dental technology

Journal for the dental laboratory team

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UNDER 45

They are Technicians. Lab owners. Parents. Artists.
Outdoor enthusiasts. Travellers.
Teachers. They are full of energy, technical skills, digital expertise, business acumen and most of all, passion. They are the one's guiding our industry into the future.
Here are DT's 25 under 45.







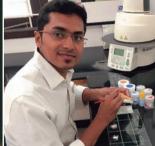


























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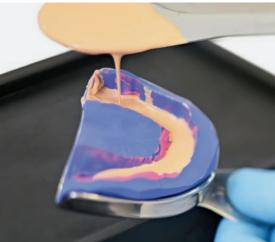
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NOTE FROM THE EDITOR

RAHUL KAKODKAR

In April 2021, we launched our 25 Under 45 campaign to recognize young dental technicians in the country who are changing the world of dental technology.

We were truly overwhelmed with the response! We received more than 500 nominations which we painstakingly reviewed and evaluated, exchanged emails and conducted telephone interviews to arrive at the final 25.

Our cover story in this issue features profiles of these 25 technicians who symbolize what it means to be a 21st century technician or lab owner. All of them are driven, enterprising, motivated and as you would expect from this generation they share a passion for digital technology.

We are excited to introduce you to these outstanding technicians whose contributions show the spirit of the specialty. We also congratulate all the other technicians whose nominations we received.

2020 and the early part of 2021 was a period like no other, a time in which our community faced a challenge none of us ever expected. As we move towards normalcy, we can be glad to be members of this community as we move at a faster pace than other service industries like restaurants and hospitality and travel that have been so severely hit.

Many labs as well as dental clinics are a lot busier than a few months back as a result of the pent up demand due to no work during the pandemic especially implant and cosmetic cases.

We should remember that our experiences make us what we are and by overcoming difficult periods we become stronger and more mature.

Things are finally looking up and we can be optimistic of the future.



WE ARE PLEASED to consider unpublished articles and features on topics of interest to practicing dental technicians and dentists interested in dental laboratory technology.

These may include lab procedures and techniques, topics relating to management of the clinical aspects of dental technology and non-clinical issues impacting dental labo-

ratories. Manuscripts must not be under consideration elsewhere.

We also welcome pre and post event reports, news items and new product information from institutions, organisations and laboratories as well as feedback and comments from readers.

All material may be send to: info@dental-practice.biz
For further details including article submission guidelines visit: www.dental-practice.biz



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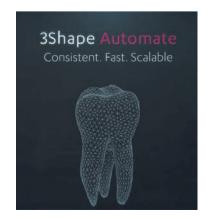


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MEET 25 OF OUR **COMMUNITY'S** UNDER 45 BEST & BRIGHTEST

In this Special Feature, DENTAL TECHNOLOGY profiles some of the brightest technicians in the country under the age of 45, nominated by their clients and colleagues for their business acumen, digital expertise, technical skills and passion and enthusiasm to thrive in the dental lab world. It's a recognition of those who are learning, growing and taking our industry to the next level.



ANKESH PAKHALE, <mark>36</mark>

Ankesh is a 3Shape genius. Born and brought up in Mumbai, he qualified as a Dental Technician from RDC Pravara in the year 2005.

After working for more than 12 years, first in Heramb Dental Lab, Goa and then Dental Ceramists, Mumbai and gaining expertise in both analogue and digital dentistry, he came on board 3Shape in 2018 as Training & Application Specialist for India & SAARC Nations.

In his present role, he is responsible for all the clinical and laboratory softwares by 3Shape, onboard resellers and end users; he conducts hands-on demos as well as training onsite and online. Ankesh has undergone training in India, Germany and Denmark and likes handling challenging cases in Implant prosthesis, Attachments, Overdentures, Surgical guides and Ortho Aligners.

Ankesh is a big fan of cricket and has participated in various inter college championships. He also loves to travel to different parts of the world.

"My family has been my support system throughout my career journey. My wife has taken very good care of me and our children. You can see my 2 boys (4 and 7 years) playing around in the background whilst I am hosting a webinar or training" says Ankesh.

Mithun is the Managing Director of MAAPT Dental solutions, a full service laboratory in Kannur, Kerala. He completed his Dental Technician course from Vinayaka Mission Dental College, Salem, Tamil Nadu and worked as a ceramist in a private lab before starting his own in 2014. Currently he has 25 skilled technicians working in his lab which boasts of state of the art equipment. His area of expertise is Porcelain Layering, Wax Up, CAD CAM, e.max (Lithium Disilicate) and Die Treatment.

He has several achievements and awards to his credit including Second Prize in the Renfert India Wax-Up Challenge and First Prize in the IPS d.Sign Metal Ceramic Master Workshop in Cochin. "My hobbies include mechanics, photography, listening to music as well as singing and I really like going on drives," says Mithun.



MITHUN K. VIJAYAN, 35

Shinil completed his dental mechanics course in October 2015 from Sri Sai College of Dental Surgery, Telangana. He worked as a Technical Consultant in Vijai Dental Depot for 3 years before opening his own lab, Aadhya Dental Lab in Chennai. He also joined as Instructor and KOL for Renfert. Shinil has been instrumental in the publication of books on dental prostheses and conducts demonstrations, hands on workshops and lectures for dental technicians and post graduates in various universities. "Dentistry is science with art, merging a product's scientific specification with esthetic results. I try to create a better functional and esthetic prosthesis and keep updating technology, tips and tricks" says Shinil. In his free time, he enjoys listening to audiobooks, playing badminton, visiting historical monuments and is an avid trekker.



Chetan passed out from Government Dental College and Hospital, Mumbai in 1996 after completing his HSC Science. After college, Chetan started his career with one of the finest dental labs in Mumbai and later had an opportunity to work for Bhabha Atomic Research Centre for 10 years.

Chetan has been trained at various dental companies in Germany, Liechtenstein, UK, France, Turkey, Asia Pacific and so on. He also had the privilege to enhance his skills at Glidewell Laboratories in the US. He is an Official Trainer and KOL for a few dental companies and also has a Diploma in Business Management. Presently he is associated with Glaze Dental/Lab Milling Centre since 2009 as a Technical Director. "My specialization is CAD-CAM dentistry and I provide installation, training hands-on demo and support on digital workflow for fixed, removable and implant prosthesis on all aspects of Scanning, Design, CAM, CNC milling and 3D printing processes," says Chetan.

He conducts workshops, lectures and webinars for upgrading Dental Labs. Chetan does a fair bit of travelling and when at home he plays table tennis, listens to music or catches up with friends for an evenina.



CHETAN PUJARA, 44

Originally from Istanbul, Turkey, Hayati has more than twenty years' experience as a dental technician. Hayati grew up spending time in a dental lab run by his uncle and brother in Istanbul which is operational even today.

"While my friends were on their weekend picnics, I would go into the lab, play with dental casts, and make my own toys out of dental plaster. I would sit beside the technicians and be amazed at their skills." says Hayati. In early 2009, he decided to explore India's dental market and started consulting at the Confident Dental Laboratory in Bangalore. In 2013, he founded VIP Dental Lab Pvt Ltd, a cutting-edge dental laboratory, catering to more than 400 top notch dentists across Bengaluru, Mumbai, Hyderabad, New Delhi, New York, and the Netherlands.

Hayati specialises in FPD prosthesis, all ceramic restorations, smile design, implant prosthesis, complex restorations, CAD-CAM prosthesis, CPD framework design, precision attachment and removable appliances. "I am married to Halime, who practices international business law in Istanbul and we have a 3-year-old son, Yusuf." says Hayati. "I enjoy reading and playing football. I am a dog lover and raise seven dogs at home," he adds.



HAYATI DASBILEK, 38

"I was always fascinated about Art and Art forms, I remember doing my very first random sketch, although I don't exactly remember what I was sketching, but those moments were so magical and blissful that I realized how much energy Art contains in itself. Since then I always carried a yearning to focus my life and energy into the artistic world in some way or the other" says Madan. Madan completed his Dental Technology degree from Ragas Dental college and Hospital, Chennai. Soon Madan realized, he had to enhance his purpose by sharing all the knowledge he was able to gain thus far and joined Shofu Dental INC, as a technical support specialist with the prime goal of bridging the communication gap between the clinic and laboratory. Madan likes acting and singing and was fortunate to work on a few interesting projects in the Marathi film industry. He has always loved table tennis and was also part of the state level team back in school and continues to enjoy his daily play. "I could not have come this far without my family and thus a big shout out to my lovable wife and pillar of support, Sulakshana, I owe her quite a lot," says Madan.



MADAN SOMAN, 41

Shweta passed out from the prestigious Dr. D.Y. Patil Dental College, Pune in 2009. She has been working as a CAD CAM dental technician at Precision Dental Studio, Thane for the past 10 years. Precision Dental Studio is a very well equipped lab with 5 axis milling machines, 3D printers and design softwares like Exocad and 3Shape. "I mainly take care of the digital work flow which includes scanning, designing of restorations in all the modules, handling of 3D printers and CNC milling machine. Apart from the digital workflow, I also manage a part of communication, case planning for full mouth rehabilitation and implant planning and fabrication of surgical guides," mentions Shweta. She has also done an advanced course in cast partial dentures from Bego Germany in 2016. In her free time, Shweta reads books about newer technologies to keep herself updated. She also takes out to time to practice yoga and meditation.



