

CONNECTING DENTAL TECHNOLOGY

Laboratory

FMC CONNECTING DENTISTRY

July/August 2024 / Volume 18 / No 3

KATANA™ Zirconia YML

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HIGH TRANSLUCENCY, HIGH STRENGTH

Gradation map and physical properties of KATANA™ Zirconia YML

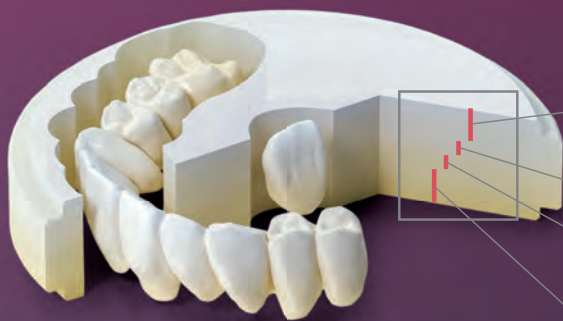


Image of gradation

Measurement condition: Evaluated by base material (white color).
 1. According to ISO 6872: 2015, Sample size: 3 x 4 x 40mm.
 2. All light transmittance, illuminant: D65, Thickness of sample: 1.0mm
 Data source: Kuraray Noritake Dental Inc. The numerical value varies according to a condition.

Layer	Flexural Strength ¹	Translucency ²
Enamel (35%)	750 MPa	49%
Body 1 (15%)	1.000 MPa	47%
Body 2 (15%)		
Body 3 (35%)	1.100 MPa	45%

High translucency (top) and High strength (bottom) are indicated with arrows on the right side of the table.

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- ✓ The accurate reflexion of colour and translucency reduce the need for extensive finishing
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- ✓ The Vickers hardness also allows for thinner restorations and sharp margins, thereby improving marginal fit
- ✓ The body layer of YML can be adjusted thinner than that of high translucency zirconia, increasing its translucency even more

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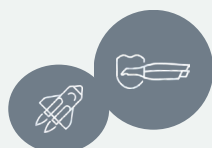
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July/August 2024 / Volume 18 / No 3

EFFICIENCY TRANSFORMED

Streamlining workflows with CAD/CAM technology [p.16](#)

Effective and discreet
arch expansion [p.14](#)

What does Labour
mean for labs? [p.24](#)

Have you planned an
exit strategy? [p.42](#)

TWO HOURS' ENHANCED CPD INSIDE THIS ISSUE

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Highs and lows

MATT EVERATT

Editor-in-chief

As we all sit waiting for the faint rays of sunshine to break through the rain clouds and finally give us a summer, we have another fantastic collection of articles for you this month.

We previously reported on the CDTA UK's proposed scope of practice expansion and awaited feedback from the wider profession.

It is believed that the British Dental Association (BDA) and the new chief dental officer, Jason Wong, have been very welcoming and positive regarding these proposals.

ILLEGAL MANUFACTURING UPDATE

Regarding illegal manufacturing, we will continue to keep knocking on the doors of our associations and regulators to try and get some transparency on this important subject.

The *Laboratory* team has sent several questions to the Dental Technologists Association (DTA), Dental Laboratories Association (DLA) and the General Dental Council (GDC) in the hopes of publishing a 'statement of fact'.

At the time of writing, we haven't received any responses, but we are hopeful that we will have something to report in an

upcoming issue. In addition, the Professional Standards Agency (PSA) has asked us to make it aware of any responses, and also whether there is a lack of response from the GDC.

REMEMBERING JOHN BROWN

As I sit writing this welcome note, I have just heard the sad news of the passing of John Brown. John was well known for his work within orthodontic technology and the Orthodontic Technicians

Association (OTA), where he spent many years on the board and lecturing at many of the annual OTA conferences. Rest in peace, John – our thoughts are with his family at this sad time.

POSITIVE FEEDBACK

I want to close this welcome on a high note. Thank you to all who have contributed to this edition; readers are in for a treat. We received so much positive feedback on the last issue, so let's see how this one goes!

Have a great summer – I hope you all manage to get a bit of downtime, and that the sun finally makes an appearance. Don't forget, if you'd like to publish an article in *Laboratory*, get in touch!

GET IN TOUCH

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Laboratory

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Road to recovery?

When we last met, Rishi Sunak had just announced a snap election while getting drenched by rain outside 10 Downing Street. Since then, the Labour Party won the election with a significant majority after millions of people flocked to the polls. In recent years, the dental profession has watched while NHS dentistry deteriorated, potentially to a point of no return, with little reform or funding from the government to save it...

Is there light at the end of the tunnel? Will NHS dentistry finally receive the radical reform it so urgently needs? Or is this just another government of empty promises, unwilling to save NHS dentistry while millions struggle to access the service?

Only time will tell, but the new health secretary's early discussions with the British Dental Association (BDA) provide a glimmer of hope. Find out what others think a Labour government will mean for dental technology on page 24.

With the announcement of the return of the *Laboratory* Leading 20 (page 11) and the reveal of the finalists for this year's Dentistry Awards (page 12), there is plenty to be excited about in this issue. In addition, we have an uplifting and inspiring interview with Nina Frketin, founder of Nightshift on page 22. Here, she discusses the incredible evolution Nightshift has had in its first year and how it has become a beacon of hope for many female dental technicians in the lab community.

We also hear from trainee dental technician Charlie Norie on how he has found working in the industry so far (page 28), and managing director Kash Qureshi, who looks back on his career and the lessons he has learned (page 34). In addition, don't miss two excellent technical cases on pages 14 and 16, both of which highlight the impact of innovation and excellent technical skill on patient satisfaction. They are also both CPD verified!

By the time you read this, we will have entered a new CPD year. Did you have a last-minute rush to meet the CPD deadline? One of the easiest ways to take the stress out of deadline day and cover all your CPD needs is through Dentistry CPD. This platform allows you to manage your CPD record all year round, offers easy access to a support team and, most importantly, hosts more than 600 hours of enhanced CPD. If you're interested or would like some more information, call George on 01923 851731.

As always, please get in touch if you have any feedback, if you're interested in publishing an article in *Laboratory* or if there are particular topics you would like to see more of.

I'd love to hear from you!

LUCY VEAL
Editor of *Laboratory*



ENHANCED CPD

Complete this issue's enhanced CPD online at cpd.dentistry.co.uk or scan the QR code. Email cpdsupport@fmc.co.uk if you're in need of guidance.

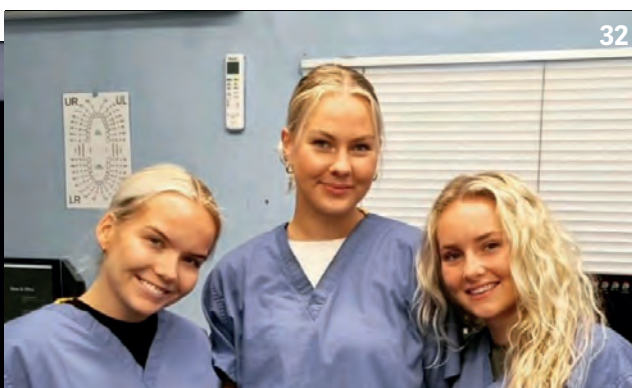
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Laboratory's Lab Experts panel

Presenting **Laboratory's** editorial board – the Lab Experts helping to nurture connection, passion and quality within dental technology



CRAIG MARK BROUGHTON

Clinical dental technician and managing director, CMB Dental Laboratory



ASHLEY BYRNE

Associate director, Byrnes Dental Laboratory, part of the Corus group



MASSIMO CICATIELLO

Orthodontic dental technician and owner, Napoli Ortodonzia



MATT EVERATT

Editor-in-chief of *Laboratory* and S4S Dental Laboratory director



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Senior dental technician, Mango Dental Technologies



ANNA MUNRO

Dental technician, Southend University Hospital



ELEANOR PITTARD

Managing director and co-owner, Hive Dental Laboratory



EMILY PITTARD

Clinical dental technician, clinical director and co-owner, Hive Dental Laboratory



KASH QURESHI

Clinical dental technician and managing director, Bremadent Dental Laboratory



DANIEL SHAW

Maxillofacial prosthetist and laboratory manager, Chesterfield Royal Hospital



BRIANA SLACK

Dental technician, S4S Dental Laboratory



LOLA WELCH

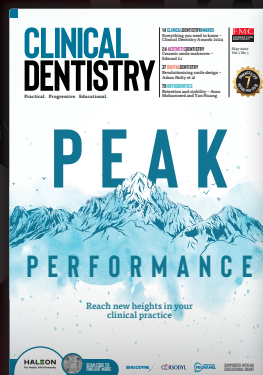
Prosthetic technician, Ceramic Designs Laboratory

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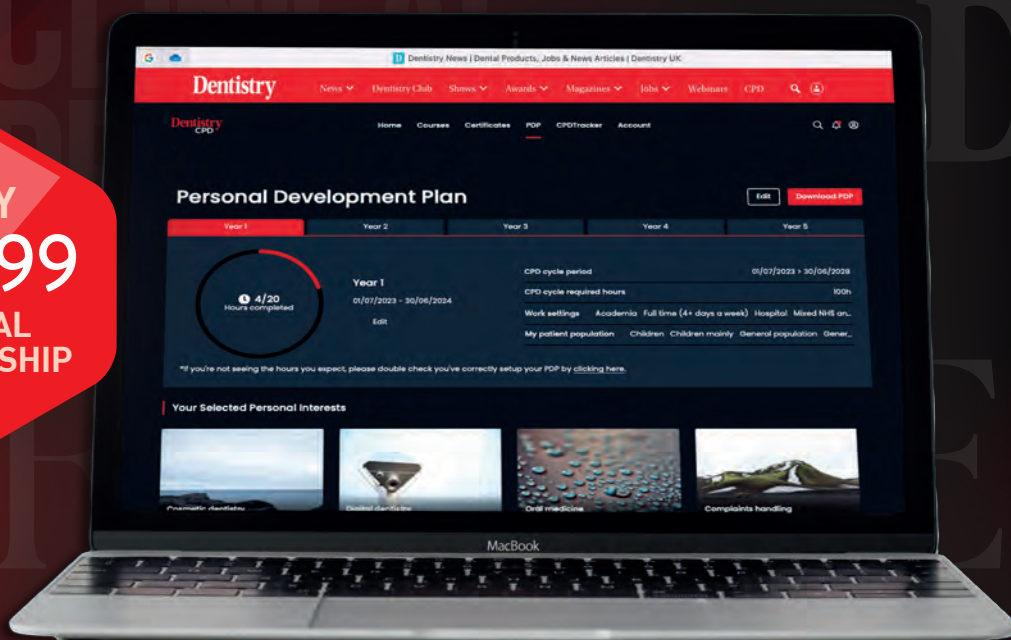
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Smoking ban to go ahead, government confirms

The King's Speech has confirmed that the smoking ban proposed by former prime minister Rishi Sunak will go ahead under the new Labour government.

King Charles delivered the newly elected Labour government's first King's Speech in the House of Lords on 17 July. It laid out approximately 40 bills that will be prioritised in the coming months. Among these was a revival of the tobacco and vapes bill.

Sunak first proposed the legislation in autumn 2023. It would raise the legal smoking age by one year annually, effectively banning smoking for anyone born in 2009 or later. It would also include measures to limit marketing of vapes to children.

MPs voted in favour of the bill



by 383 votes to 67 in April 2024. However, the bill was dropped in the run up to the general election on 4 July.

The King's Speech has confirmed that the plans will now go ahead with the legal purchase age to be gradually increased.

JUNK FOOD AND ENERGY DRINKS

Another measure announced within the King's Speech was legislation to restrict the advertisement of junk food to children. Sale of high-caffeine energy drinks to children would be barred within the same bill.

Charlotte Eckhardt, dean of the Faculty of Dental Surgery (FDS) at RCS (Royal College of Surgeons) England, said: 'The Faculty of Dental Surgery welcomes the government's commitment to restricting the advertising of

junk food to children and the sale of high-caffeine energy drinks to children.

'Excessive sugar consumption contributes to tooth decay, which remains the leading cause of hospital admission for children aged five to nine years.'

In January, more than 40 organisations made an appeal for the government to ban energy drinks for children. Lead author Amelia Lake said: 'Energy drinks are marketed to children and young people as a way to improve energy and performance, but our findings suggest that they are actually doing more harm than good.'

'We have raised concerns about the health impacts of these drinks for the best part of a decade after finding that they were being sold to children as young as 10-years-old for as little as 25p. That is cheaper than bottled water.'

'The evidence is clear that energy drinks are harmful to the mental and physical health of children and young people as well as their behaviour and education. We need to take action now to protect them from these risks.'

