipped with components which increase the accuracy of impressions, such as Impression Coping, Burn-out Cylinder and Lab Analog.

EbonyGold Screw as a solution for sink down

Transfer Abutment comes with EbonyGold Screw, of which its Tungsten Carbide (WC) coating helps to reduce the risk of post failures such as screw loosening or fractures. Through the multi-layered structures of Tungsten Carbide and Carbon applied to its titanium screw, EbonyGold Screw enhances long-lasting durability and minimizes the coefficient of friction (COF). Compared to other normal titanium screws that come without any coating, EbonyGold Screw decreases COF rate up to 60%, and thereby, ensures better preload angle and rotation angles. By successfully securing long-term stability, EbonyGold Screw prevents the abutment sinking effectively, which is the fundamental defect of the internal connection.

Taking both analog and digital as possible options

To meet the needs of digital solutions, Osstem Implant has also enabled the digital workflow of Transfer Abutment. It offers CAD libraries applicable for all the 196 specifications of abutment in the CAD software. It allows users to calculate and foresee beforehand, which specification would be the best fit for the placed implant. Users can also design crowns of all materials in a digital format without applying any additional components, since Transfer Abutment functions as a scan body during the scanning process.

More information
www.osstem.de

Anteriores Package

by Dr Jan Hajtó

Volume 1: Theory, practice & design rules

In his bestseller, Dr Jan Hajtó examines various theoretical aspects of beauty, teeth and their relationship to the smiling face. This excellent book explores the area of conflict between existing design rules and the natural individual wealth of forms.

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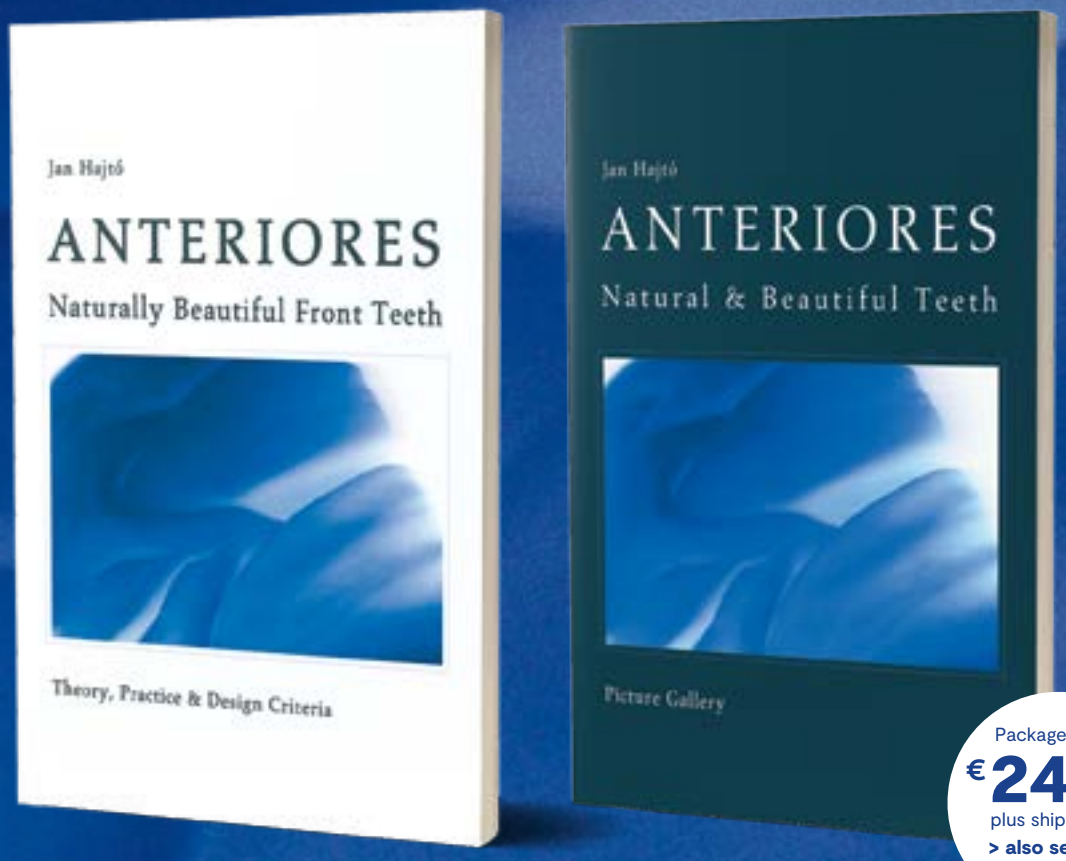