SHWETA KAKODKAR, 31

Haresh completed his CDT Course from KLE Institute in Belgaum and started his lab Advance Dental Export in Surat in 2010. Advance Dental Export is a global leader in offering advanced digital dentistry technology to clients. 100% of their dental lab products are made in-house, so they deliver quickly with little to no adjustments and remakes. "We support all major CAD/CAM Digital Scanners, including Cerec Connect, 3Shape, iTero, 3M ESPE, Carestream, and more. By utilizing Dental CAD/CAM Digital Systems, doctors can digitally scan the patient's prepped section and instantly send the 3D image to our lab for immediate production, which cuts labour and delivery costs," says Haresh.

Haresh loves to accept and work on challenging smile designing cases. He also is an early mover and adopts new technologies to make his work and life as simple as possible.



HARESH SAVANI, 36

Kapil started his career with Dentsply in 2008 as a business development officer and later took the responsibility of Technical Incharge of internal training at the same organization. "In 2010 I was planning to open a Dental Laboratory of my own but got an offer from VITA ZAHNFABRIK to join their team as a Technical Consultant for India and I have been with them for more than 11 years now," says Kapil. Presently Kapil is taking care of the South Asian market. His expertise lies in CAD/CAM and Veneering Ceramic.

Kapil loves to play cricket almost every weekend and is a good batsman. He is married to Preeti since 2012 and is a doting father to a beautiful 6 year daughter, Aahana who spends her time pursuing sports such as roller skating, karate and cricket.



KAPIL CHHABRA, 33



Mihir was born and brought up in Ahmedabad, Gujarat and is a certified Dental Technician from Pacific Dental College, Udaipur. Mihir has taken his training from Rahul Kakodkar of Precision Dental Lab who he regards as his Guru, well-wisher and friend. He started his own Dental Lab in 2001 in Ahmedabad and currently he runs the very successful Esthetic Dental Studio. He also started a new firm "Orion Dental Lab Solutions" for digital services and CAD-CAM. According to Mihir, his lab was the first to start metal free restoration services in Gujarat and he is an expert in e.max. He also specializes in implant prosthesis. "My hobbies are listening to music and reading religious books. I like to spend my precious time with my two sons and my lovely wife" says Mihir.

"I am first dan black belt in Tae-kwon-Do. Me and my cousin who is also a black belt started an academy which is still running" he adds. Mihir's wife has a Masters in Computer Applications and helps him in the digital workflow of the lab.



Pavan runs the successful Toothworks Dental lab in Nagpur. Pankaj started Toothworks in 2001 along with his partner Dr. Harshwardhan Arya and with his energy and passion has taken the lab to its current heights. "My expertise lies in All Ceramics and difficult cases of Implants" he says. "I am able to handle multiple tasks on a daily basis and use a creative approach to problem solving which helps me excel in my work" adds Pankaj. When he is not upgrading himself with new technologies, Pankaj enjoys cycling and camping.

Pankaj has 20 years of experience in the dental technology field and with his two younger brothers, Prashant and



SHRIKANT GIRIPUNJE, 42

Shrikanth got his Certified dental technician degree from Sharad Pawar Dental College, Wardha in 2003. For the last 20 years he is working as a Ceramist at Creative Dental Creations, Nagpur. His elder brother and guide Prashant Giripunje is the founder and owner of the laboratory which has been running since 1996. Shrikanth has worked on almost all reputed dental porcelain systems and specializes in layering techniques on various prosthesis including zirconia, implant, porcelain fused to metal, and lithium disilicate.

"I was always blessed with the huge support I got from my family members especially my brother and my wife, Jaya who always motivated me to do better and is behind my success," says Shrikant.

Shrikant has two kids Neel and Shiven and likes listening to music and is interested in photography.



Zakir Khan was born and brought up in the small city of Dhanpuri in Shahdol, Madhya Pradesh. After schooling he moved to Nagpur to work in Ceramic Dental Lab. While working, he decided to enroll himself for a dental technician course at VSPM Dental College in Nagpur which he successfully completed in 2011. Zakir currently runs the very successful Dental Art laboratory in Raipur, Chhattisgarh. The lab boasts of three milling machines and five scanners and a team of 40 employees. His expertise is in ceramic buildup and implant prosthesis with composite layering, all on 4 and all on 6. "I am an outdoor person and like going on adventure trips and playing badminton. I also like to listen to music and love to play with my kids when I am not working," says Zakir.



Mohini completed her education from the prestigious Government Dental College, Mumbai in 2012. Being the daughter of a dental technician, dental technology runs in her blood. As a ceramic technician she has worked in labs such as Pearl Dental Lab, Airoli Mumbai.

Currently she is with Omkar Dental Clinic and Research Center in Nashik where she comes across many challenging cases. She excels in metal free such as laminates, zirconia, emax and empress. "I like classical music and have completed 4 exams in classical music," mentions Mohini. "I also like dancing and reading." Mohini has 7 members in her family including a 4 year old daughter.

Pradip spent his childhood in Ambajogai, a city in Beed district in the state of Maharashtra. He went on to obtain his CDT degree from the Government Dental College and Hospital, Mumbai in 2007. He has specialized and trained on waxing techniques, advanced metal ceramics techniques, press ceramics and CAD CAM ceramics. Pradip has also specialized in full mouth implant restorations in analog and digital way.

He has done a course on Mastering ceramics in Malaysia in November 2017. After gaining adequate experience he started Pearl Dental Laboratory with his business partner Pankaj Hinge in June of 2011 who is also a qualified Dental Technician from KLE Institute of Dental Science, Belgaum. Pearl Dental lab is located in Navi Mumbai, Maharashtra and regarded one of the finest dental labs in the state.



PRADIP CHIWADE, 32

Nikhil graduated from D.Y Patil Dental College, Pune and runs the state of the art Aesthetic Dental Studio in the same city. He primarily focuses on implant prosthetics, digital planning, surgical guides and digital dentistry and his lab boasts of the latest technology in the field. He is an International System Consultant with the Bredent Group and has trained with BEGO exclusively in 3D printing. Nikhil is a Diplomate in software for implant guided surgeries and has received special training for the same.

"He's hardworking and cares tremendously about putting doctors' and patients'needs first," says Dr Komal Rajpurohit. "I own a Harley-Davidson Fat Bob and like to go on road trips with family and friends" says Nikhil. "My family includes my wife, 4 years old son, lawyer mother and father who is a retired government employee."



NIKHIL JADHAV, 31

Nandha Kumar is a certified Dental Technician who qualified from Saveetha Dental College, Chennai in 2005. He is presently working as instructor at CADET, Chennai and conducts practical workshops on PFM, all Ceramics, Lab Composites, Cast Partial Dentures, Precision Attachments and Flexible Dentures to dental institutions, private laboratories and in the in-house training center. He has undergone extensive flexible denture training in Dubai and has expertise in BPS Advanced and e.max Workshops. He has also worked as a dental ceramist at SRM Dental College, Ramapuram. His hobbies include photography as well as biking and driving.



S. NANDHA KUMAR, 38

"It all started with an unrecognized dental technology course back in 2004 in Bangalore. I was misguided and after completing the course found out that it was not approved by the Dental Council. But I did not lose hope and persevered and finally became a certified dental technician from Modern Dental College, Indore five years later' says Pankaj.

For Pankaj since then there has been no looking back and after attending several courses and working in some of the top labs he now runs the Esthetic Dental Lab in his native place Gulbarga, Karnataka.

His area of expertise includes ceramics, implant retained prosthesis, smile design, metal free and precision attachments. Pankaj is a hobby sculpture artist and makes Ganesh idols with natural clay. He gives back to society by conducting free workshops for people who want to learn sculpture art.

"When our country was in lockdown and we were facing shortage of PPE kits, me and my family took up the challenge and with limited resources we made face shields and donated them to our health workers" says Pankaj.



PANKAJ SHARMA. 39

Manoj graduated from Ragas Dental College, Chennai in 1998. Following this he gained experience in several labs including Shah Dental Lab, ITS Dental College, Subharati Dental College and Dr. Anil Kohli's lab where he worked for 4 years. Finally he opened his own lab which had always been his dream. Dentaire solutions opened its doors in 2007. The lab specializes in PFM/ Dentures/Implant prosthesis/customized implant/zirconia abutment and they have dry and wet milling units.

Manoj also runs a company called Dental Trade Mart which sells clinical and laboratory products all over India and abroad - online and offline. "The whole credit for the success of this lab goes to my enterprising partner, Rohit Rana and my 2 brothers as well as all my employees," says Manoj.