Health secretary to launch NHS investigation

Health secretary Wes Streeting has announced that an independent investigation will be taking place into the performance of the NHS.

Led by Lord Ara Darzi, an NHS expert, the report will 'tell the hard truths' about the current state of the health service.

Using the findings of the investigation, the government will draw up the required plans to rebuild the NHS. Streeting also acknowledged that fixing the health service will take time and needs 'fundamental reform'.

Writing in *The Sun*, Streeting said: 'Unlike the last government, we are not looking for excuses. I am certainly not going to blame NHS staff, who bust a gut for their patients. This government is going to be honest about the challenges facing us, and serious about solving them.'

'We can turn the NHS around. But before we write the prescription, we need to diagnose the problem.'

NHS DENTAL CONTRACT REFORM

This comes after the Labour Party won the 2024 general election by a landslide in May. Following this, Streeting was made health secretary after serving as shadow health and care secretary since November 2021.

Since Labour's win, he has met with the British Dental Association (BDA) to begin negotiations on the NHS dental contract. They also discussed Labour's manifesto pledge to create an additional 700,000 emergency dental appointments each year.

The BDA said this initial discussion has 'opened the door to reform of the discredited contract NHS dentists in England work to'.

Streeting has also met with the junior doctors committee to discuss rebuilding relations between the government and junior doctors.

Following the meeting, he said: 'This government has inherited the worst set of economic circumstances since the second world war. But both sides have shown willingness to negotiate and we are determined to do the hard work required to find a way through.'

'I am angry about the way the junior doctors are treated in the NHS, and there is a lot we can do to change that. Junior doctors are the future of the health service and I want to work with them to turn around our NHS.'



'We've lost your trust' – CQC issues apology

The Care Quality Commission (CQC) has apologised for failing to keep patients 'safe' and pledged to 'put things right'. The CQC's interim chief executive Kate Terroni published an apology on 15 July, saying the regulator 'got things wrong in the implementation of our new regulatory approach'. She described recent changes as 'not what we promised', making things 'more difficult than they should be'.

Some of the issues discussed in the apology include technical problems with the provider portal, delays in registration and changes to communication which have left providers feeling 'unsupported'. According to the *Health Service Journal*, Kate Terroni also produced a problem statement, which states: 'The way we work is not working.'

The statement continues: 'We are not consistently keeping people who use services safe. Our people are not able to effectively identify and manage risk and encourage improvement and innovation.'

'Our organisational structure, flow of decision making, roles, internal and external relationships do not promote a productive and credible way of working.'

'WE DIDN'T LISTEN PROPERLY'

Terroni said that many of the current problems had been predicted or flagged by both providers and CQC staff.

She said: 'We didn't listen properly or take on board these concerns, and that's why we're where we are now. I know that, for some of you, we've lost your trust because of this. I'm sorry.'

The interim chief executive also described three 'urgent and immediate' areas of action to address the problems. These were:

1. Improve how the CQC uses its regulatory approach – improved support and guidance, increased assessments and more registration staff
2. Fix and improve the CQC provider portal
3. Rethink our ways of working – including a 'new approach to relationship management'.

Terroni said that these improvements were 'just the start'. She said: 'We have the strategy, great people, and honest feedback from partners to enable us to be the strong regulator that people who use health and care need us to be. Getting

these changes right will help providers deliver better care.'

'HUGELY SIGNIFICANT MOVE'

FMC content director Guy Hiscott said: 'Ms Terroni's acknowledgment of the CQC's failings is a welcome – if overdue – move. The implementation of the new provider portal has been anything but smooth, and launching with something so clearly unfit for purpose has caused no end of stress for dental teams. These issues carry a patient cost too – the enormous backlog of new registrations will not have helped the UK's oral health crisis at a point where access is already at an all-time low.'

'I'm looking forward to the planned improvements making a difference to dental professionals' lives.'

'At the same time, I think we need to recognise what a hugely significant move this is. An apology from a regulator is no mean feat – so I applaud Ms Terroni for her honesty and openness.'

'If this is a measure of what we can expect from the CQC going forwards then it bodes well for the future.'

Paris Olympics to provide dental care to athletes

A first-of-its-kind oral health department has been created for the Paris 2024 Olympics to provide athletes with more specialised dental care.

The International Olympics Committee (IOC) has introduced an on-site oral health department in the capital, which will offer 'precise and personalised medical services' – including emergency care – to those who

are competing.

According to the committee, the department will provide screenings to check and diagnose possible issues, offer specialist treatment when needed, and carry out X-rays and analysis to support prevention. They will also replace athletes' mouthguards.

700 PATIENTS PER DAY

The oral health department in the Olympic Polyclinic will prioritise urgent treatment in Paris.

Athletes were asked to bring along their dental records so that, in the event of an oral health issue, it will speed up the

process and help clinicians choose the correct treatment.

In addition, there will be an Oral-B dental clinic open daily from 8am to 8pm for general appointments and 24/7 for emergency services. Located in the Polyclinic in the south east part of the Olympic Village, participants can book an appointment in advance.

Alongside specialised dental care, there will be a health clinic available with the capacity to treat up to 700 patients per day in the Olympic Village.

There will also be specialists on hand for most health concerns, two MRI machines as well as a pharmacy. [L](#)





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Laboratory Leading 20 returns

After a successful and well-received launch last year, we are bringing **Laboratory Leading 20** back – get your nominations ready!

FMC is delighted to be bringing back *Laboratory Leading 20* for its second year.

In 2023, we launched *Laboratory Leading 20* to highlight the influence, skill and contributions of dental technology. This year, we are continuing this initiative to honour the individuals who drive innovation and excellence in dental labs.

Lucy Veal, editor of *Laboratory*, commented: 'I am so excited to see the return of *Laboratory Leading 20* after a successful first launch last year. The sheer number of nominations we received demonstrated just how much the initiative meant to our audience.

'With the ongoing challenges facing the profession at the moment, it is more

important than ever to sprinkle some positivity in the lab community and recognise the excellent work that is being done despite the current hurdles.

'And having recently announced the much-loved Dentistry Top 50, it's time to pay tribute to a sometimes-forgotten area of the dental profession and celebrate the hard work, skill and passion in dental technology.

'Don't miss this opportunity to get involved and nominate someone you believe is worthy of a spot in *Laboratory Leading 20*.'

SEND YOUR NOMINATIONS

Who inspires you? Who do you think deserves to be recognised?

While the 20 individuals will be selected by the FMC team, we will be preparing the list in consultation with senior figures in the industry and you, the UK dental technology community.

We invite you to participate by emailing newsdesk@fmc.co.uk with your nominations – don't forget to tell us why you believe they are worthy of being selected.

Over the coming months, we will compile the *Laboratory Leading 20* list


WHO DO YOU THINK DESERVES TO BE RECOGNISED?

based on the nominations we receive and feedback from industry figures.

We're looking for individuals who have significantly impacted the dental laboratory sector in the past year. This could be someone helping to increase the visibility of the dental lab community or using their technical skills to carry out inspiring charitable work.

Maybe it's someone helping to foster collaboration between dental technicians and the wider dental team or highlighting other important issues in the community.

Your input is crucial in helping us shape this list, so make sure you have your say!

The results will be unveiled in the September/October issue of *Laboratory* magazine, so stay tuned! 

WE'RE LOOKING FOR INDIVIDUALS WHO HAVE SIGNIFICANTLY IMPACTED THE DENTAL LABORATORY SECTOR IN THE PAST YEAR

HAVE YOUR SAY AND GET INVOLVED

by sending your nominations to newsdesk@fmc.co.uk.

The 2024 Dentistry Awards finalists

Did you or your lab make the shortlist for the **2024 Dentistry Awards**?

The Dentistry Awards is the largest dental awards ceremony in the UK. The occasion has become a well-respected ceremony, recognising excellence in dentistry across the whole of the UK.

Taking place on Friday 13 September 2024 at The Athena in Leicester, this ceremony is not to be missed. Even just receiving a nomination can bring significant advantages to you and your laboratory. These awards also offer invaluable visibility, showcasing your prominence in the field of dentistry.

Here we reveal the shortlist for the laboratory categories. Congratulations to all who made it!


LABORATORY OF THE YEAR

Ceramic Designs
The Denture Practice
Dynasty Denture Solutions
Remo Dental Laboratory
Vivo Dental Lab

DENTAL TECHNICIAN OF THE YEAR

Nina Frketin
Nick Jones
Stuart Jones
Nouman Zulfiqar

CLINICAL DENTAL TECHNICIAN OF THE YEAR

Craig Mark Broughton
Gosia Ciepiela
George Manners
Matthew Varley 

FOR MORE INFORMATION

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Effective and discreet arch expansion

Jinesh Patel and Binh Mai present a case in which laser sintered custom bands meet rapid maxillary expansion



JINESH PATEL
Managing director,
S4S London



BINH MAI
Digital and print room
technician, S4S London

Orthodontic treatment has evolved over the years, driven by technological changes and advancements in materials. One of the innovations we utilise in this article is the use of laser sintered custom bands for rapid maxillary expansion (RME).

In this article, we will explore the case overview, challenges, technical workflow, the final product and reflections on the appliance itself.

The many moving parts of this case meant that a collaboration was required in order to aid the orthodontist and patient to continue with the orthodontic treatment plan. The patient had suffered large swelling around the gums due to traditional bands being buried into the gums, causing pain and discomfort.

We told the orthodontist that we had another option involving

creating custom bands to enable expansion to occur. This option would not alter the treatment plan and it would create the space needed for this patient to complete orthodontic treatment.

CASE OVERVIEW

Traditional orthodontic bands have often been made of stainless steel that, while it has been effective for many years, may lack aesthetic appeal. Patients are now seeking more discreet options that provide a better aesthetic solution to traditional orthodontics.

In response to this rising demand, the integration of laser sintering technology coupled with the RME appliance is a promising solution for effective arch expansion with a more discreet feel.

This article features collaborative work with fellow lab owner Jagdeep Singh of Flora Orthodontics, who aided in the processes of manufacturing and designing the digital bands with us.

CHALLENGES

Implementing laser sintered bands with the RME appliance presents several challenges, including:

- **Material selection:** identifying the optimal powder composition for laser sintering to ensure both aesthetics and mechanical properties are met
- **Precision manufacturing:** achieving the intricate geometries and tight spaces required for orthodontic band placement
- **Biocompatibility:** ensuring that the materials are biocompatible and safe for prolonged intraoral use
- **Surface finish:** attaining a smooth surface finish and desired aesthetic appearance to meet patient expectations
- **Thickness parameters:** getting the right balance between strength and functionality of the bands.



FIGURES 1 TO 3: We were pleased with the outcome of this appliance in the lab. For our first attempt, we brought multiple collaborative workflows together in order to achieve a pleasing outcome



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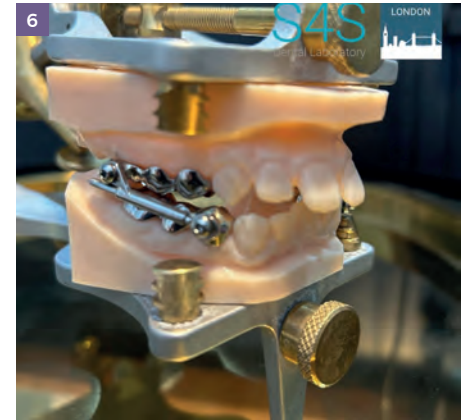
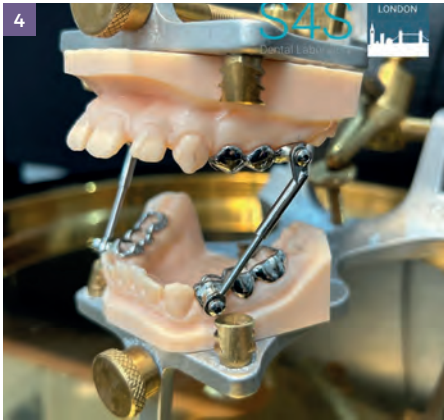
GDC anticipated outcome: C

CPD hours: One

Topic: Laser sintered orthodontic bands

Educational aims and objectives: To discuss utilising laser sintered custom bands for rapid maxillary expansion.

This article qualifies for one hour of enhanced CPD. Turn to page 54 to answer the questions.