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Dentsply Sirona Astra Tech Implant System

Product
Astra Tech Implant System

Indication
Implant dentistry

Distribution
Dentsply Sirona
Aminogatan 1
431 53 Mölndal
Sweden
dentsplysirona.com/implants

The Astra Tech Implant EV – which is now available in the European market – has a revised implant design change that comes with significant advantages. With a deeper implant thread design apically, it is easier to reach preferred primary stability and the handling experience is enhanced for easy installation.

The Astra Tech Implant System provides surgical and prosthetic flexibility, maintains marginal bone levels, and delivers reliable and predictable clinical results as well as natural esthetics in the short and long term.

The Astra Tech Implant EV has a deeper implant thread design apically, making it easier to reach preferred primary stability and enhancing the handling experience for easy installation.

Osstem Implant A-Oss and Q-Oss+

Product
Bovine Xenograft & Alloplastic Bone Graft Material

Indication
Bone augmentation

Distribution
DEUTSCHE OSSTEM GmbH,
Mergenthalerallee 35–37,
65760 Eschborn, Germany

The ideal conditions of Xenograft include excellent volume maintenance, hydrophilicity, safety and reasonable price. A-Oss, which has been used for a wide range of clinical cases worldwide after its product launch in 2013, will also be ready for European users soon after an acquisition of CE approval this year.

A-Oss builds three-dimensional interconnected microporous structures highly similar to human bone, which ensures an excellent osteoconduction. A-Oss has a rough surface of the heterogeneous bone, which allows the fibrin network to be attached to the bone surface fast and effectively, and therefore contributes to the stable formation and proliferation of osteogenic cells.

Through the optimization of its volume maintenance capability, A-Oss can be used in an area where the sufficient bone volume has to be attained, such as esthetic zones. If the user aims at the long-term bone reconstruction, it can also be used as a supplementary bone graft material and can be combined with other bone graft materials such as Q-Oss+. Q-Oss+ is an alloplastic bone graft material with interconnected pore structures highly similar to human bones. Due to its cost efficiency and safety assurance, Q-Oss+ has been often used in order to fill the large bone deficiency, for example in the maxillary sinus area. With its high β-TCP ratio of 80%, Q-Oss+ achieves excellent osteoconductivity, which makes it a reliable bone graft material product in the current European dental market.

New edition in English

CAD/CAM in digital dentistry

by Josef Schweiger and Annett Kieschnick

The new publication “CAD/CAM in digital dentistry” in English closes an up to this point existing gapin the dental literature.

The tremendous speed of development in digital dentistry requires profound knowledge in the various areas of the digital workflow.

This book is a thread running from data acquisition to data processing through to digital production techniques. The target groups are dental technicians as well as dentists, trainees and students and also participants in postgraduate training courses.