MANOJ CHHABRA, 44

special report



ROHIT NAIK, 33

Rohit obtained his degree of certified dental technologist from one of the premiere institutes of India, SDM Dental College, Dharwad in the year 2007. Thereafter he has been trained and apprenticed under Mahesh Chaudhary, Rahul Kakodkar and Mohit Suryavanshi. Additionally he has completed 3 international highly specialized training programmes under the guidance of Master Okada-san on Shofu ceramics in Malaysia in 2017, Master Gerald Ubassy on IPS emax crown and veneers in France in 2018 and Spiros Chatzigeorgiou on Kulzer Heraceram in Athens, Greece in 2019. "We have a highly equipped and well managed dental laboratory in Goa named Sai Dental Lab since 1992 where we deliver the highest standard of restorative work to a wide range of international and domestic clientele" says Rohit. "As a technician my expertise is smile designing with laminates/veneers and delivering best restoration in zirconia. Some of my cases have been published in *Dental Technology* and *Dental Asia* magazines" he adds. During his free time Rohit loves to travel a lot. He likes to spend time working out in the gym and his hobbies are listening to music and playing drums and other musical instruments like tabla and congo. "My mother Mrs. Mohini Shrikant Naik, my brother Rohan Naik and my wife Annada Naik have always been a huge support to me throughout my journey."



SHRIKANTH MALLEM KUMAR, 39

Shrikanth is based out of Hyderabad and works as an International System Consultant with the Bredent Group for the past 6 years. He passed out from Osmania Government Dental College and Hospital as a certified dental technician.

Currently he has the responsibility of training dental laboratories and technicians, across India, Nepal and Sri Lanka and has expertise in full arch restorations on implants with polymers and composites. Shrikanth is officially certified as an advance level specialist in new age bionic materials. Shrikanth loves listening to music and likes to travel. "I want to be a trouble shooter in dental technology where I can provide the best service to fellow colleagues and upcoming dental technicians" adds Shrikanth.



ASHA VILAS WADKAR, 38

Asha has been working as a dental ceramist at Terna Dental College, Navi Mumbai for the past 17 years right after she became a certified dental technician from Govt Dental College, Mumbai. Given the nature of her work she has a lot of experience in all dental departments and may see cases that other dental technicians in private labs may not encounter. Her typical day may involve prosthetic work including making bites and special trays, casting, mouth guards and retainers, removable prosthesis such as dentures and removable partial dentures, reconstruction of faces damaged by disease or an accident, oral surgeries, burns units and cancer units.

She along with her husband have carried out voluntary work for social causes on numerous occasions. Asha enjoys reading books and her family is extremely enthusiastic about her work and supports her fully.



S. MOHAMED RAFI, 36

Rafi started his journey as a dental technician by joining a course at Saveetha Dental College, Chennai when he was 18 and completed it in 2005. In 2006 he joined a Hands on Ceramic course at ADAPT in Salem under N. Dhanasekar and ended up working there as chief technician handling both laboratory and institutions. Currently Rafi is managing his own laboratory in Dindigul, Tamil Nadu backed by a good professional team. "Every case that enters our lab is treated as a VIP case so everything is monitored with extreme care and precision which gives us a good reputation and appreciation from our dentist as well as patients" says Rafi. "As a technician I have expertise in Smile designing, Full Mouth Rehabilitation and Implant prosthesis" he adds. Rafi likes listening to music and is passionate about teaching.



VIJAY CHANDEL, 39

Vijay qualified as a Dental Technician from Ragas Dental College and Hospital, Chennai and has been doing quality work for close to 20 years making him fairly experienced in this field. Initially he joined a well known dental lab in Delhi and got trained for ceramics and metal free restorations. "I worked in this lab for 12 years and subsequently in 2013 opened my own dental lab in South Delhi," says Vijay. The fully digital Fusion Dental Lab is located in Lajpat Nagar in New Delhi specialising in Implant Prosthesis and Zirconia Prosthesis. Vijay likes to paint on canvas and listens to old Hindi songs. He is also fond of travelling to new places.



SHAIK SADHIQ, 36

Sadhiq is a certified Dental Technician with 8 years of experience and an exemplary track record. Sadhiq is associated with Best Dental Labs in Anantapuram, Andhra Pradesh which was started in the year 2003 and is today a highly advanced laboratory with a team of specialists providing comprehensive solutions to clients. His expertise lies in BPS Dentures and Implant prosthesis. He likes to travel and go on drives. He is constantly looking to upgrade himself and likes researching new techniques. "I serve not only as a Ceramist but also handle Operations and Management in Best Dental Labs. I strongly believe in Innovating, Integrating and Implementing," he says.

For the first time, DENTAL TECHNOLOGY created a unique platform to identify and provide recognition to the young dental technicians in the country who have been working and providing services against all odds. Nominations were invited in April 2021 from across the nation to select 25 technicians under the age of 45. More than 500 nominations were received and given that there were so many deserving candidates, it was not easy to choose the final 25. The DT team congratulates the 25 technicians featured here as well as every member of the dental lab community for their immense contribution to the dental profession.

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CUSTOMIZED ZIRCONIUM CROWN (CROWNLAY) IN SINGLE SITTING: DIGITAL DENTISTRY IN PEDIATRIC AND ADULT PATIENTS

GAURAV GUPTA, D.K GUPTA AND NEELJA GUPTA

Providing restorations to anterior teeth in children is an exigent task due to the need for high strength, and durability along with esthetics. Providing care to children who are considered to be at risk from Early Childhood Caries, can be achieved by a specialist who has received adequate training and has experience in treating children as well as the disease process. To perform treatment safely, effectively, and efficiently in the minimal sittings/single sitting the pediatric dentist can use behavior guidance techniques, protective stabilization and/or sedation or treatment under general anesthesia.

Creating a tooth coloured restoration in a single sitting is the fundamental objective of chairside digital dentistry. This has become a legitimate reality with the initiation of CEREC workflow. CAD/CAM dentistry has evolved through an amalgamation of diverse software and hardware upgrades since its launch to a viable chairside technology that allows the pediatric dentists to treat patients in a single visit. In this article, we are presenting two cases to exemplify the clinical use of chair side digital dentistry i.e. CEREC work flow for the fabrication of a customized Zirconium restoration (crownlay/ endocrown), in a single sitting to restore form, function, esthetics and occlusion in both pediatric and adult patients.

INTRODUCTION

Early childhood caries (ECC) is a chronic multifactorial disorder which continues to be dominant in children, especially in families of low socioeconomic status. Early childhood caries is defined as the existence of one or more tooth decays (non-cavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary dentition of children under the age of six years.

Primary teeth necessitate crowns due to gross cavitation, developmental defects, extensive interproximal caries leading to loss of tooth structure, and to support primary teeth after pulpectomy or pulpotomy. Prefabricated stainless-steel crowns, and all ceramic/zirconia crowns have been available in various sizes equal to the primary first and the second molar teeth.

Despite their poor esthetics stainless steel crowns (SSC) are often the treatment of choice for multi-surface carious teeth and lesions with widespread white spots. Primary incisors with large or multi-surface caries can be restored with resin composite strip crowns if there is sufficient tooth structure after removing all carious tissues. When remaining tooth structure is minimal and not enough for bonding, pre-veneered aesthetic crowns is a favorable solution. More recently, zirconia aesthetic crowns for pediatric patients appeared in the market. A diverse range of zirconia crown sizes were introduced along with a specific preparation and cementation protocol. Some deficits of prefabricated zirconia crowns were that it requires significantly more tooth reduction - 2 mm, bleeding from the gum due to subgingival preparation thus prolonging the treatment time and furthermore anxiety or inflammation may hinder the setting of the cement used to bond the zirconia crown to the tooth and it cannot withstand the occlusal forces like SSCs. One more hurdle with both prefabricated SSC and zirconium crowns is that if tooth is grossly decayed with less amount of superstructure left for retention and stability than extraction is the only possible treatment.

To overcome these stumbling blocks, CAD/CAM technology has made enormous improvements since its introduction. CEREC (CEramic REConstruction) is a dental technique that produces an indirect ceramic dental restoration using different computer assisted technologies like CAD/CAM and 3D intraoral scanning. Due to the accuracy and precision of these computer aided impressions(CAI), modified hybrid restorations can also be milled out like crownlay and overlay for grossly decayed primary teeth, where extraction was the only option before. This technology is also useful in adult patients where major loss of tooth structure does not facilitate fabrication of full coverage crown and customized zirconium crowns will provide more retentive alternative to full coverage crowns.

Presented here aret wo cases of grossly decayed primary and permanent teeth restored in single sitting with customized Zirconium crownlay fabricated chair side with the help of CEREC work flow and intraoral scanning.