FIGURES 4 TO 6: Further to RME, we will be able to utilise digitally designed and laser sintered custom bands in various other appliances such as the herbst

TECHNICAL PROCESS

The technical work involved in manufacturing laser sintered bands with RME expander had several key stages. We have outlined them below:

- Material choice – we decided to use Argen cobalt chrome material for the material of choice for the band (supplied by Skillbond). Both biocompatible and holds the strength of the bands for rapid expansion
- Computer-aided design (CAD) – we used the 3shape appliance design software to create the bands digitally and create a digital STL of the unit we wished to have laser sintered. We designed the bands to cover the sixes around the full circumference of the tooth. In extension to this design, we created two arms on the lingual side to extend to the fours for full arch expansion
- Laser sintering – files were sent externally to a specialist laser sintering lab for manufacture process and returned to us unfinished
- Post processing – removal of support structures, surfaces finishing and, of course, bringing it to a high polish to achieve the desired aesthetic and mechanical function

- Manual design of RME screw – we used the Leone RME expander for this appliance and adapted the wire work to contour the patient's mouth and sit close to the bands in situ. The dentist required headgear arms attached to the buccal side of the sixes along with the molar tubes for arch wire placement, which was spot welded onto the bands on the sixes
- Welding – once the RME appliance was designed, we spot welded the four arms on sixes and fours to hold them in place, and then we soldered the arms into the final position
- Polishing – the appliance was polished with a range of burs and then finalised on the polishing lathe to achieve a high, smooth shine.

The possibilities for manufacturing fixed appliances in this way are endless

FINISHED APPLIANCE

We were pleased with the outcome of this appliance in the lab.

For our first attempt, we brought multiple collaborative workflows together in order to achieve a pleasing outcome (Figures 1 to 3).

The orthodontist and patient were ecstatic at the accuracy and comfort of the appliance, and we negated the discomfort the patient had from their previous appliance.

We found that not only was this appliance better for comfort, but we were also able to aid the chairside time by

The outcome was a great step in orthodontic treatment, and it made a horrid appliance feel much less daunting for the patient

negating the spacing appointments for molar bands. Therefore, not only did we make this viable for the patient, but we also reduced the number of patient appointments to save clinical time.


REFLECTIONS

Further to RME, we will be able to utilise digitally designed and laser sintered custom bands in various other appliances such as the trans palatal arch, quad helix, nance, herbst (Figures 4 to 6), habit breaker and temporary anchorage device, and achieve similar beneficial outcomes as have been presented here.

The possibilities for manufacturing fixed appliances in this way are endless. So long as we know the function, we can design to flexibly meet specific needs and requirements from the orthodontist.

SUMMARY

With innovation moving faster than it ever has, we will continue to develop these appliances by working closely with orthodontists and utilising our manufacturing skills to continually improve the patient experience.

The outcome was a great step in orthodontic treatment, and it made a horrid appliance feel much less daunting for the patient. 

Both provisional restorations and custom abutments are critical for achieving successful outcomes in restoration procedures

Streamlining implant dentistry

Catalina Muntenasu demonstrates how digital dentistry can guarantee precision and reliability from the provisional to the final restoration



CATALINA MUNTENASU

CAD dental technician,
Tusk Dental Technologies

In the dentistry world, technology has become a game-changer, especially for those of us on the cutting edge of dental technology. My passion for this field helped me discover the digital side and combine CAD accuracy with creativity and efficiency to achieve exceptional results.

My journey began with a solid educational foundation, earning a dental technology degree at Grigore T Popa University of Medicine and Pharmacy in Iasi, Romania. Before moving into the digital world, I had to understand and learn the classic way of working as a dental technician where every single step of creating teeth has been done by hand.

In the last seven years, I tried to follow the path of digitalisation and move everything that concerns dental restoration to this area, making my daily work much more precise and efficient.

This article will include the complete steps to create a dental restoration, showing how the digital work method and applied technical skills play an essential role in achieving optimal results.

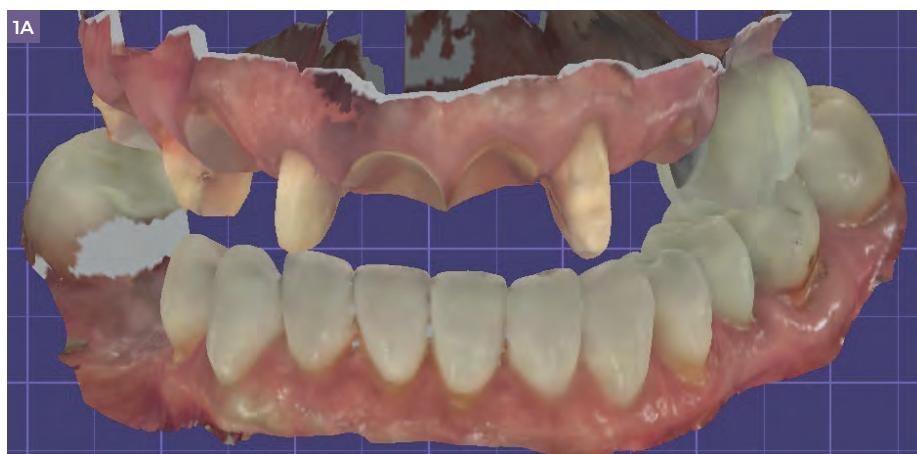


FIGURE 1A: Virtual extraction of teeth



FIGURE 1B: Immediate loading design using Exocad



FIGURE 1C: Immediate loading temporary restorations fitted during the healing stage of implants



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GDC anticipated outcome: C

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Topic: Dental implants

Educational aims and objectives: To provide a case detailing the complete steps to create a dental restoration.

This article qualifies for one hour of enhanced CPD. Turn to page 54 to answer the questions.

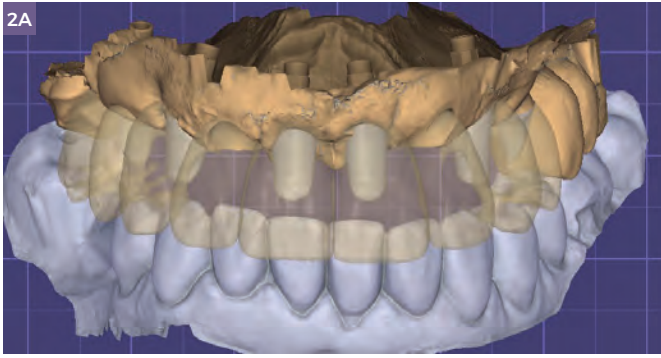


FIGURE 2A: Intraoral scan used to design the custom abutments and provisional restoration

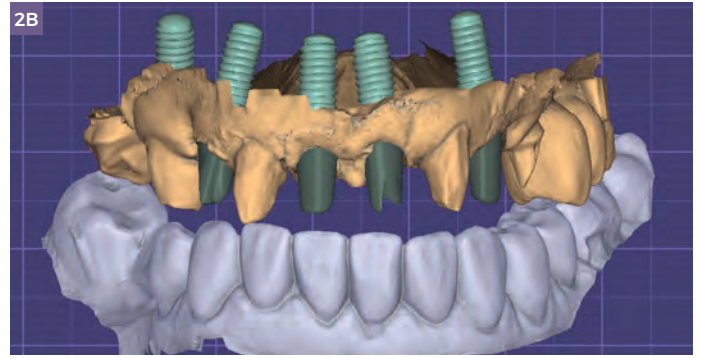


FIGURE 2B: Design of custom abutments

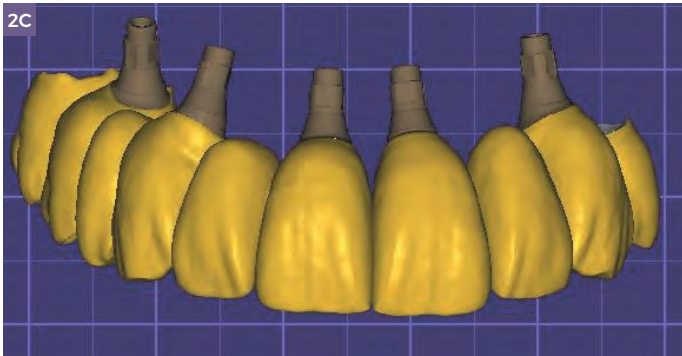


FIGURE 2C: Design of the provisional restoration



FIGURE 2D: Provisional restoration and custom abutments fitted review

This case study explains the importance of the three phases, starting with the creation of an immediate loading temporary bridge that helps to place the implants in the correct direction, continuing with the provisional bridge and custom abutments and finishing with a full contour zirconia bridge.

1. IMMEDIATE RESTORATION

The first phase during the process of creating the restoration often begins with a guide in the planning and execution of the implant procedure. After that, the digital scans are provided by the dentist and, using the power of Exocad tools, the teeth – which will be replaced with implants – are removed (Figure 1a).

The other preparation teeth offer support during the healing process but will be

extracted later at a second stage.

The same design is imported into guided surgery planning software in order to achieve a precise implant placement. This ensures correct alignment, position, angulation and depth. While serving as a guide, the immediate bridge also provides the patient with a temporary solution that maintains function and aesthetics during the healing period (Figures 1b and 1c). The material used was milled PMMA to ensure adequate strength for some time.

2. PROVISIONAL RESTORATION AND CUSTOM ABUTMENTS

Following implant placement, provisional restorations are used to offer a functional and aesthetic interim solution.

New intraoral scans with the implants placed were received and, using the same file of the immediate loading bridge as a guide, the custom abutments are then designed to fit precisely (Figures 2a and 2b). As a result, this ensures a good integration between the implants and the second provisional restoration.

During the same stage, the provisional bridge is made to fit on top of custom abutments, creating the emergence profile, shaping the gum tissue around the

The main advantage of using CAD/CAM technology is that all the arts can be designed and manufactured using the same source design without recreating each step

implant for final restoration and ensuring that it will have the desired fit and appearance (Figure 2c). Both provisional restorations and custom abutments are critical for achieving successful outcomes in restoration procedures. This is because they ensure the patient can function normally and maintain an aesthetic appearance while waiting for the final, permanent restoration.

Here, the custom abutments are manufactured and the temporary restoration is milled in PMMA multilayer material and finished with a fine touch of light-cured stains to give the patient a preview of the final restoration. The main advantage of using CAD/CAM technology

Both provisional restorations and custom abutments are critical for achieving successful outcomes in restoration procedures



FIGURE 3A: Characterisation of milled zirconia



FIGURE 3B: Zirconia bridge after sintering, ready for colouring



FIGURE 4A: Oral examination of the patient at the initial visit



FIGURES 4B AND 4C: Final restoration – full contour zirconia bridge on custom abutments. Colouring finished by dental technician Plamen Vasilev



is that all the parts can be designed and manufactured using the same source design without recreating each step, like you would have to in the past.

One of the most important parts during this stage is communication with the dentist and patient regarding both the result of the shell bridge, which was fitted previously and the provisionals with the custom abutments (Figure 2d). This feedback allows dental technicians to make the necessary adjustments for the final restoration.

In addition to this, receiving photos for any further tweaks are required.

3. THE FINAL RESTORATION

If the temporary restoration meets the patient's expectations and the dentist is satisfied with the fit of the custom abutments, then we receive the third scan with the abutments placed in the mouth together with the temporary bridge.

For the last stage of creating the definitive full contour zirconia bridge, the dental technician should focus on achieving the desired aesthetic outcome. Again, the CAD software plays an important role in aligning and adjusting if necessary, instead of having to start from

scratch. By using these digital tools, the time and cost of production can be significantly reduced.

The key points at this stage are choosing the right type of zirconia in terms of strength and aesthetic properties, and careful treating during the manufacturing process. Using CAM software, the bridge is nested and milled in the appropriate colour. Before sintering, the details that are too fine for the milling burs can be added by hand using a micromotor and small brushes (Figure 3a).

The final step to give life to the zirconia consists of using colouring liquids and polishing tools to ensure that the surface meets the quality standards, ensuring both functionality and aesthetics (Figure 3b).

REFLECTIONS

The use of digital tools can help us fabricate various dental restorations quickly and efficiently, helping to fulfil patient expectations (Figures 4a to 4c).

In my opinion, our industry is lucky to have the chance to explore, combine and use CAD/CAM processes. This case shows how the adoption of digital workflows in the creation of custom abutments, provisional restorations, and final zirconia

By using these digital tools, the time and cost of production can be significantly reduced

restorations can improve the way dental technicians operate, leading to high quality results and efficient processes. The precision, efficiency, and customisation offered by digital technology can significantly enhance the quality of care provided to patients.

While there are considerations regarding initial costs, training, and technological reliability, the benefits can far outweigh these challenges.

The result is a more streamlined, accurate and patient-friendly approach to dental restorations that aligns with the future of dental care. The future of dental technology is undoubtedly digital. Embracing computer assisted design has enabled the creation of restorations that are more accurate, efficient, and aesthetically superior.