Soft cover, 190 pages
ISBN 978-3-00-064987-5

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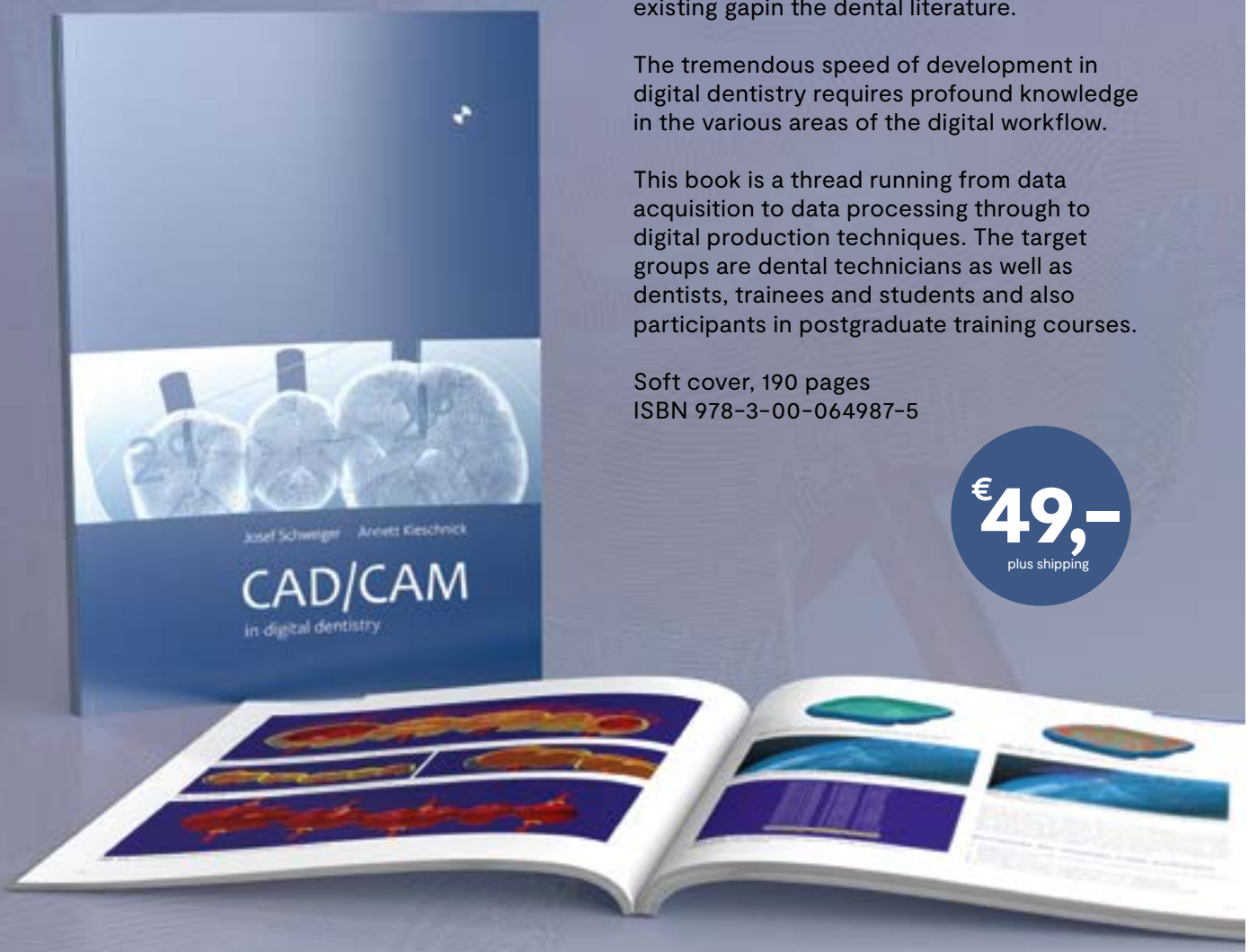

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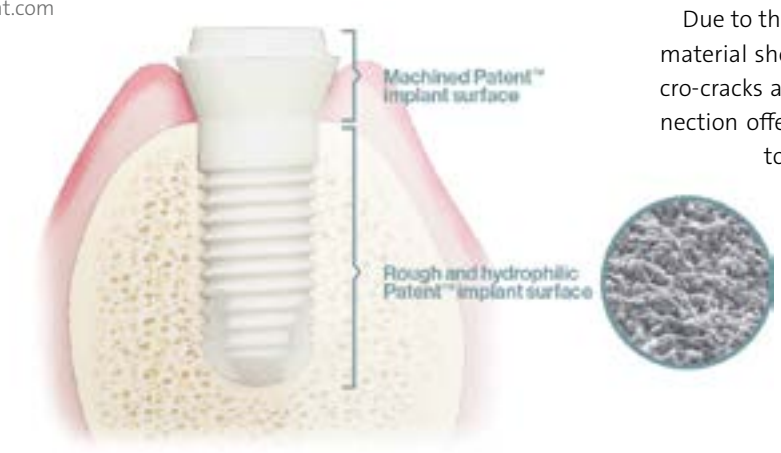
Zircon Medical *Patent* (ZV-3) implant system

Product
Two-piece ceramic implant system

Indication
Dental implantology

Distribution
Zircon Medical Management AG
Churerstrasse 66
8852 Altendorf
Switzerland
www.mypatent.com

The *Patent* implant system optimizes "metal-free" tooth replacement with a patented ceramic implant combined with a high-performance glass fiber prosthetic post. Among the many benefits for both dentist and patient alike are healthy, sustainable rehabilitations, backed by long-term science, using simplified treatment techniques.



The implant is made of ceramic (Y-TZP zirconia) and is available as one- or two-piece and completely customizable.