CASE REPORT

A 7 year old girl came to our clinic with multiple decayed teeth. A medical history was taken, followed by a clinical and radiographic examination which revealed deep dentinal caries with pulpal exposure and extensive loss of tooth structure on right side maxillary primary canine (53). The tooth required a

full-coverage restoration, and both the child and the parent were not willing for conventional SSCs due to aesthetics. We planned for chair side customized hybrid Zirconium restoration along with pulpectomy which provided an occlusal and functional overlay kind of permanent restoration for 53. The customized restoration crownlay/endocrown on 53 is more conservative than a normal full coverage crown and it incorporated an extension of extra restorative material on the underside of the restoration into the excavated pulp chamber following root canal therapy. Taking advantage of the extra surface area afforded in this space on the interior aspect of the preparation and thereby sparing the external walls from needing excessive tooth

We altered our protocol for the procedure exclusively for single sitting chair side digital dentistry in pediatric patients. After diagnosis and planning we administered local anesthesia. Then we started tooth preparation. This is followed by intraoral scanning with the help of Dentsply Sirona Omnicam to capture a digital impression for further processing in CEREC software. Scanning provides easier, more intuitive, and precise 3D models in natural colors in less than 2 minutes. After this we performed pulpectomy procedure in 53. Simultaneously 3D designing and milling of the restoration was done by another associate. As pulpectomy was being carried out, we prepared zirconium crown chairside with CEREC prime mill in a cycle of about 11 minutes. The milling process was extremely precise, definitive and created smooth surfaces and margins comparable to lab process. A trial was done in patient's mouth to check fit and occlusion, followed by crystallization and glazing process in CEREC speedfire. In the meantime, pulpectomy was completed. Once again fitting, esthetics and characterization were checked in patient's mouth. Thereafter, tooth was cleaned and hemostasis of the gingiva was obtained via pressure applied with a finger. Translucent resin luting cement was used for the cementation. Excess cement was removed from interdental spaces. In a matter of less than 45 min acceptable results were achieved. As shown in this case we reconstituted not only the form and function of primary teeth but also the esthetics with minimally invasive dentistry in single sitting with the help of CEREC work flow. (Figures 1 - 14)





FIG 1-2: Pre op condition



FIG 4: Digital impression image

FIG 3: New bitmap image

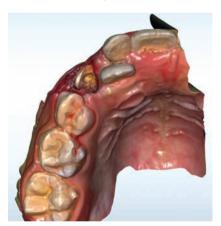


FIG 5: Digital impression image



FIG 6: Digital margin measurements

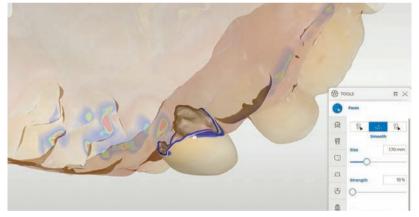


FIG 7: Digitally customized designing of crownlay

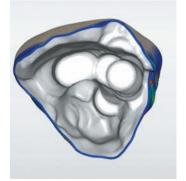


FIG 8a-8b: Digitally designed 3D model of crownlay/ endocrown

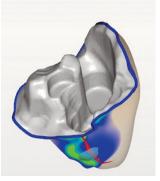
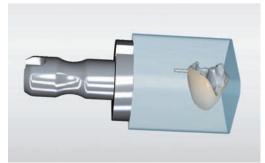




FIG 9a-9b: Checking for occlusal contacts and finish margins





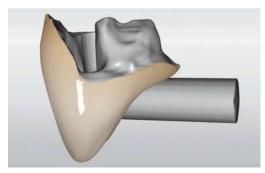






FIG 11a-11b: Customized zirconium crownlay milled by Primemill









FIG 14: Post op x ray

FIG 12: Pulpectomy completed FIG 13a-13b: Post cementation

CASE REPORT 2

In this case we used the same principle and restored an endodontically treated lower right molar(47) with lack of sufficient tooth structure for conventional full coverage Zirconium crown fabrication. The customized Zirconium crown incorporated an extension of extra restorative material on the underside of the restoration into the excavated pulp chamber following root canal therapy. By taking advantage of the extra surface area afforded in this space on the interior aspect of the preparation, the external walls were spared from additional tooth reduction. (Figures 15 - 29)



FIG 15: Pre op condition

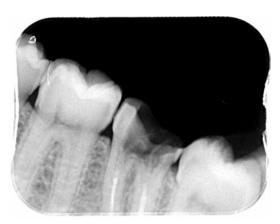


FIG 16: Pre op x ray



FIG 17-18: Digital impression image



FIG 19: Bubble scan

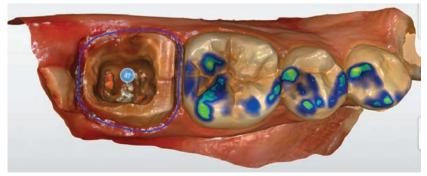


FIG 20-21: Draw margins digitally



FIG 22: Checking fit and margins of restoration

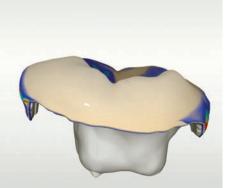
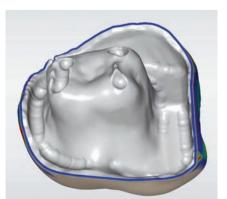
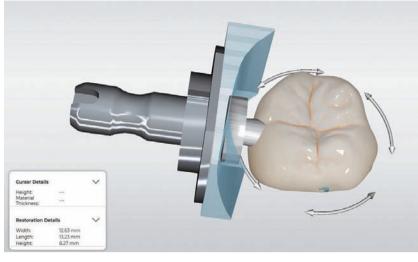


FIG 23-24: Digitally designed 3D model of crownlay/ endocrown



CONCLUSION

These 2 cases suggest that CEREC chairside system is a useful tool for the clinician. The digital 3D impression, software design and milling unit in the same office allow to produce highly aesthetic and reliable restorations in a single visit, while improving patient acceptance and comfort for the procedures. We can assert that the aforementioned restorative treatment with digital CAD/CAM chairside workflow represents a valid alternative to rehabilitate pediatric patients, because it is a safe, predictable and personalized procedure and also it is easier, faster and cheaper than traditional protocol in long run.



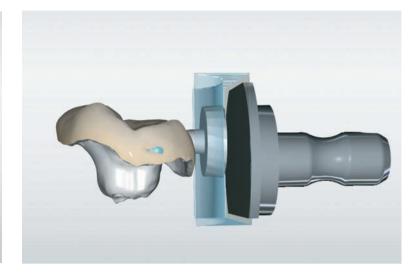


FIG 25-26: Block manufacturing







FIG 27a-27b-27c: Customized zirconium crownlay milled by Primemill





FIG 28-29: Post op occlusion and x ray

About the authors



Dr. Gaurav Gupta completed his graduation from Govt Dental College, SMS, Jaipur in 2007 and masters in Pediatric and Preventive Dentistry thereafter. Attained fellowship in Implantology of both ISOI and AOI. He is a POS (Progressive Orthodontic seminar, USA) graduate. A university gold medalist with over 30 scientific presenta-

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Dr. D. K. Gupta is a Senior Consultant at Wisdom Dental Clinics. With more than 38 years of clinical and academic experience, he has been Ex Principal of Govt Dental College, SMS, Jaipur. He was also Pro-VC of Rajasthan University of Health Sciences. He was Sr. Professor and HOD in Dept of Oral and Maxillofacial surgery at Govt Dental College for more

than 15 years. Presently, he is the Registrar of Rajasthan State Dental Council and maintains his private practice at Wisdom Dental Clinics, Jaipur. He has been Dental Surgeon to HIS Excellency Governor of Rajasthan for more than 18 years.



her practice.

Dr. Neelja Gupta is a Consultant at Wisdom Dental Clinics. Gold medalist scholar, trained and skilled cosmetic dentist with special interest in Smile designing and Digital Dentistry. Done her certifications national and international courses in esthetic and cosmetic dentistry. A certified Dentist for using Nitrous Oxide conscious sedation chairside in

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NEW DIGITAL PROCEDURES AND MATERIALS IN IMMEDIATE LOADING

VITO MINUTOLO AND PAOLA ANTONIA CERATI

In the last few years systematic digital oral impression techniques have become more commonly used in the dental practices. The technologies and software the companies provide have evolved to improve the quality of the scans and create greater ease of use for the operator, in addition to greater comfort for the patient during the procedures. Also, when scanning equipment first came out on the market, the possibilities of use were very limited and could only carry out reasonably correct scans only for prosthetic devices designed for small areas.

Software development has rapidly grown and been updated, expanding the scanning fields a lot, allowing for the design of more extensive and complex work. To date, the literature appears to be in agreement in its defining that absolute precision can be achieved with scanning for small areas.

Still some controversy exists, if even, in a minor tone; it appears that studies give a value of greater reliability to traditional impression taking procedures when we deal with extended regions or complete arches. Our digital experience begins in 2011 with the COS system (3M) design of small prostheses like single crowns on natural teeth, inlays and onlays. Our experience then continued over the years with work on increasingly extensive designs, both model free and with models, up to date designs and the prosthesis fabrication of entire arches with immediate loading.

CLINICAL CASE

Patient G. S., a 69 year old (Figure 1), was already a patient of the clinic for some years (since 2015). He had received rehabilitation of the lower arch through multiple extractions, through the placement of 4 implants in the interforaminal region, and through immediate loading in the following 36 hours with a metal reinforced temporary bridge. The patient had been extremely satisfied with the job done and the state of comfort had been reported as very satisfactory. The upper arch had a ceramic metal prosthesis on natural elements with numerous periodontal problems, evaluated by the periodontist and described as irrecoverable and not treatable.