Patients benefit from shorter treatment times, greater comfort, and predictable outcomes that mimic natural teeth. **L**

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Five things I can't work without

Rhoda Jobling shares the five things she could not bear to work without



RHODA JOBLING

Prosthetic dental technician, Denmark Street Dental Laboratory

Growing up, I had always dreamt of becoming a dentist, but I quickly realised I wasn't clever enough. Therefore, I knew I had to choose my alternative career path wisely, so a dental technician it was.

I studied at Manchester Metropolitan University full-time to obtain a dental technology BSc (Hons) degree, graduating with a 2:1 in 2018. Since then, I have worked in three private laboratories and gained a wealth of knowledge and experience from some incredibly inspirational technicians.

I am a very passionate prosthetic technician working in the north east of England with a keen interest in composite and natural wax work. I am also a mum to my beautiful daughter.

Here are my five things I simply cannot work without...

1. MY LECRON

My lecron is the queen of all tools in my opinion! It does almost everything for me.

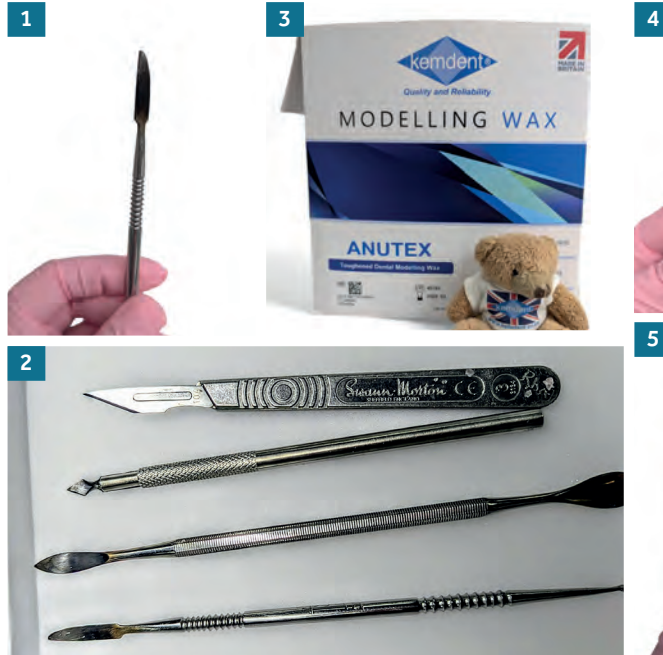
I've sculpted it to perfection, and so far it has gotten me through university and six years since. I use it for everything I can in the lab, from setting and moving teeth to waxing up. It has replaced my now redundant wax knife and Ash 5.

I have misplaced it on only a couple of occasions, and I have always found it incredibly difficult using a temporary replacement.

2. WAX-UP TOOLS

I use a specific set of four tools to do everything wax related. My lecron cuts into the wax so that I can set teeth, move them and initially seal everything in. I use the hook end to add texture to my wax and the sharp end to do the main bulk.

Next up is my spoon spatula; this aids in getting everything properly sealed in and



also acts as a wax knife to smooth.

In third place is my pen point carver. I use this to sharpen gingival margins and go in interstitial spaces because it is sharper than the lecron.

Last but not least is my scalpel – I use this to go in after the pen point to refine and neaten the interstitials.

3. ANUTEX WAX

There is only one wax that I will ever use, and that's Anutex by Kemdent. I love it because it's light in colour, toughened and works well for me. I've attempted to use other waxes in the past, but even my trusty lecron can't work them.

I love this particular sheet wax because even in the warmer days it's still somewhat controllable, so I can always provide consistent work with it.

4. HANDMADE TOOL

I was given this particular tool by a colleague of mine as a 'happy first anniversary at the company' gift.

I believe it was made from a screwdriver

and carved into a lovely point. It's very robust and has gotten me out of some tricky situations in the past where a denture will just not budge!

There is a button in the top to remind me that, as technicians, we are expected to make a shirt from said mere button, because we are magic!

5. GLOVES

Finally, it's gloves – for me, extra small. I wear them for absolutely everything around the lab, and I love that they come in a multitude of colours.

Currently, I have pink ones that smell like bubble gum, so to everyone I see for the first time, I say: 'Smell my gloves!' It brings a great smile to my face seeing the confusing disgust on theirs!

Also, my hands don't work the same without them! They seem to keep all dust particles away from my wax and composite, so I always get the finish I desire.

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A beacon of hope

Nina Frketin shares how Nightshift has grown in its first year and her three wishes for its future



NINA FRKETIN
Senior dental technician,
Mango Dental Technologies

FOR THOSE WHO MIGHT NOT KNOW, WHAT IS NIGHTSHIFT?

Nightshift is an online community that aims to support and put a spotlight on female dental technicians, celebrating and normalising them as leaders in the industry. That is our mission.

Nightshift is our commitment to leaving the dental technology industry better for future generations.

WHAT IS NIGHTSHIFT'S MISSION?

We want to connect women working in dental labs and build a strong sense of community and mentorship among all.

We also want to help the whole community elevate their skills by providing affordable education and a platform where dental technicians can really share their ideas and concerns.

It's not just about sharing all of the beautiful work that we do, but also sharing questions or concerns that may get raised or challenging situations that might come up in the lab. For example, how to deal with a difficult boss or a tricky colleague.

ONE YEAR ON, HOW HAS NIGHTSHIFT EVOLVED?

I didn't have a clear idea of how Nightshift would evolve, but I sure didn't think it would take our community by storm!

I know I wanted a community where female technicians could connect with each other, showcase their work or talk about topics that are difficult to address in other groups.

We started with educational resources with symposiums. Then I decided that we needed to provide study clubs because there are so many people that want to learn. Now we have monthly study clubs with amazing technicians teaching all kinds of topics, from technical skills to lab management.

When Nightshift was just beginning, I had people tell me I would never get a booth at Dental Technology Showcase (DTS), and I did! We also had amazing female speakers representing Nightshift – the lectures were so full that people

had to stand! Seeing that made me incredibly proud.

WHAT CHALLENGES HAVE YOU FACED DURING ITS FIRST YEAR?

The biggest challenge for all of us is time. We all work, we all speak and we all teach, so it is really hard for us. Nightshift is like a full-time job.

My partner always says to me: 'When will you come home and not sit on the computer to do some work?'

And it's true because my work does not end at five o'clock, it ends at 10, 11, 12 o'clock when I finish working on Nightshift. Likewise, I know that the other girls, Deepa, Emily and Ella, are also incredibly busy and involved in so many other projects.

So, time has definitely been the biggest challenge, but we are ploughing through and we are not giving up.

HAVE YOU RECEIVED ANY CRITICISM AT ALL?

There have been some negative comments online from men, but I never had to step into the conversations because other men in the community stepped up for me.

It was fantastic to see male technicians recognising and advocating the need for

NIGHTSHIFT IS OUR
COMMITMENT TO
LEAVING THE DENTAL
TECHNOLOGY INDUSTRY
BETTER FOR FUTURE
GENERATIONS



Laboratory

Nightshift in the lab community.

The majority of the community is 100% behind us, and I often have people asking to get involved and help Nightshift grow. Now I don't need to search for speakers as they come to me! That feels like an incredible achievement.

AS THE FOUNDER, HOW DO YOU FEEL THE LAST YEAR HAS GONE?

I never expected this level of growth so quickly. And the amount of interest that we have had from companies that want to work with us and support us has been so cool. The fact that these companies see what we are trying to achieve and support it brings me confidence that what I am doing is a good thing.

I have also been blown away by how many messages from women I get sharing their fears, their questions and their dreams. I never thought that people would directly contact me for advice. But I am so glad Nightshift has provided this platform for people to ask difficult questions that we are scared to ask. I

never expected it to become a beacon of hope for people.

This is what means the most to me and keeps me going forward. I just hope that we will keep on growing and keep getting better.

WHAT ELSE CAN WE EXPECT TO SEE FROM NIGHTSHIFT?

I have more and more goals for this group because it is getting so much valuable support. The community is behind us – it sees what we are trying to do and believes it is needed.

At the moment, we are going to keep the monthly study clubs going and potentially deliver another CPD-verified symposium. But my biggest dream is to create a scholarship in order to allow technicians to go to school.

I was recently in Uganda where I met a fantastic, passionate boy who was helping us with the Den-tech charity work. An idea was born when I realised that this boy wants to go to dental technician school, but because there is

YOU CANNOT BUILD ANYTHING OF VALUE WITHOUT BOTH SELF-DOUBT AND SELF-BELIEF

so much poverty there, it would be an impossible amount of money to save up.

If we could find a way to sponsor his education for him, it would change his life and his community forever as there is such a need for dental technicians. (Dental companies, I will be coming to you and asking for help, so be ready!)


My other dream is to have a Nightshift accreditation for labs that support equal pay and equal opportunity.

And lastly, I would love to build Nightshift as an educational hub so technicians can use our website for any educational needs. These are my three big wishes.

WHAT WOULD YOU SAY TO YOUNG FEMALE DENTAL TECHNICIANS?

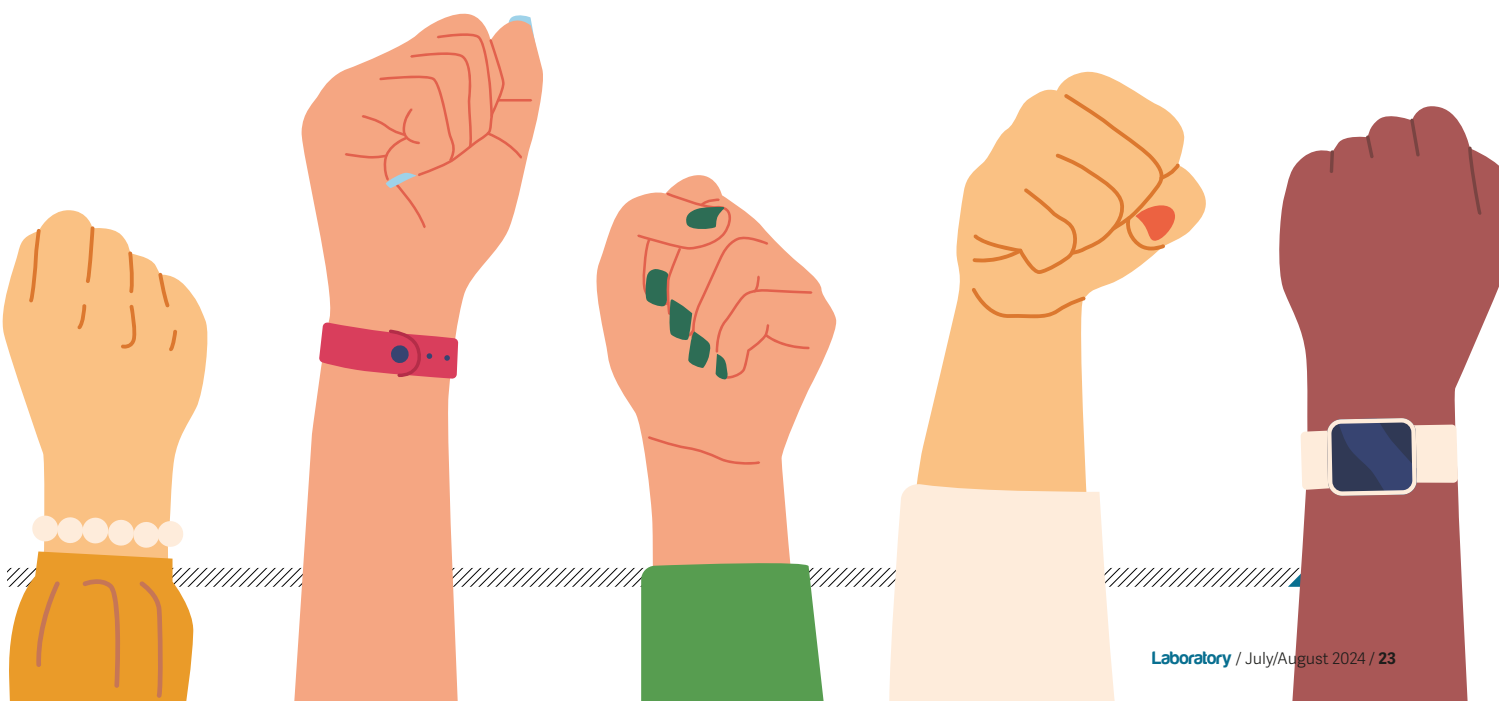
You cannot build anything of value without both self-doubt and self-belief. Without self-doubt, you become complacent. And without self-belief, you can't succeed.

Work hard and push yourself, but do not silence your voice.

Lastly, dare to take. Just go for it. Don't wait for the perfect occasion. If you want something, go for it. 