The cemented connection is above the tissue and completely covered by the crown. That means no healing abutments, no micro gap, no bacteria exposure, and no inflammation, resulting in preserved tissues.

Due to the special manufacturing the material shows no process-induced micro-cracks and the extra strong 3C connection offers an optimal geometry for torque transmission. ■

TBR Dental Group Z1 Implant

Product
Dental implant/digital workflow

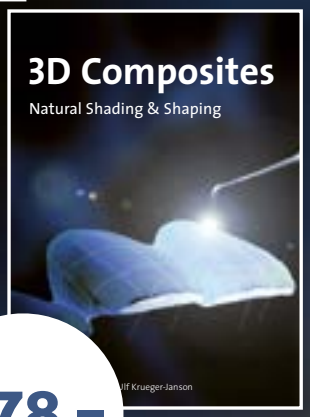
Indication
Dental implantology/ prosthodontics

Distribution
TBR Dental Group
24, impasse René Couzinet
31500 Toulouse
France
www.tbr.dental

The unique worldwide Z1 implant, combining a titanium body and a zirconia collar, offers many advantages, including the benefit of being a tissue level implant requiring only one surgical procedure. The zirconia collar promotes soft tissue healing and provides optimal esthetic results for the patient.

With the launch of its new range Index, TBR is now offering a complete digital workflow: from the scanning phase, with intra-oral scanners and CBCT, to the milling phase, with machines including suitable CAD and CAM software, associated materials and consumables. The virtuous combination of implantology with Z1 implants and Index digital workflow ensures an optimal ergonomics and allows time saving, which is essential in the daily dental practice. ■

The hands-on workbook of Composite Restorations



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E-Mail: ..... @ .....

Homepage: .....

Date of Birth: .....

Practicing implantology since: .....

Member of other Societies:

☐ ICOI ☐ BDO ☐ DGI ☐ DGZI ☐ DGMKG ☐ EAO

Continuing education Courses: .....

.....

Fellowship status / diplomate status in implantology

☐ Yes ☐ No ☐ Organization .....

Entry in BDIZ EDI Directory: ☐ Yes ☐ No
(For information on BDIZ EDI Directory of Implant Dentists see overleaf)

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☐	Full member - clinical	345,00	Euro
☐	Assistant dentist / young professional (up to 5 years after graduation)	172,50	Euro
☐	Second membership / family member	172,50	Euro

EXTRAORDINARY MEMBERSHIP

☐	Co-operative Member (Professionals without practice and dental technicians)	165,00	Euro
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Calendar of Events

	Event	Location	Date	Details/Registration
9/2020	**Insights 2020 exocad**	Darmstadt Germany	21–22 September	www.exocad.com/de/insights-2020
9–10/2020	**Master Course Periodontology**	Bern Switzerland	28 September – 01 October	www.bern-co.com/de/parodontologie
10/2020	**EAO Congress**	Digital and interactive	Oktober	www.congress.eao.org/en/
11/2020	**5. Swiss Implant Congress**	Bern Switzerland	13–14 November	www.bern-co.com/de/kongresse-symposien/5-schweizer-implantat-kongress-information

EDI Journal – Information for authors

EDI Journal – the interdisciplinary journal for prosthetic dental implantology is aimed at dentists and technicians interested in prosthetics implantology. All contributions submitted should be focused on this aspect in content and form. Suggested contributions may include:
· Original scientific research
· Case studies
· Product studies
· Overviews

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Submissions should be made in digital form. Original articles will be considered for publication only on the condition that they have not been published elsewhere in part or in whole and are not simultaneously under consideration elsewhere.

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Pages should be numbered consecutively, starting with the cover page. The cover page should include the title of the manuscript and the name and degree for all authors. Also included should be the full postal address, telephone number, and e-mail address of the contact author.
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The photos should have a size of 10x15 cm, the image or graphic files must have a resolution of 300dpi. Tiff, eps and jpg file formats are suitable. Radiographs, charts, graphs, and drawn figures are also accepted.
Captions should be brief one or two-line descriptions of each illustration, typed on a separate page following the references. Captions must be numbered in the same numerical order as the illustrations.Tables should be typed on a separate page and numbered consecutively, according to citation in the text. The title of the table and its caption must be on the same page as the table itself.

References
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[2] Hildebrand, H. F., Veron, Chr., Martin, P.: Nickel, chromium, cobalt dental alloys and allergic reactions: an overview. Biomaterials 10, 545-548, (1989)

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