The patient decided to wait a little while before rehabilitating the upper arch with a treatment plan similar to that of the lower the arch. At the beginning of 2017, in agreement with the patient, it was decided that rehabilitation of the upper arch was in order. After collecting all the initial documen-







FIG 3



FIG 5



tation that was necessary for the surgical/prosthetic plan, inclusive of impressions, traditional analogical and digital, intra and extraoral photographs, endoral radios and TCCB, the laboratory performed a diagnostic wax-up and, together with the clinician, an implant treatment plan (Figures 2 and 3) was created. From the beginning of the therapy it was decided upon to go with a digital protocol. Once the implant position had been determined by using the



FIG 2



FIG 4



FIG 6















FIG 12 FIG 11 **FIG 13**

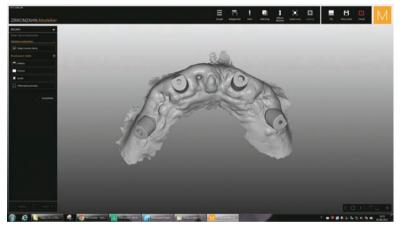


FIG 14

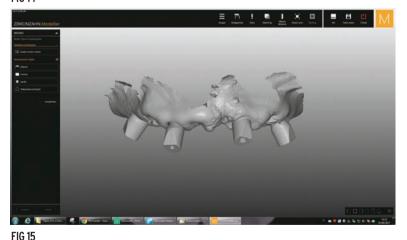


FIG 16

navigation software, we proceeded to the CAD modeling of two templates, a surgical and a prosthetic one (Figures 4 to 7).

The next phase was to mill them, using a 6-axis CAM milling machine (Figures 8 to 12).

The first step was to guide the drills and the implants during the surgical phase, and the second step was to verify occlusion during the digital impression taking. On the day of the surgery, which was performed under sedation, we proceeded with multiple extractions, which made the patient edentulous. 4 Biomet 3i implants including 3 with a 4 x 11.5 diameter and one with a 4 x 10 diameter using the surgical template were then positioned (Figure 13). At the end of the surgery, after having positioned the scanbody of the new Ancorvis metal company (Linea Advanced), we proceeded to scan the superior arch and the lower one with a True Definition Scanner 3M (Figures 15 and **16)**. Later we positioned the prosthetic template (Figure 17) we had already created to be able to register the occlusion and the vertical dimension by means of the occlusal stops previously built; we then proceeded to perform the scanning of the bite, with the scanbody housed on the implants. At this point the appropriate files were sent to the laboratory accompanied with a prescription. After appropriate therapy support and housing of the healing caps on the implants, the patient was discharged.

LABORATORY PHASES

After downloading the impression, the upper (with the scanbody in position) and the lower arch impressions' occlusion was determined with the aid of the second template. The dental technician now had all the information necessary to be able to build the temporary.

OPERATING PHASES AT CAD

First phase: Pairing of the scanbody, selected from the CAD library, with those of the impression (Figures 17 and 18); this happens automatically with the software. In this manner the coupling is done analogous to the scanbody. At this stage this is the data we have: the upper jaw with the correct implant position and the lower jaw with its correct occlusal position.

Second phase: The modeling phase of a CAD software system is provided by different dental libraries containing various anatomical forms so you can choose the anatomy more suitable for a given type of mouth (Figures 19 and 20). The positioning of the tooth is chosen by adjusting the anatomical dimension and by using rotation and inclination movements. The software allows you to intervene on the details of the tooth through the so-called "free forming" option: by adding or removing material or moving individual parts such as cusps, ridges, midlines, etc. We have a way to model the tooth by having total

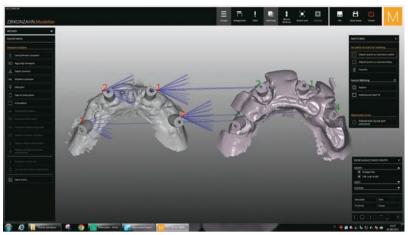


FIG 17

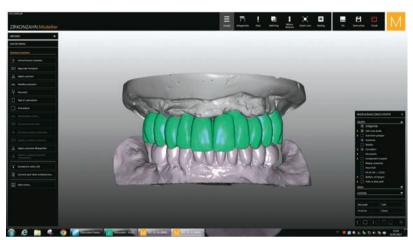


FIG 19

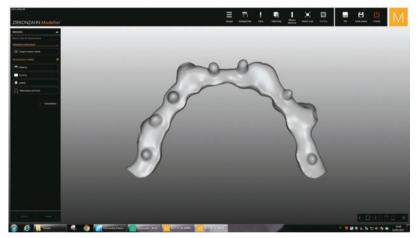


FIG 21

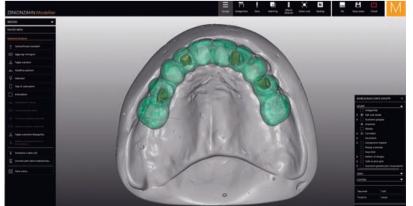


FIG 23

control of it. Various colors indicate contact with teeth and activation of the virtual articulator allows the execution of lateral protusion and retrusion movements. At the end, you have an STL file that can be milled or printed from any milling machine or 3D printer.

Third phase: Modeling of the structure reinforcement (**Figures 21** and **22**). It is modeled within the volumes of the anatomical elements (**Figure 23**). The structure reinforcement is realized by milling it in "Trilor Bioloren". This new material was chosen because, despite having similar characteristics with Cr/Co (**Figure 24**), it is colored white,

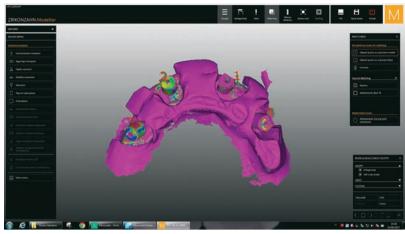


FIG 18

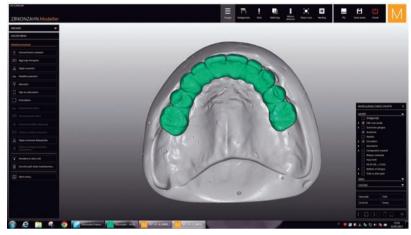


FIG 20

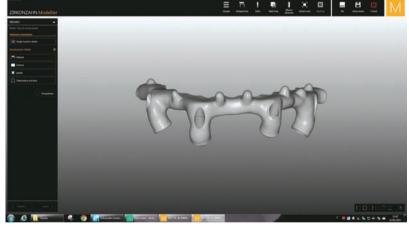


FIG 22

therefore it does not need the opaque and is perfectly linked to the acrylic resin (**Figures 25** and **26**). At this stage, without detaching it from the pod, we fill the milled cavities with monomaxic acrylic resin (mixture of dentin-enamel-translucent) and then polymerize it (**Figures 27** and **28**). Then everything is put back in the machine, inserting the STL file of the anatomical model which allows us to get the temporary with the external part in resin acrylic. An inside structure reinforcement in "Trilor Bioloren" is obtained which will guarantee strength and rigidity (the characteristics of the material are similar to the reinforcement performed in CR/CO). Fundamental characteristics for temporaries are used in immediate loading protocol (**Figures 29** and **30**).

Once the temporary is finished and polished, with the aid of a nanocomposite (**Figures 31** and **33**), we will proceed with the bonding of the titanium bases that will guarantee us passivity and coupling of the implants (**Figures from 41** to **42**). The final check will take place on the resin model which in the meantime has been made for prototyping (3D printing) directly from the digital impression by using the CAD construction from dedicated software (model) (**Figures from 34** to **40**).

SECOND CLINICAL PHASE

After about 36 hours the patient returned to the clinic for the delivery of the finished product. The healing caps were removed and the prosthesis was housed, immediately evaluating its passivity, screwing in and

Eigenschaften	proprietà	Properties	Bioloren Trilor	CM Pekkton	PMMA	Zirconia + Ittrio	Juvora PEEK	Au-Pd Alloy	Ag-Pd	CrCo	Natural tooth
Zugfestigkeit	Resistenza a trazione	Tensile strength	380 MPa	115 MPa	72 MPa	348 MPa	100 MPa	650 MPa	590 MPa	695 MPa	
Biegefestigkeit	Resistenza a flessione	Flexural strength	540 MPa	200 MPa	105 MPa	1200 MPa	170 MPa	550 MPa	400 MPa	600 MPa	80 - 150 MPa
Zugdehnung	Elongazione a trazione	Tensile elongation	2%	4,4%	4,5%		20%	8%	8%	8%	
Elastizitatsmodul	Modulo a flessione	Flexural modulus	26 GPa	5.0 GPa	2,9 GPa	210GPa	4.0 GPa	100 GPa	105 GPa	175 GPa	
Zugmodul	Modulo a trazione	Tensile modulus	26 GPa	5.1 GPa	3,2 GPa	210 GPa	3,7 GPa	100 GPa	105 GPa	175 GPa	
Druckfestigkeit	Resistenza a compression e	Compressive strength	530 MPa	246 MPa	103 MPa	2000 MPa	118 MPa	600 MPa	400 MPa	448 MPa	

Tabella di comparazione / Comparison table / Vergleichstabelle

FIG 24

FIG 27

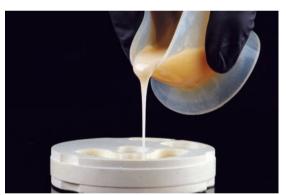




FIG 26

FIG 28

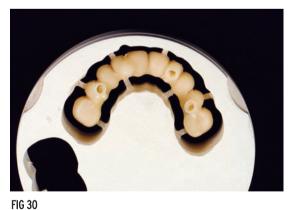
then running the Sheffield test [5]. Once you have manually screwed the prosthesis in tightly, we proceeded to take x-rays, (Figure 43) and we assessed the accuracy of the coupling. We then carried out the tightening of the screws by following the indicated torque requirements suggested by the manufacturer, and then proceeded to the centric occlusion test (and all its lateral movements); Finally, the screw access holes were closed with teflon and composite (Figures 44 and 45).