CONNECT WITH NIGHTSHIFT

Follow Nightshift on Facebook (Nightshift), Instagram (@nightshift.tech) and LinkedIn (Nightshift Dentaltech).



What does Labour mean for labs?

Following the **Labour Party's** landslide victory, we hear from members of the lab community about what this means for dental technology

JOHN DALBY, LAB OWNER

I must be on a different planet, but I believe, although Labour would not bring wholesale/direct changes for our profession/trade, things will improve on the demand side as the party promised to end dental deserts.

Anything that drives up demand for our services can only be a good outcome if we can successfully manage to invest in our technology and skills.

If our prices are correct for the new anticipated demand, decent margins can be made with further consideration for staff training and retention, and remuneration could finally be an attainable reality for us technicians.

JOHN RIDLEY, LAB OWNER

In my opinion, I don't think Labour will do a great deal as the party probably doesn't even know we as a sector exist.

Dental technicians are a dying breed here in the north east of

England, with no training for hundreds of miles; recruiting apprentices is near on impossible. I can't see this or any government addressing this situation.

I'm in my mid-50s and know at least 10 technicians (sole traders/lab owners) who are nearer to retirement than me, and within five to 10 years they will no longer be working, and labs may be closed. This does not include technicians of this age working in labs. There's a massive shortage of technicians up here and the situation is only going to get worse.

This government plans to create 100,000 extra dental appointments – how?

The practice I rent my premises off has been trying for 18 months to recruit an NHS dentist with no avail. One of my other practices went solely private, and another is talking about it.

What is likely to happen is the government will throw a pot full of money at it and line dentists' pockets, none of which will filter down.

The system is completely broken and needs a complete and utter shake up.

From my point of view, I can only hope with the government banging on about growth that it doesn't raise any business taxes, ie corporation tax. This stifles growth as businesses can't invest, hindering the smaller labs from keeping up with new technology.

MALCOLM HILLS, DENTAL TECHNICIAN

Within the industry, two of the main bodies that impact the dental industry are the General Dental Council (GDC) and the Medicines and Healthcare products Regulatory Agency (MHRA).

The GDC could have a positive impact on labs if its scope was amended

so that it policed the many unqualified persons operating dubious businesses outside of its current remit.

The MHRA is only interested in becoming the world's largest and most important pharmaceutical regulator; it contributes little to the dental industry, aside from creating a complex maze of red tape and collecting rapidly-increasing product registration fees.

The system is completely broken and needs a complete and utter shake up

Is a Labour government going to change any of this? In a word, no.

Outside of the industry, Labour will be busy taking us deeper into the idealistic dream of green energy, deeper into our ongoing economic war with Russia and China (which we will lose) and deeper into national debt (we have a debt-based economy, so this is sadly inevitable).

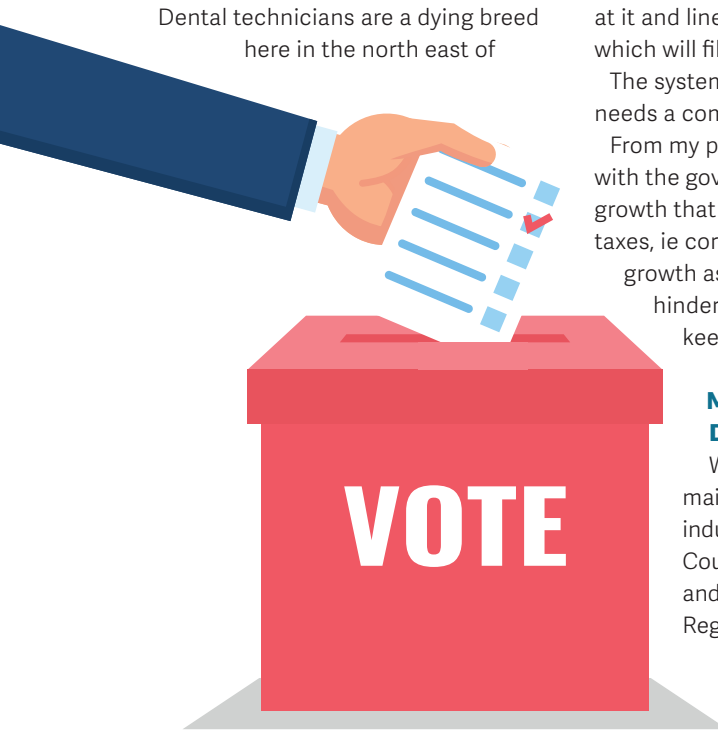
The impact of each of these will be to raise running costs, squeeze profits, and hurt labs on the bottom line, as they will for every other business – except for banking, of course.

Having said that, this outcome is no different to the impact a continuing Conservative government would have had since the major policies of both parties are ultimately the same.

It's just that the Labour government may well just run us all into the ground that much faster. **L**

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- Cementation of the zirconia crowns in the patient's mouth



First impressions from a dental technician

Charlie Norie shares how he ended up in dental technology and his worries for the future



CHARLIE NORIE

Trainee dental technician,
S4S Dental Laboratory

Choosing a career path after my GCSEs was a very difficult decision to make. Should I enrol in some random courses with my friends, or should I try my hand at dental technology?

GROWING UP IN THE LAB

The choice to become a dental technology student was not hard, because my entire family works in the same dental lab. The most difficult decision was whether I wanted to work with my mum, dad and brother. I thought, why not? I can always quit and switch to A-levels next year if I hate it.

Luckily, I really enjoy it, and the family aspect is OK too.

I've always been around dental things – models, plaster, bits of wire – and I messed around in the lab with my brother while growing up. My dad would often bring me into work with him, but I never really thought about it as a career.

After I left school, I spent the summer working in the lab to see if it was something I could enjoy and do for the next 60 years. Honestly, I still do not know if I will last that long, but so far it's great.

LEARNING THE BASICS

I enrolled in the two-year dental technology course in Sheffield while working part-time at S4S Dental Lab. It was only two days a week, so it didn't feel like school, but it was weird as there were older students – some my age who had come straight from school and others who had worked in labs for years.

Everyone had a different skill level, which was good because we usually helped each

One day a robot could do what I am being trained to do. Then what?



Laboratory

The most difficult decision was whether I wanted to work with my mum, dad, and brother

other if we got stuck making new appliances. It was interesting to hear how other labs worked and the things they made as the lab I work in primarily makes dental splints.

I started my training at S4S in the occlusal splint department where I was shown how to make simple splints, soft and hard bite raisers and night guards. I really enjoyed it but wanted to learn and understand more complex appliances. However, I understood that I needed to master the basics first.

After six months, I was transferred to the digital splint department where I was shown how to make appliances on-screen, design them and then 3D print them. This is where the job became exciting for me.

I was shown how to make the Michigan/Tanner appliance on-screen, but also the traditional way. I think it is really important to understand how these are made using both methods.


AI POSSIBILITIES

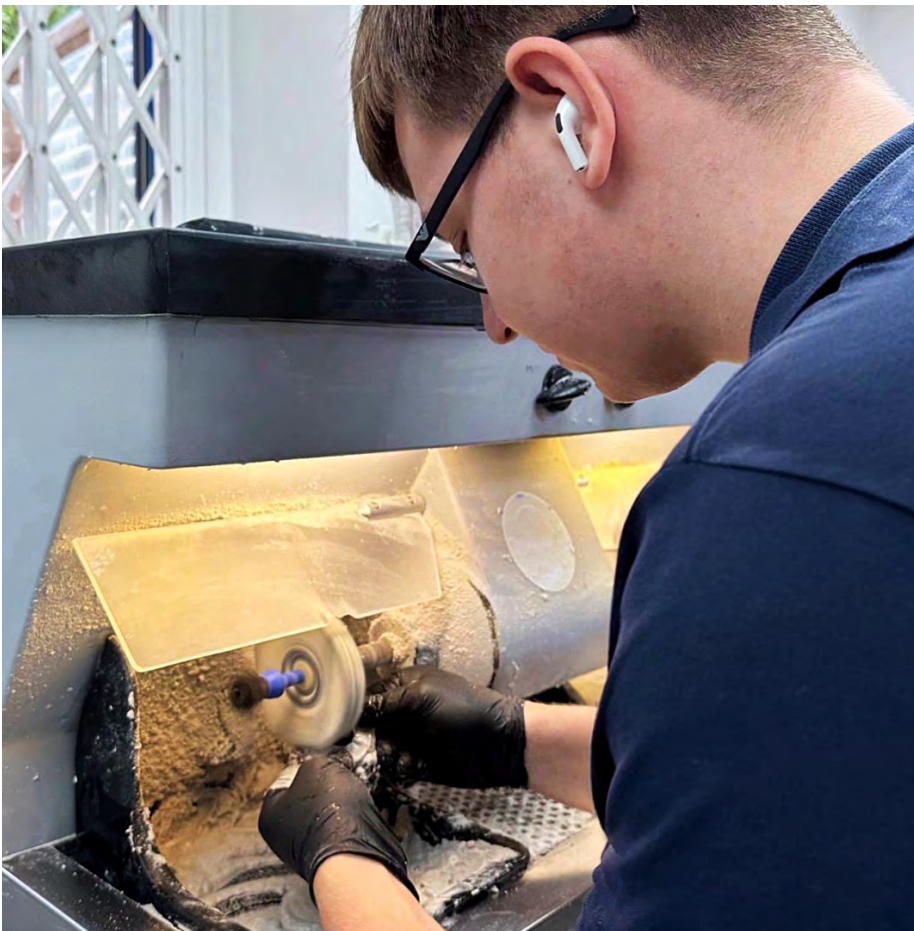
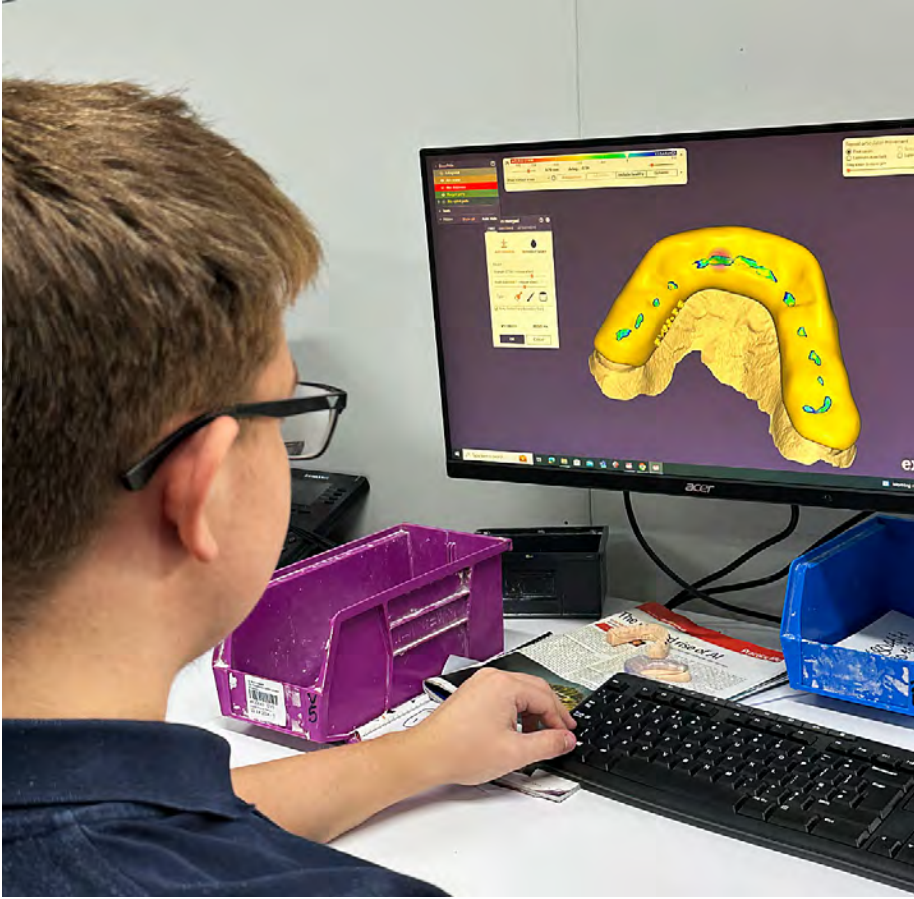
I really enjoy the CAD side of dental technology, and I can see how things have changed over the little time I have been in the lab. I can also see how AI will push the limits of what is possible in the future.

Earlier this year, I attended a dental show that had many companies with different technologies, software and tools. It was really obvious that automation in dental labs was the new thing, from AI appliance designing software to machines that automate specific parts of manufacturing.