CONCLUSIONS

Nowadays the digital choices available motivate and stimulate us as we search more and more for new materials, innovative procedures, technical characteristics and clinical procedures. Choosing the Bioloren fiber, thanks to its technical characteristics and to the clinical procedures, allowed us to carry out a temporary immediate loading prosthesis made in a few hours. All this would not have been possible without the use of digital technology. The millable fiber materials represent a vanguard among dental products for final implant prosthetics applications. Trilor, developed and patented by Bioloren, is a constituted techno-polymer derived from a thermosetting matrix (Figures 46 and 47) and from reinforcing multidirectional fibers (Figures 48 to **50)**.



The continued development of digital processing methods and intraoral scanners have brought about technological opportunities and properties unimaginable with traditional methods.









FIG 31 FIG 32 FIG 33









FIG 34

FIG 35

FIG 36







FIG 38 FIG 39 FIG 40







FIG 41 FIG 42 FIG 43



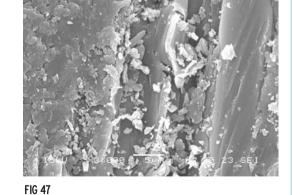


About the authors



Dr. Vito Minutolo graduated in 1984. He regularly participates in training courses (in Italy and abroad) of various disciplines specifically in microscopy related to the implant prosthesis and to digital. He is a Master in ceramization and aesthetics, having studied with Michel Magne at L'Oral Montreaux

university. He has collaborated with dental industry companies for the testing and studies of some products. He is an international speaker and an active partner of A.I.F.O. (Academy of Italian Dental Photography). He is also the author of numerous articles in the main journals of his sector. He has actively participated in the training and development of the ANTLO study groups chaired by Renato Compagni. He teaches courses on Digital, and is also a speaker at the Workshop on Digital Workfl ow and at the "Neoss Link team days" International Congress in Sorrento in 2017. He works as a dental technician in his laboratory in Monza, Italy.





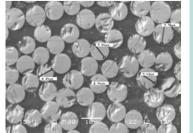
Paola Antonia Cerati has a degree in Medicine and Surgery, with honors (1991). She has a specialty degree in Odontostomatology, with honours (1996). From 1998 to present, she has attended an annual training and refresher course in Prosthetics and Implant Surgery on the Surgical Anatomy of cadavers. She also has a

Master's degree in Implantology at the Galeazzi Institute of the University of Milan (2012-2013). She also attended the implant surgery courses of Dr. Fabio Galli who is in charge of the Department of the Galeazzi Prosthetic Institute at the University of Milan.

FIG 46

FIG 44











PRECI-CLIX



1 retention SYSTEM FITS ON 4 TREATMENT OPTIONS !!!

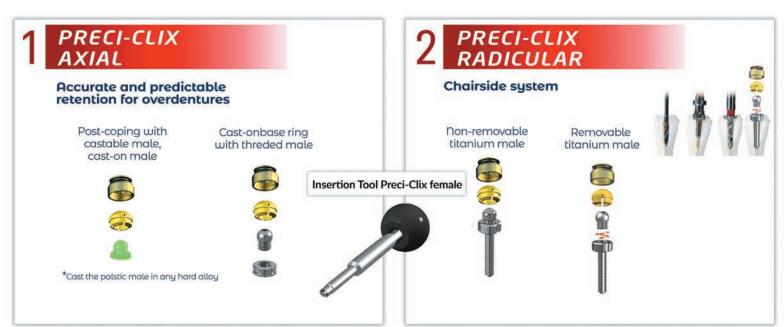








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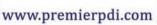
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PRESS CERAMIC, REDISCOVERED!

Everyone is talking about CAD/CAM, which is playing an ever greater role in the fabrication of dental restorations. However, analog press ceramics are still used in many laboratories. It is still an established, economical and efficient fabrication method. Until now, a reaction layer with the investment material could lead to surface imperfections and fit issues, and has been a challenge. The lithium disilicate that is used often appears grayish and lifeless, due to its crystalline structure. That is not something that practitioners have to settle for, according to dental technician ÖMER GENÇTÜRK (owner of Da Vinci Dental Studio, Antalya, Turkey). He was given the new generation of press ceramic, VITA AMBRIA, made of zirconia-reinforced lithium disilicate for testing, in collaboration with dentist Dr. Ahmet Emre Gülerik (DentGroup Clinic, Antalya, Turkey). He achieved a highly esthetic result from the very first application. In the following interview, he describes his experience in combination with the veneering ceramic VITA LUMEX AC on a cosmetic veneer restoration on four incisors in the upper jaw of a young patient.



Many dental technicians are reluctant to implement new materials in their laboratory. What was your experience here with VITA AMBRIA press ceramic?

Yes, of course there are always concerns, especially if processes have generally been working well in the past. In the end, curiosity prevailed. I wanted to see for myself whether I could really achieve better results by using the VITA AMBRIA material system. I simply followed the instructions for use. There was no learning curve. During my very first use, I could clearly see that VITA AMBRIA really delivers what it promises. So there is no need for concern when shifting to this new product.

When working together with the dental practice, how important is absolute shade accuracy of the material to the VITA shade standards?

The VITA shade guides are standard worldwide. Of course, the material also has to be precisely matched to the corresponding shade tabs. If I determine an A3.5 on the patient, there should also be an A3.5 in the press and veneering ceramic. This is the only way I can truly reproduce it in a way that is appropriate for the patient, and also have the certainty that my customers and their patients are satisfied with my work. VITA AMBRIA, as the shading element, proved to be true to the shade in this patient case.

Removing the mould is always a tense moment. What was your experience with this process?

Yes, that's true. Removing the mould is really the moment of truth. Especially because I had never worked with VITA AMBRIA before. And, of course, it is also the moment when you hope that the ceramic will come out of the investment material without any damage. The thin veneers in this case study proved to be robust during the removal process. Another thing I noticed right away was the minimal reaction layer with the investment material, and the flawless





FIG 1: A young patient was not satisfied with the appearance of her anterior esthetics.



FIG 2: The anterior teeth in the upper jaw were positioned irregularly and interlocked.



FIG 3: Tooth 21 was strongly tilted towards the palatal plate; the incisal edges did not harmonize with the curve of the lips.



FIG 4: VITA AMBRIA press ceramic provides highly esthetic restorations with true-color brilliance.

ceramic surfaces at the right furnace temperature. The restorations came out perfectly.

How did you establish a shade gradient with the veneering ceramic VITA LUMEX AC and reproduce the dentin core?

I was able to use VITA AMBRIA to produce the dentin core in the correct base tooth shade. That's why I didn't have to do much more on the anatomically reduced surfaces to get deep results that appeared threedimensional. For the shade gradient, I layered some OPAQUE DENTINE A1 cervically so it would be less chromatic after the incisal DENTINE A1. I created the mamelon anatomy effect using MAMELON saffron and highlighted it with intermediate layers of a one-to-one mixture of DENTINE A1 and ENAMEL clear.

How exactly did you proceed with the enamel layering using VITA LUMEX AC? What is your advice for creating a halo effect in the process?

I followed with alternating layers of translucent ENAMEL light, neutral ENAM-EL clear, light blue OPAL TRANSLUCENT opal-azure and light yellow TRANSLU-CENT light-blonde to establish a natural play of color and light. After the first firing, the incisal final layering was then carried out with light blue TRANSLUCENT waterdrop. I was able to achieve a halo effect from the palatal plate using a balanced mixture of OPAQUE DENTINE A1, ENAMEL light and highly fluorescent FLUO INTENSE cream. There you have it: absolutely high esthetics with only two firings!

Thank you for talking to us!

First published in das dental labor 06.2021 (p. 97-100), Verlag Neuer Merkur, Germany







FIG 5: Fluorescence, natural translucency and opalescence are integrated in VITA AMBRIA press ceramic.

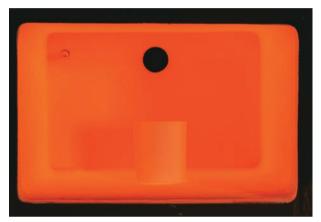


FIG 6: The veneers modeled from wax were invested in VITA AMBRIA INVEST and fired.



FIG 7: After the firing, VITA AMBRIA was pressed with the appropriate PLUNGER.



FIG 8: The investment material VITA AMBRIA INVEST generally ensures a completely minimal reaction layer.

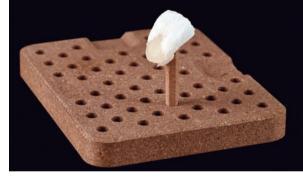


FIG 9: Minimal individualizations can be made using the veneering ceramic VITA LUMEX AC.



FIG 10: The incisal edges and curve of the lips harmonized with each other.



FIG 11: Surface texture and gloss level could be realized in an age-appropriate manner.





FIG 13: The dental arch in the upper jaw had been levelled by the all-ceramic restorations.

FIG 13: The four veneers showed a vivid interplay of color and light.

OPTIMISM HAS RETURNED- IDS 2021 SETS THE TONE FOR THE DENTAL INDUSTRY

Over 23,000 visitors from 144 countries despite the aftermath of the pandemic-industry expects positive development in the coming months

IDS 2021, which came to a close on Saturday, 25 September 2021, after four days, set the impulses the global dental industry had hoped for in the post-Corona era.

For Oliver Frese, Chief Operating Officer of Koelnmesse GmbH, IDS 2021 also clearly underlined the spirit of optimism within the industry: "All of the exhibitors and visitors were visibly pleased to groom contacts directly in person, experience products live and engage in personal encounters at the end of the trade fair day in the course of numerous networking events. That is why IDS 2021 plays an outstanding role for the re-start of the industry and of course also for the re-start of the trade fair industry overall. Furthermore, IDS 2021 is the first IDS that was staged as a hybrid event. This means there were places of physical encounter on the one hand, here in Cologne in the exhibition halls and in addition to that also on the digital platform, IDSconnect, which offered additional presentation and networking options, which went down very well."

IDS IN FIGURES

830 companies from 59 countries took part in IDS 2021 on exhibition space spanning 115,000 m². The exhibiting firms included 228 exhibitors from Germany and 591 exhibitors and 6 additionally represented firms from abroad. Foreign exhibitors accounted for 72 percent of the total. More than 23,000 trade visitors from 114 countries attended IDS, of which 57 percent were from abroad.

77 exhibitors from 16 countries were present on IDSconnect with 88 items and 1,310 minutes of broadcasting time.

For more than half of the visitors, nurturing existing business relationships and creating new ones were key factors in visiting IDS. Also, more than two-thirds of the visitors were very satisfied with the exhibition offer and with the scope of their objectives and 85% would recommend IDS to a business partner. Around 70% of those surveyed were already planning their return to IDS 2023.

The next edition of IDS will take place from 14 to 18 March 2023.



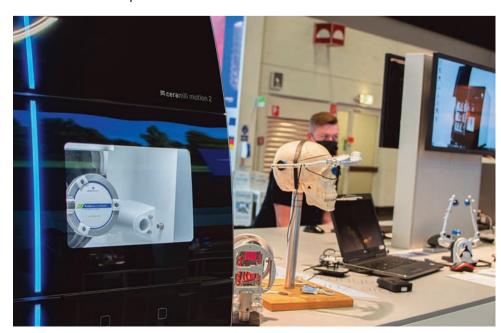
The exocad Press Event



More than 23,000 trade visitors attended IDS



At the exocad booth on Day 1



Precise, Fast, Aesthetic, Versatile - The Ceramill Motion 2 from Amann Girrbach



Dürr Dental compressors have shaped the image of dental practices and laboratories worldwide for over 50 years $\,$



Renfert at IDS 2021



Visitors taking a break at one of the many refreshment areas



Indian presence at IDS 2021; The Medicept booth



Since it was founded in 1924, this company's first priority has always been the needs of dental technicians, dentists and patients



The Gysi Prize from VDZI (Association of German Dental Technicians) demonstrated the talent and skills of aspiring dental technicians. The aim behind the prize is to challenge and promote the technician trainees.



77 exhibitors from 16 countries were present on IDS connect with 88 items and 1,310 minutes of broadcasting time



Historical photo of IDS 1962

CEREC MTL ZIRCONIA: GREAT STRENGTH, FINE ESTHETICS, AND EFFORTLESS PROCESSING

Digital dentistry in a single visit has become an important treatment option for dentists. In this context, all-ceramic restorations made of esthetic zirconia are playing an expanding role. Dentsply Sirona and VITA Zahnfabrik are now presenting a new material for this purpose. CEREC MTL Zirconia brings together a high level of esthetics and ease of processing alongside the strength familiar from zirconium oxide in a multilayer graduated zirconium oxide block.

CEREC MTL Zirconia is a zirconium oxide enriched with yttrium oxide that leaves virtually nothing to be desired. A key factor in the material developed and produced by VITA Zahnfabrik is the special color technology consisting of a multilayer color gradient. This MTL (multi transitional layer) technology, in combination with high translucency, results in very natural esthetics. The seamless color gradient within the block makes a decisive contribution to this. This property makes CEREC MTL Zirconia a

genuine innovation and an excellent choice for bridges and crowns in the anterior and posterior regions as well as for inlays, onlays, and veneers.



The 3-point flexural strength of more than 850 MPa helps ensure very high strength, which enables minimally invasive crown preparation with a wall thickness as low as 0.6 mm. This allows the fabrication of filigree veneers and means more preservation of natural tooth substance as well as a more flexible restoration design.

In addition to the material properties, processing is fast and easy. In the Super Fast mode of CEREC Primemill, a crown made of CEREC MTL Zirconia can be milled out in as little as around five minutes. Subsequent sintering in CEREC SpeedFire takes around 18-21 minutes, and the optional glaze firing is completed after nine minutes [2]. Finally, the restoration can simply be cemented – a less time-consuming procedure compared to adhesive cementation. The material is thus ideally suited for chairside restorations.

CEREC MTL Zirconia is the result of collaboration between VITA and Dentsply Sirona. "With this innovation, we have succeeded in ideally combining the requirements for maximum esthetics, ease of processing, and familiar strength," explains Bernd Schnakenberg, Head of Global Sales & Marketing at VITA.

While VITA is the designer and producer of this new MTL zirconium oxide block, Dentsply Sirona with Degudent GmbH, Hanau, will be responsible for the exclusive global distribution.

Further information on CEREC MTL Zirconia can be found on the website: https://www.dentsplysirona.com/en/explore/restorative/cerec-mtl-zirconia.html



PRESS CERAMIC SYSTEM FOR HIGHLY ESTHETIC AND DURABLE RESULTS WITH EFFICIENT PROCESSING

The press ceramic system from VITA Zahnfabrik includes press ceramic pellets in two levels of translucency (T/HT) and two sizes (S, L), muffle system, investment material and liquid, as well as press plungers

Features:

- Brilliant, multi-faceted play of shade and light, thanks to material with natural translucence, opalescence and fluorescence
- · Reliably reproduce tooth shades, thanks to

press pellets with very good fidelity and perfectly matched system components

- Achieve efficient, highly accurate press results through a minimized reaction layer, as the material and investment material are ideally matched
- Highly durable restorations, thanks to zirconia-reinforced lithium disilicate ceramic with very high stability (> 500 MPa)

For additional information: www.vita-zahnfabrik.com

AUTOMATED DENTURE CLEANING IN YOUR DENTAL OFFICE

Expand your performance repertoire with an advantageous solution: with the SYMPRO system from RENFERT, the cleaning of dentures, orthodontic appliances and splints will become an efficient task. The compact denture cleaning unit and the specially coordinated cleaning agents provide a fast and efficient prophylaxis service with minimal effort.

Advantages

- Customer retention a prophylaxis service for denture wearers.
- Processing reliability validated, hygienic reprocessing of system components.
- Patient satisfaction externally tested material compatibility with standard dental materials. Details
- Positive effect on the patient's overall health due to regular denture cleaning.
- High time savings compared to manual methods thanks to effective and automated cleaning process.
- Optimized pin geometry for gentle and at same time effective cleaning.
- High cleaning performance due to optimal bowl inclination

For additional information visit www.renfert.com



HIGH-SPEED SCANNING WITH MAXIMUM PRECISION

Even shorter turnaround times with the new Ceramill Map 600+ scanner from AmannGirrbach

The fully automatic Ceramill Map 600+, Amann Girrbach's new scanner flagship for open articulator scanning, excels with outstanding precision for perfect restorations and optimally supports dental technicians in their work.

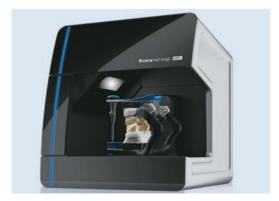
This new high-performance scanner heralds the advent of Industry 4.0 in the laboratory. The intelligent software algorithm automatically assigns the upper and lower jaws, thereby eliminating the vestibular scan and thus up to 30 percent of the manual steps in the laboratory. Due to its integrated universal carrier plate for all common types of articulators, the Map 600+ saves timeconsuming plate changes and the intelligent scan height control automatically moves the object to be scanned

into the best possible scanning area.

In parallel, Amann Girrbach has equipped the Map 600+ with an Ultra HD camera. The highly sensitive industrial 3D sensor with Blue Light technology ensures outstanding depth of field and a scanning accuracy of 4 micrometers. The reason being that making optimal use of the advantages of digitization and a seamless workflow, requires the model situation from the real articulator to be converted into a data set with maximum precision.