As a newcomer, this is really worrying because one day a robot could do what I am being trained to do. Then what?

I think that many parts of dental technology will become automated over the next five to 10 years, but I believe the human element will become a 'premium', with customers and clients requesting the 'handmade' touch.

This will keep skilled technicians in our industry and hopefully see me through my career as a dental technician. 



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From Kaffir D to 3D

Simon Whitehouse shares the lessons he has learned on his digital journey



SIMON WHITEHOUSE
Technical director,
Elite Orthodontics

About 10 years ago at a dental show, I was looking at new technology called printing models. 'Hmmm,' I thought, 'This will never catch on.'

The machines were incredibly expensive, and the software even more so. As an orthodontic laboratory, I could only see it working for models. I came away thinking I'll stick to Kaffir D, Crystacal plaster, a cheap rubber bowl and a spatula.

Roll on to lockdown, which was a bad time all round. All work from surgeries ceased, but luckily for us we have a sister business, Fix-Ur-Dent, which took repairs from the general public.

With staff being furloughed, this just about kept us afloat, but worse was to come...

As we emerged from lockdown, many clients were switching to digital – a major problem! I enquired with suppliers about costings to see if we could afford to follow the 'dark arts'. I was

pleasantly surprised to find that we could get a printer, material and all the trimmings for less than the cost of a holiday in the sun. So, we took the plunge and purchased.

GETTING TO GRIPS

Having purchased the equipment, we had nowhere to set it up, so it remained in the store cupboard in its box for some 10 months. Then a former client said he would start sending us work if we could take digital scans. So began the rejig of the available space.

I assumed that doing more digital work would mean fewer models, so we moved our polisher from the polishing room and into the plaster room. (When I say polishing room, it was an old shower room and toilet.)

Work began in earnest, and we set about knocking a wall down and boarding the room out with insulation and plywood. Being a dental technician – and not a financially flush one at that – it was all done in-between the retainers, twin blocks and dentures, but as we all know, technicians can turn their hands to anything if needs must.

Having converted the room, I put all the equipment in place, including a new PC with a lovely big screen (eyes get old, don't they).

I then hit the next problem – it looks nice, but how does it work?

I spent a day at WHW's place 'darn souf' to give me an introduction. From this, I managed to work out what it could do and how to switch it on. I had just started that steep curve everyone tells me about. In comes Andrew Wheeler with a rope to help me climb the curve – a couple of sessions with him physically showing me how to work this mystical machine and I was on my way.

FINDING SOLUTIONS

I'm now pretty proficient in working and study models, and when I have time, I sit down in front of the screen to see if I can find ways to improve my workflows using the 3D systems.

Twin blocks are a good example. Plaster models are fine for articulating, but I had to work out the best way to articulate digital models. I first tried hollowing the models, but this just resulted in the plaster expansion cracking the models. Then I tried a solid model and encased the bottom of the base in plaster – this worked but I started to want a digital solution.

I noticed there were a couple of articulators built into Blender, so I tried using a central articulator to modify the lower scan so the articulator had something to attach to. While this sort of worked, I noticed there was quite a bit of lateral movement, which I didn't want. I looked at the design of the articulator and realised that using two and placing them in the distal ends of the arches would stop the lateral movement.

The only problem now was that placing them individually was time consuming. So, I put a connecting bar between the two, which saved the articulator as one STL. This meant it could be brought into Blender and scaled to fit any size model. This has worked pretty well!

GO FOR IT

I'm not saying my advice is the answer for all cases, it's just what I, as a novice, have been able to do.

If anyone is thinking about digital, go for it! I still think some traditional methods are better, but I'm finding that digital can be pretty effective and interesting.



Fjords to flasking

Arndís Hjörleifsdóttir, Monika Birta and Sonja Rut Davíðsdóttir discuss what brought them from Iceland to the UK and their thoughts on the UK industry so far

PLEASE INTRODUCE YOURSELVES

Our names are Arndís, Monika and Sonja, and we are all currently in our early 20s.

We have been pursuing our education in dental technology, and have just received our BSc in dental technology from the University of Iceland.

Although hailing from different regions of Iceland, we share the commonality of being born and raised in the country.

HOW AND WHY DID YOU ENTER DENTAL TECHNOLOGY?

We all got into this field for our own reasons. Arndís has dealt with teeth issues since forever and always found the process of fixing them intriguing. After getting composite bonding treatment in 2020, she decided to take the course.

Monika loves working with her hands and has a soft spot for teeth, thanks to her time with braces.

Sonja initially aimed for dentistry but soon realised dental technology was a better fit. We all applied together in 2020 and lucked out, snagging three of the five available spots for the year.

WHAT IS DENTAL TECHNOLOGY LIKE IN ICELAND?

The dental technology industry in Iceland is a very close-knit community.

There are currently only about 80 working technicians, so it can be difficult to become a part of it each year due to minimal positions available in the field.

We have yet to experience working in the industry in Iceland and are only able to do so after our qualification. Overall, the workflow is good and the demand for new dental technicians varies each year.

WHY DID YOU DECIDE TO CARRY OUT AN INTERNSHIP IN THE UK?

In the first semester of our third year, an internship was required. You could choose where you wanted to go, whether it was an internship based in Iceland or somewhere abroad. We quickly knew that we wanted to



go abroad and started applying for internships all over Europe.

We got a few options to choose from after the application period and decided to go with Bremadent Dental Lab. We were very excited to continue our journey in the UK because the lab is located in London, which intrigued us even more.

WHAT HAS BEEN YOUR EXPERIENCE IN THE UK INDUSTRY?

When we first walked into Bremadent, the feeling was a bit overwhelming. We had never seen that many cases before and had no idea that one dental laboratory could have this much to do.

As time went on, we adapted quickly to the environment and the workflow suddenly became less overwhelming and very doable. We quickly realised how much work can be done in a single day, which taught us so much more than we could have hoped for.

The overall experience was great – the team was very welcoming and everybody was ready

to help us at any given moment. We became close with all members of staff and could not be more thankful for the opportunity we had been given. Because of the team, we have learnt many new skills in terms of work ethic.

HOW DOES THE UK INDUSTRY COMPARE TO ICELAND?

As mentioned earlier, we don't have any work experience in the industry in Iceland yet.

However, what we can tell you is that no laboratory has as many cases a week as Bremadent does. The units a week in Iceland are probably more comparable to the units a day in the UK.

IS THERE ANYTHING ELSE YOU WOULD LIKE TO ADD?

We would like to thank all members of staff at Bremadent Dental Laboratory for welcoming us with open arms and being such great teachers to us. We learnt more than we could have imagined and will be eternally grateful for the opportunity. [L](#)

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A letter to my **younger** self

Looking back at his career so far, **Kash Qureshi** shares the lessons he has learned along the way



KASH QURESHI

Clinical dental technician and managing director, Bremadent Dental Laboratory

We had a choice: end up in prison or dead... let's take this dental lab game instead.

You got into this industry because you needed a job and it was a future-proofed industry. Everyone needs teeth, right? So, you found a job in the local newspaper and hand-delivered your letter to the lab. When you came for your initial interview suited and booted, it helped having a background in design and technology, art and graphics, which meant a lot of the machines in the lab had familiar ground.

John had about 30 interviews when you applied, but he chose you because you showed street smarts, confidence, initiative and manual dexterity on your trial day. The internet wasn't as big as it is today, but you researched the dental industry and you asked the right questions.

Most importantly, what you learned out there about how to handle yourself plays a big part in dealing with situations later on. Being tough is replaced by being smart, and anger is channelled by learning from meaningful tasks.

What's better than this is you learn and earn at the same time, even though half of your wages goes to mum. This will teach you about responsibilities, finance and value. You will have your school friends tell you to join them as they are earning way more than you – don't listen to them, they aren't here any more!

This apprenticeship teaches you the game! And having been in the computer literate generation, you will adapt quicker than most of your peers.

THE EARLY DAYS

Back to school to learn dental technology at Lambeth College... you will love and hate this. You will meet friends for life here who will support you throughout your journey

as you are the baby of the group. You will also overhear a conversation between your tutor and boss, where he says: 'I don't think Kash will make it as a technician.' This is based on an old educational system of learning, which is debunked for this industry.

Not only do you make it as a tech, you make it as a clinical dental technician – the youngest in the UK at the time, and you will end up running a large operational dental laboratory that produces millions of cases.

The lab job you applied for in the local paper in 2005 will end up being the dental laboratory you own! You will be infamous – even if people don't know you, they will know your reputation.

What you learned in the streets is similar to the lab world, but it is not about being the toughest, it is about being smart... but not the smartest!

You will go through a lot. They don't like young people in our industry, especially if you show a strong work ethic with talent. Always be consistent – you end up running things at a young age, so be prepared to manage people a lot older than you and learn your craft. It's like what my colleague and mentor Tony Ward will say to you: 'Stop thinking about girls and focus on your work' – this will be a rule you live by.

What you learn in the early days plays a big part in your future, so always treat people with respect and importance.



IF YOU ARE IN A SITUATION WHERE YOU ARE THE SMARTEST TECH IN THE ROOM, YOU'RE IN THE WRONG ROOM

Laboratory

THE RISE OF DIGITAL

Social media is MSN Messenger on drugs! The internet is big now. You will use a phone to do everything. It allows you to communicate with other people in your industry and potential clients, as well as voice your opinion and share photos of your work life at the bench. You will meet amazing and talented people on here and see both good and bad things. It turns out your value will be based on likes and followers, so my advice to you is let them get the likes and followers while you stick to getting the money.

In 1995, when the first Playstation came out, you used to put Blu Tack at the back, boot up an original demo and then switch it to a pirate copy. Well, this plays a big role in the future as you learn how to work in a digital environment. This is where dental technology will go, and you will learn how to work around machines that do not do what you want them to.

There will also be a new thing in 2023 called artificial intelligence (AI) in which a computer has its own brain, like in *The Terminator*. When you built an operating system at 12 years old, this will help you now as you learn how to code.

You will even end up creating Dentech AI as part of your app, Bremadent App, before anyone else does and use it for your trade.

LEARN THE HARD
WAY FIRST AND THE
EASY WAY AFTER

MY ADVICE

Learn the hard way first and the easy way after – you value things more this way. When you work, always pretend someone is filming you as if you're explaining what you are doing. Then you will always perform to high standards.

You should also always work in millimetres as this allows you to work more precisely and accurately. Treat every case with importance – imagine it's a family member you are doing the case for as it will allow you to take more care in your work.

We don't have all the time in the world. On average, we all have about 80



Christmases to celebrate. Now minus your age, and that is what you have left. Time is worth more than money, so do not waste yours or anyone else's.

Know the difference between stress and pressure. Pressure is a privilege from external forces, and stress is internal from things out of our control. Acknowledge stress and embrace it.

Successful people see the perfection in everything, whereas unsuccessful people only see the imperfections. Success is when you do the right thing when no one is watching.

If you want to go into management, learn how to speak with people. If you

TIME IS WORTH MORE
THAN MONEY, SO DO
NOT WASTE YOURS
OR ANYONE ELSE'S

want to learn something, read it. If you want to understand something, write about it. If you want to master something, teach it. If you are in a situation where you are the smartest tech in the room, you're in the wrong room! You don't learn here.