The new, more efficient calculation algorithm also reduces the matching time by up to 35 percent, depending on the indication. This reduces the active waiting time of a scanning process by up to 25 seconds. Depending on the indication, the Ceramill Map 600+ therefore provides time savings of between 15 and 38 percent.

AmannGirrbach develops and manufactures materials and tools as well as equipment and machines for the



fabrication of dentures, largely based on CAD/CAM technology. Its customers in around 90 countries worldwide are mainly made up of dental laboratories and dental technicians. AmannGirrbach employs a total of around 500 people.

For additional information contact: austria@amanngirrbach.com



Free Registration for all Conferences





EXOCAD'S CHAIRSIDECAD RECOGNIZED AS A 2021 CELLERANT BEST OF CLASS TECHNOLOGY AWARD WINNER

exocad GmbH (exocad), an Align Technology, Inc. company and a leading dental CAD software provider, announced recently that ChairsideCAD, its open-architecture CAD software for single-visit dentistry, received a 2021 Best of Class Technology Award from Cellerant Consulting Group.

This is the third consecutive year that ChairsideCAD has been recognized for this award. "We are honored to receive this prestigious industry award from dental industry leaders once again

for our best-in-class software solution, and we're excited to share the power ChairsideCAD with clinicians. This software can enhance the chairside design process, making it faster and more accurate, said Larry Bodony, president of exocad America, Inc. "The intuitive design workflow of ChairsideCAD, plus the freedom to use any open hardware, makes this a fantastic tool to streamline even the most challenging cases." exocad stands as the software of choice for lead-



3Shape Automate

ing manufacturers of dental CAD/CAM systems because it is flexible, reliable and intuitive. Dental professionals consistently turn to exocad software to streamline their workflows for a broad range of indications. Based on exocad's renowned lab software DentalCAD, ChairsideCAD is the first complete openarchitecture CAD software platform for single-visit dentistry.

The software includes a step-by-step guide through the design process, simple integrations with a broad spectrum of devices and the ability to seamlessly share information between clinicians and labs.

Additional information is available at: www.exocad.com/chairsidecad

DENTAL TECH STARTUP TOOTHSI RAISES US \$20 MILLION

toothsi, a direct-to-consumer clear aligner brand, has raised \$20 million in a Series of funding led by Eight Roads Ventures, San Francisco-based Think Investments and the Mankekar Family Office. The latest funding comes six months after the startup raised \$5 million earlier this year. The company will use the funds to bolster technology infrastructure and expand its footprint. Founded in 2018 by four orthodontists--Arpi Mehta, Pravin Shetty, Manjul Jain and Anirudh Kale-



-toothsi provides customers with access to at-home, new-age teeth straightening with invisible, 3D-printed clear aligner technology. "toothsi leverages its tech-enabled platform and panel of expert clinicians to provide at-home, clinically-oriented cosmetology services," says Arpi Mehta, co-founder and chief executive officer, toothsi. The startup claims to have grown 5X during the pandemic, and plans to serve over 1 lakh customers this year. Apart from stitching partnerships with over 1,000 dental clinics across the country, toothsi has rolled out a teeth whitening kit for consumers. The company has seen its revenue grow by 200 percent over the last six months.

DS WORLD 2021

From Sept. 23 to 25, dental professionals had the opportunity to immerse themselves in the world of dental technology and innovation, all thanks to this year's Dentsply Sirona (DS) World, which took place in Las Vegas. As expected, the event attracted thousands of participants, both in person and online. For the first time, visitors to DS World were able to join the hybrid event either on-site at Caesars Forum in Las Vegas or virtually via livestream and on demand. After each day full



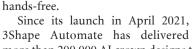
of educational opportunities, the attendees were also able to take some time out and enjoy musical and comedy performances.

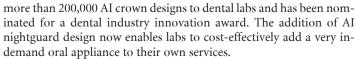
The event reached 7,000 registered participants in total. The attendees were offered over 150 hours of clinical education, and the topics were presented by more than 100 expert speakers from all around the globe. On Friday, Sept. 24, participants were able to join the DS World press conference, which was streamed live from Las Vegas and included Don Casey, the CEO of Dentsply Sirona, Dr. Terri Dolan, Vice President and chief clinical officer at the company, as well as key dental experts Dr. Dan Butterman, John West, and Shivi Gupta. DS World 2022 which will be held from September 15-17, 2022 in Las Vegas, USA.

Shape Automate Artificial Intelligence Now Designs Nightguards

3Shape's remote digital design service exclusively powered by artificial intelligence (AI), has added night-guard design to its services.

Dental professionals can now go direct to the 3Shape Automate website and order as many nightguard designs as they need and receive them back in as little as ten minutes. The entire Automate design workflow is done with AI and completely hands-free.





Prices for the Automate nightguard designs start at as little as \$9.99 USD (Rs. 750). With scans accepted from any brand that outputs. DCM, STL, PLY, and OBJ files. 3Shape LabCare customers receive a 10% discount on Automate services.

3Shape Automate nightguard design files are open to most 3D printers and resins. The service is currently available in select markets worldwide.

Ivoclar Vivadent Celebrates 30 Years of Press Technology

In 1991, Ivoclar Vivadent introduced a pioneering technology: pressing all-ceramic restorations using the IPS Empress system and the Programat press furnace.

Lee Culp, CDT, who was working for Ivoclar Vivadent at the time and was the first U.S. technician to work with Empress, remembers the product launch well. "It was one of the first all-ceramic systems to be introduced into the metal-ceramic world. Technicians

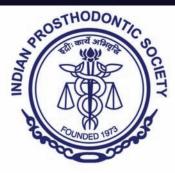
realized how much labor was involved in metal ceramics compared to pressing. Since Empress was successfully marketed as a higher-end material, dentists were willing to pay more for it and labs were able to lower their labor costs and achieve higher profit margins," recalls Culp, CEO of Sculpture Studios in Cary, North Carolina. Sixteen



years later, the company introduced another breakthrough material: IPS e.max, a lithium disilicate glass ceramic. "IPS e.max Press has confirmed its longevity in everyday clinical practice. One hundred million restorations and a survival rate of 96.2% bear testimony to its success," says Armin Ospelt, Ivoclar Vivadent's Senior Director of the Global Business Unit Labside Analog. Most recently, Ivoclar Vivadent introduced the PrograPrint 3D printing system that includes equipment and materials that are fully coordinated, offers a smooth transition into digital manufacturing and enables labs to fabricate several waxups efficiently in one printing process. Now, 30 years later, every four seconds, somewhere in the world, a restoration made with Ivoclar Vivadent pressed ceramics is placed.

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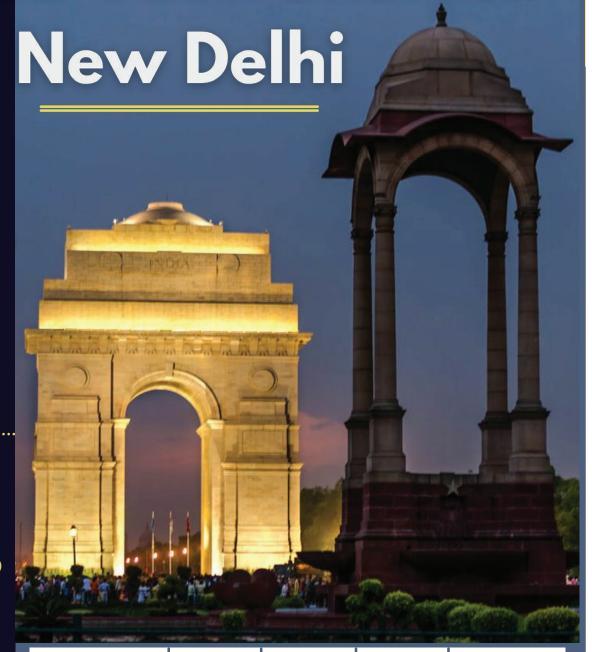
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COMING EVENTS

BRESCIA, ITALY

October 21-23, 2021

Colloquium Dental 2021 - Italian Dental Show

Contact: Teamwork Media

email: redazione@teamwork-media.com website: www.teamwork-media.com

DUBAI, UAE

November 11-14, 2021

16th Cad/Cam & Digital Dentistry Conference online event

Contact: Capp Events & Training email: events@cappmea.com

NEW YORK, USA

November 26 - December 1, 2021

Greater New York Dental Meeting 2021 (GNYDM) Contact: Dr. Robert R. Edwab (Executive Director)

E-mail: execdirector@gnydm.com website: www,gnydm.com

DUBAI, UNITED ARAB EMIRATES

February 1-3, 2022 **AEEDC 2022**

Contact: INDEX Conferences & Exhibitions

email: index@emirates.net.ae website: www.index.ae

CHICAGO, USA

February 24-26, 2022 LMT LAB DAY Chicago 2022

Contact: Susan Poitras.

email: susan@lmtmag.com

SINGAPORE

April 8 -10, 2022

IDEM 2022 - International Dental Exhibition and Meeting

Contact: Aaron Ann (Project Manager) email: aaron.ann@koelnmesse.com.sg website: www.idem-singapore.com

Due to the Coronavirus spread, some events have been postponed or cancelled. Please check the official websites or contact the

organizers to see if the dates are confirmed.

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