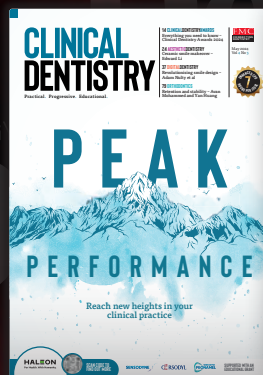
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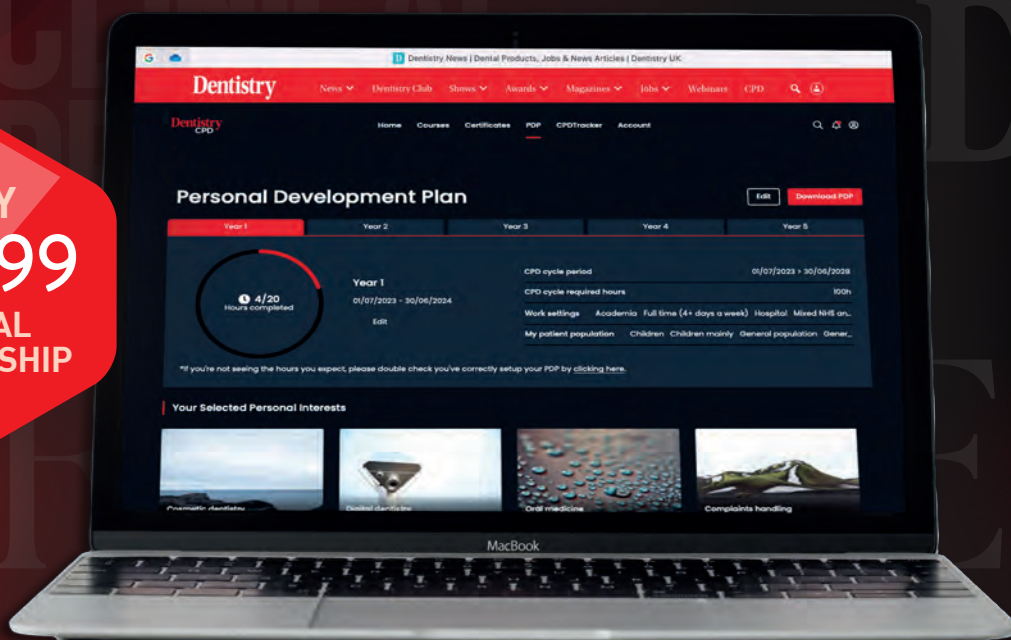
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Inspiring leadership in labs

Having once been a dental technician, leadership advocate **Justin Leigh** shares why management training is essential in labs



JUSTIN LEIGH

Founder,
Focus4growth

My journey began over three decades ago when I qualified and worked as a dental technician. After just five years, I realised that lab work wasn't my true calling. One significant factor in this decision was my experience with my lab manager, who often exhibited a range of emotions from grumpy to extremely angry.

Reflecting on this, I do not blame him for his leadership shortcomings; instead, I see a broader issue – the lack of opportunities for lab managers to develop essential leadership and management skills.

This is not unique to dentistry, as research shows that over 60% of managers across various industries receive no management training when promoted to leadership positions, leading to a significant gap in leadership capability. You can imagine how significant this gap is in dentistry – both in laboratories and practices.

THE IMPORTANCE OF LEADERSHIP DEVELOPMENT

Here's a useful distinction:

- Management: involves managing tasks and activities to deadlines
- Leadership: engages people's hearts and minds, instilling a clear vision for the future and how each team member fits into that vision.

Investing in leadership development is crucial. This can involve reading relevant literature, researching effective management practices and understanding what constitutes inspiring leadership.

The current recruitment crisis across various industries, including dentistry, underscores the need for effective leadership. Engaging team members and helping them feel connected and purposeful within their roles is vital.

A high-performing team and a thriving business are built on a foundation of motivated and engaged employees who feel they are part of something significant. Management alone cannot achieve this in a business.

IN MY WORK WITH CLIENTS ACROSS DIFFERENT ORGANISATIONS, THREE KEY LEADERSHIP CHALLENGES FREQUENTLY EMERGE

THE ROLE OF COACHING

Last year I published *Coaching Leaders*, which offers a step-by-step guide to transitioning into a true leadership role, highlighting the differences between management and leadership and showing managers how to develop leadership capability through coaching.

Coaching is a powerful tool for leadership. It involves slowing down, building confidence and trust, and simultaneously supporting and challenging team members. It also helps to shift the focus from tasks and activities to individual performance, engagement, motivation and potential.

INVESTING IN LEADERSHIP DEVELOPMENT IS CRUCIAL



THE THREE CORE CHALLENGES

In my work with clients across different organisations, three key leadership challenges frequently emerge:

1. **Managing underperformance:** leaders often struggle to address underperformance effectively, either by being overly aggressive or by avoiding the issue altogether
2. **Accountability:** holding team members accountable to meet performance standards is a common challenge
3. **Difficult conversations:** many managers lack the confidence to engage in tough but necessary conversations.

These challenges stem from a lack of training and development in leadership skills. Without the right guidance, managers either become too harsh or too lenient, neither of which fosters a productive work environment.

THE SEVEN-STEP MODEL

To address these challenges, I advocate a structured approach to leadership. The model includes:

- **Building trust:** establish strong, positive relationships with each team member
- **Clear planning:** communicate the business plan clearly to ensure everyone knows the collective vision, goals, aspirations and performance
- **Contracting:** have one-to-one conversations about mutual commitments, standards, behaviours and feedback cycles

- **Setting objectives:** define clear performance goals, objectives and expectations
- **Observation:** provide opportunities for team members to excel and observe their work to allow you to see how they are performing, and then identify areas for feedback
- **Coaching for change:** engage in coaching conversations to give praise, recognise contributions and discuss opportunities for performance improvement
- **Development conversations:** help team members see their future within the business through structured development and career planning.

Following these steps and repeating these as cycles fosters a highly engaged and motivated team, which is essential for the success of any dental laboratory.

This structure also helps leaders to address the three key areas of concern,

giving them the confidence, capabilities and a structured approach that enables them to lead their teams effectively. Difficult conversations become easier and more frequent, clarity over performance levels is more transparent for everyone and under performance becomes a rare occurrence.


CONCLUSION

Without structured leadership development and regular coaching conversations, team members can feel disconnected and undervalued, leading to high turnover and disengagement.

Investing in leadership skills and creating a supportive, engaging work environment is crucial for the future of dental laboratories.

This approach not only enhances individual performance but also strengthens the overall business, ensuring a thriving, inspired workforce dedicated to delivering exceptional results.

When recruiting future lab team members, the leader and existing team become true advocates for the working environment and are part of the attraction of working in the business.

By emphasising leadership development and the power of coaching, we can transform the way dental laboratories operate. As a result, this will foster a culture of high performance, engagement and long-term success. 

INVESTING IN
LEADERSHIP SKILLS
AND CREATING
A SUPPORTIVE,
ENGAGING WORK
ENVIRONMENT IS
CRUCIAL FOR THE
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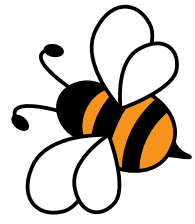


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The marketing buzzwords of 2024

Eleanor Pittard shares the key marketing terms you should integrate to have clients making a bee-line for your lab business



ELEANOR PITTARD

Co-director and owner of
Hive Dental Laboratory

Marketing a dental business without being a full-time marketer can often feel like navigating a maze of new and intimidating terms. As innovation drives the field and new platforms and features emerge, keeping up with the latest vocabulary is crucial for effective marketing.

I decided to delve into some of the most popular digital marketing buzzwords of 2024 to see how understanding them could help create successful online campaigns and achieve your marketing goals using the best tactics and tools available.

1. ARTIFICIAL INTELLIGENCE (AI)

Artificial intelligence, or AI, has become a cornerstone of modern technology, reshaping how dental labs handle operations and marketing. AI refers to machines exhibiting human-like intelligence, capable of decision-making, performing tasks, and improving through learning. For dental professionals, AI automates tasks, boosting efficiency and productivity.

We are all increasingly adopting AI, thanks to user-friendly and affordable tools. For instance, Chat GPT can automate patient or client communication, answering common queries and booking appointments.

2. BRAND PURPOSE

In a crowded market, simply offering quality dental services at competitive prices is no longer enough. A strong brand purpose resonates with everyone, building credibility and loyalty. For instance, a dental laboratory might offer free dental work alongside charities such as Den-tech.

To develop a compelling brand purpose, consider what matters to your stakeholders

(patients, clients, staff etc) and how your business can address those values.

Communicate this purpose regularly through thoughtful content on social media, not just on your website's 'about' page. For example, if your business emphasises eco-friendly dentistry, highlight your sustainable practices and how you minimise environmental impact.

3. CROSS-POSTING

Cross-posting is a time-saving strategy where you share the same content across multiple social media platforms. This approach ensures wider reach and enhances brand recognition. On average, social media users engage with six platforms daily, spending considerable time online. Seeing consistent content across these platforms reinforces your business's presence.

Challenges like resizing media for different platforms can arise, but tools like Promo simplify this process. Promo's 'publish page' allows direct posting to various social media sites and easy resizing of videos to fit different formats, making cross-posting more efficient.

4. CUSTOMER LIFETIME VALUE (CLV)

CLV measures the total revenue a clinic or lab expects from a single patient or client over their relationship. Monitoring CLV is crucial for boosting retention and growth. Retaining existing patients and clients is often more cost-effective than acquiring new ones, with higher probabilities of accepting additional services.

To calculate CLV, multiply the average treatment or invoice value by the number of visits or cases per year and the average patient or client lifespan. Understanding CLV helps identify valuable customer segments, set marketing goals, optimise retention efforts and plan marketing spend effectively.

For instance, if the average patient spends £200 per visit and visits twice a year over a 10-year relationship, the CLV would be $£200 \times 2 \times 10 = £4,000$.

5. DIGITAL MATURITY

Digital maturity refers to a dental business' ability to adapt to and leverage evolving digital technologies.

It involves continuously enhancing your practice or lab with new digital tools and strategies to stay competitive.

As technology advances rapidly, digitally mature businesses often see higher patient satisfaction, better service quality and increased profitability.

Achieving digital maturity is an ongoing process. Tools like the digital maturity benchmark from Google and the Boston Consulting Group can help assess and improve your digital maturity, ensuring you keep pace with technological advancements.

For instance, adopting digital records, online booking systems, digital scans and 3D printing services can significantly enhance your business' efficiency and overall customer experience.

CONCLUSION

Staying abreast of these digital marketing buzzwords is essential for navigating the evolving landscape in 2024. Embracing AI, defining a strong brand purpose, utilising cross-posting, monitoring CLV and striving for digital maturity can significantly enhance your marketing efforts.

By integrating these concepts into your strategy, you can drive growth, improve efficiency and build stronger connections with your clients. [▶](#)

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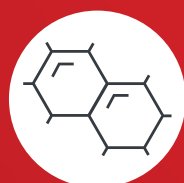
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Have you planned an exit strategy?

Why do so many dental technicians retire and not sell their business, asks **Matt Everatt**



MATT EVERATT

Editor-in-chief of *Laboratory* and director of S4S Dental Laboratory

I have never been able to understand why, when they retire, so many dental technicians do not sell their business, but I have some theories. In this article, I will discuss why dental technicians should look to retire and plan an exit strategy.

One reason could be that dental technicians may not find a suitable buyer who meets their standards or values the way they have built and run their lab business. Although this may be the case for some, from my own research, this is rarely the case. And very few even bother to try and sell.

Of course, there may be many who prefer to simply close their business rather than go through the complexities of selling it. I've seen this where the lab owner or technician had become ill and decided to retire early because they wanted to enjoy the freedom of retirement without the business hassle or the sales process to go through. I totally understand that.

EMOTIONAL ATTACHMENT

Another factor that could play a part is that lots of labs operate from home-based labs, such as an outbuilding or converted garage at home. They might think their business can't be sold due to the location or feel it might not have the same visibility or infrastructure as larger businesses and be worthless in terms of saleability.

From several discussions with older techs and lab owners, there are two main issues I see. Firstly, they are emotionally attached to their business, making it difficult to let go and don't want to hand over the keys. They simply close the doors when they retire. They may not think they are emotionally attached, but the thought of handing over their business to someone else irks them for whatever reason. This is an emotional attachment.

Secondly, and it seems like the most common reason, is they have not properly planned for succession and do not have an exit strategy.

WHAT IS AN 'EXIT STRATEGY'?

In very simple terms, an exit strategy is a plan devised by a business owner, in this instance a lab owner, to exit or retire. In the very first business coaching session I ever attended, our business coach asked: 'What is your exit strategy?'. I almost choked on my coffee. We had only just started the business – why would I be thinking about leaving? He then said something that will always stay with me: 'How you exit the business is almost as important as starting the business'.

An exit strategy for a lab owner could involve several steps depending on the goals and circumstances of the individual.

Common types of exit strategies include:

- 1. Acquisition or merger:** selling the business to another company or merging with another company. This is very likely to be a good option, particularly if you are a small lab or even if you work on your own. Speaking to local lab owners who may have more working years ahead and ambition to grow their own labs would be a good place to start



IT'S ESSENTIAL TO PLAN WELL IN ADVANCE. IDEALLY, START THINKING ABOUT YOUR EXIT STRATEGY SEVERAL YEARS BEFORE YOU INTEND TO IMPLEMENT IT


- 2. Management buyout (MBO):** if you employ others in the business, are there any budding leaders who might wish to be the successors? Selling the business to the current management team or others in the business is another great option. This allows the owners to exit while providing continuity for the business
- 3. Sell to employees:** selling the business to employees through an employee stock ownership plan (ESOP) or other arrangements
- 4. Passing on to family members:** transferring ownership of the business to family members, often as part of estate planning
- 5. License or royalty agreement:** licensing out the rights to use intellectual property or other assets in exchange for ongoing royalties or license fees. This may be an option if you have any rights to use a product or particular agreements unique to your lab
- 6. Strategic partnerships:** forming partnerships or joint ventures with other labs, which can lead to eventual buyouts or other exit opportunities
- 7. Initial public offering (IPO):** this option is more likely in large organisations. This involves taking a private company public by selling shares on a stock exchange. It allows the original investors to cash out by selling their shares to the public
- 8. Liquidation:** selling off the assets of the laboratory and shutting it down. This is typically considered a last resort and is done if other exit options are not feasible.

EXIT CONSIDERATIONS

If you are coming towards the end of your career or thinking about leaving the profession and have a laboratory business, in whatever capacity, there are a few things you need to consider. The hope is that you could then realise some of the capital and assets that you have built up over the years and either recover some of the value or hope to make a profit from the sale...

- **Assess current situation:** understand your current business or employment situation. Evaluate your financial health, client base and market conditions
- **Set goals:** determine what you want to achieve with your exit strategy. Are you looking to retire, sell your lab or your contacts/equipment, transition to a different career or simply reduce your workload?
- **Plan ahead:** it's essential to plan well in advance. Ideally, start thinking about your exit strategy several years before you intend to implement it. This gives you time to maximise the value of your business if you plan to sell or transition smoothly if you're passing it on to someone else
- **Financial planning:** ensure your financial affairs are in order. Consulting with experts such as a financial adviser and accountant to maximise your retirement savings, minimise taxes and make smart investments
- **Identify potential buyers or successors:** if you own your laboratory and plan to sell it, start looking for potential buyers. This could be another dental technician, a dental lab or a larger corporate. If you have employees, consider if any of them are interested in taking over the business
- **Prepare your business:** make sure your business is attractive to potential

buyers or successors. This might involve updating equipment, improving processes, ensuring all legal and financial documentation is in order and addressing any outstanding liabilities

- **Transition plan:** develop a plan for transitioning out of your role. This could involve gradually reducing your workload, training a successor or arranging for a smooth handover of the business. Introducing your successor to your clients would also be a sensible step
- **Legal and administrative matters:** consult with legal and financial experts to handle the paperwork associated with selling or transitioning your business. This might include contracts, leases, licenses, permits, and other legal documents
- **Communicate with stakeholders:** keep your employees, clients, and suppliers informed about your exit strategy. This helps to minimise uncertainty and ensures a smooth transition. The dental profession is a very close-knit community, so it is a good idea to be the one communicating the news – it prevents rumours and unsettling employees and customers
- **Execute the plan:** once everything is in place, execute your exit strategy according to your plan. Be prepared for unexpected challenges and be flexible enough to adapt as needed
- **Post-exit considerations:** after you've exited your role as a dental technician, take some time to adjust to your new situation. Consider how you might spend your time in retirement or in your new career
- **Every exit strategy is unique:** remember that it's essential to tailor yours to your specific circumstances and goals. 

Zirkonzahn's lecture tour: Southampton, Manchester and Cardiff

Zirkonzahn shares the details of its upcoming lecture tour

The dental company Zirkonzahn (South Tyrol, Italy) has announced that its 2024 lecture tour 'Predictable and Consistent Results – Common Mistakes and Solutions to Overcome them Successfully' will be coming to Southampton, Manchester and Cardiff from 23-26 September, answering some common questions that may arise when dealing with complex zirconia restorations, including:

- How can I achieve a good, predictable outcome when working with zirconia?
- What do I have to pay attention to in order to avoid common errors in the dental workflow?

The lecturer, master dental technician Alessandro Cucchiaro (general manager of Zirkonzahn USA, course instructor and lecturer at various events worldwide), will draw attention to technical aspects and factors that influence the final result of a zirconia restoration. By showing a real, complex case restoration, he will illustrate the challenges faced during each workflow step, from patient diagnostics to characterisation, providing solutions to overcome them successfully.

Special attention will be given to impression-taking, occlusion registration, passivity check and correct material selection. The process of creating high-end, predictable zirconia solutions also involves well-established communication between dental technicians, clinicians and surgeons. For this reason, the lecturer will also focus on the latest digital diagnostic devices – a key aspect for improving communication within the treatment team.



SPECIAL ATTENTION WILL BE GIVEN
TO IMPRESSION-TAKING, OCCLUSION
REGISTRATION, PASSIVITY CHECK AND
CORRECT MATERIAL SELECTION



ZIRKONZAHN

For details and to register, email
carmen.ausserhofer@zirkonzahn.com, call
+39 0474 066 662 or scan the QR code.



The lecture will focus on a 100% digitally created complex restoration, starting from diagnostic analysis, and complete 3D virtual reproduction of the patient's oral and extraoral anatomy without loss in information: initial situation (left) and first digital tooth setup (right)



Digital planning of the gingivectomy in the Zirkonzahn.Modifier software showing definition of the new occlusion and design of the temporary mock-up which is the key tool for checking and reproducing all workflow steps up to the final restoration

Health in the laboratory

Keeping on top of your disinfection and safety measures is essential, says **Alistair Mayoh**



ALISTAIR MAYOH
Marketing director,
Kemdent

In the dental laboratory, there are many specific risks that can affect technicians immediately and in the long-term.

Despite in-depth guidance on the topic of infection control in the laboratory being made available, the infection of technicians working with contaminated prosthetics is still possible. Putting in place effective measures to prevent this is fundamental.

It is just as important to establish a confident line of communication with the practices you work with, ensuring the dentists themselves always disinfect their impressions before they are sent to the laboratory. This avoids repeat disinfections, which risks the

surface detail and accuracy of the material. Effective ventilation is also necessary, both where a technician is operating, and throughout the entire laboratory.

MAKING POLISHING SAFER

Dental technicians could be at further risk if the airborne particles themselves are contaminated. Take pumice, for example. Used in the polishing of dental prosthetics, previous studies found this to be the most heavily contaminated stage of laboratory appliance construction (Haworth et al, 2021).

The pathogens may have both oral and non-oral sources, but when a prosthesis is polished with pumice, contaminated aerosol particles are expelled into the surrounding area (Firoozeh et al, 2013).

Effective health and safety measures in your

dental laboratory keep you and your colleagues safe, such as the establishment of defined workflows, the implementation of high-quality PPE and the use of brilliant cleaning materials like PumiceSafe from Kemdent. As a non-foamy, alcohol-free universal cleaner, PumiceSafe is an ideal algicidal and fungicidal product to make up a pumice slurry, reducing the presence of dust within the laboratory environment. It is kind to skin, avoiding the irritation caused by some other chemicals, and can even double as a tabletop surface cleaner.

FOR MORE INFORMATION

about PumiceSafe Universal Cleaner, visit www.kemdent.co.uk or call **01793 770 256**.

For references, contact lucy.veal@fmc.co.uk.

LAB ESSENTIALS



PumiceSafe Universal Cleaner

'I would highly recommend PumiceSafe as it keeps the pumice smelling fresh and clean'
John Ridley - Advanced Dental Services

- Neutralise unpleasant smells from the pumice tray
- Use as a bench surface cleaner
- Ideal for pre-soaking lathe brushes



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Showcasing the best of dental innovation

Lucy Veal visited Exocad's Insights 2024, where innovation, education and collaboration in dentistry took centre stage



LUCY VEAL
Editor, *Laboratory*

The beautiful Palma de Mallorca was recently the host of Exocad's unforgettable Insights 2024 conference. Dentists and dental technicians gathered for two days of learning and networking right on the beachfront, where they could get face-to-face with innovation and technological advancements.

Having heard how engaging and lively the last Insights event was in 2022, this one had a lot to live up to. But it's fair to say it went above and beyond expectations.

The sold-out event held a huge number of inspirational and informative talks from leading dental professionals. Topics included communication, 3D printing, smile analysis, smile design, treatment planning and all things CAD.

In addition, the expansive dental exhibition area hosted some of the biggest dental brands, sharing their expertise and latest products with delegates.

The 'pearly white' evening celebration, a particular highlight, also saw delegates relax, network and celebrate with great food, drinks and live music.

THE 'FUNKY' SIDE OF DENTISTRY

For Eva Kolb, Vita product manager, it was the second time she had attended, and she thinks 'it's just getting better!'

She said: 'It's very well organised and a great networking experience. It's also a great place to see some new developments from competitors. So, I would always absolutely recommend it.'

Likewise, Marcos White, principal dentist, lab owner and one of the lecturers at Insights 2024, was impressed by the friendliness of the event. He said: 'I remember a time when symposiums and



IT'S A REALLY EDUCATIONAL, COOL, FUNKY, DIGITAL SIDE OF DENTISTRY

conferences were a bit daunting – you would see superstar dentists doing dentistry you could never do.

'But here it really seems like peers doing their very best with good technology, and just trying to help each other out. And whether it's a CEO of a company, a technician, a dentist or a dental therapist, they all learn from each other.'

He aimed to simplify the benefits of adopting new technology through his lectures, one which was co-presented with lab owner Ashley Byrne. This lecture focused on the importance of communication between dentist and technician, and how digital tools can enhance it.

Ashley said he hopes the attendees took away 'the importance of communication,

the importance of documentation and the importance of working together as a team'.

'If everyone is communicating well, we're storing the data correctly and we're sharing problems as well as solutions, we can generally do a much higher standard of dentistry for the patient,' he said.

For Ashley, Exocad's Insights is one of his favourite congresses to come to. He said: 'It's a really educational, cool, funky, digital side of dentistry. And location wise, I mean, you're on the beach basically!'

He added: 'And I think one of the most important things for me is that you've got around 750 dental professionals here, and it's very rare that you get that volume of technicians together.'

'HUB OF KNOWLEDGE'

With a high number of delegates and a noticeably friendly and engaging atmosphere, Insights 2024 was the perfect place for networking and learning. In fact, the very essence of the conference lived up to its motto of 'Network. Innovate. Lead.'



meaning delegates left feeling both inspired and informed.

For those using Exocad or thinking about adopting a digital workflow, the variety of lectures were very useful.

Peer Meier, a dentist from Germany, said he attended Insights 2024 because he is planning to digitalise his practice. 'So, this is a good opportunity to become informed about all the relevant firms,' he said.

He added that he would recommend others attend the next Insights event because 'especially for the digital market, you're well informed and connected with other people – and it's an interesting topic.'

Mark Crowle, a dental technician from Cornwall, decided to attend Insights 2024 because his lab uses Exocad 'for just about everything' and so he thought this would be an informative event to come to. He said: 'I've gained a lot more knowledge and I wanted to see what the future of dentistry is and how to get there.'

Education was at the forefront of Insights 2024, with delegates, speakers and exhibitors alike able to ask questions, share knowledge and be inspired. Dental technician Kristina Vaitelyte, one of the closing lecturers at Insights 2024, said the

experience was 'mind-blowing'.

'It's fantastic to find the answers to my questions as a professional, and share my answers to people who have the questions I had in the past. It's a hub of knowledge.'

Kristina's lecture discussed how to utilise all of the tools and features in Exocad to achieve the best treatment for the patient, using case studies. 'I have learned a lot. You need to go to conferences, you need to educate yourself, you need to expand your knowledge. Otherwise, you're resisting change. To really see your full potential, you need to meet as many people as possible.'

SHARING EXPERTISE

Dental therapist Cat Edney was another notable speaker at the event. She discussed how digital technology has transformed her practice and the positive impact this has had on relationships within the team. She also highlighted the importance of a collaborative approach to treatment planning and how patients can feel empowered to make positive steps toward long term oral health.

'Coming to Palma for such an open and progressive event has been such an eye opener,' Cat said.

THE MAIN TAKEAWAY FOR ME WAS THE INCREDIBLE AMOUNT OF TECHNOLOGY WE HAVE TO SUPPORT US AS CLINICIANS

'The main takeaway for me was the incredible amount of technology we have to support us as clinicians.'

'Dental therapists, especially, have felt that they cannot access the expertise of dental laboratories and technicians, but this event has really opened my eyes to the potential for growth when team members connect.'

The opportunity to share expertise was also a highlight for Raj Juneja, clinical director and principal dentist. He discussed the Itero Design Suite, which allows dentists to design restorations and appliances, print models and start their journey in 3D printing. This will allow labs that are inundated with work to concentrate on bigger ticket items.

Raj said: 'It's been great because when you get in a room with people who have a similar mindset, as most of the dentists and technicians here are digitally savvy, you can

learn a lot from each other.

'The talks have been amazing, and all the speakers have shared their own workflows very openly. Now we can go back to work having been inspired, and change things in our workflows.'

He continued: 'The biggest thing for me is the rapid evolution and the growth that's happening in the dental industry. Things are changing so fast, so it's always important to keep up.'

'Digital technology has grown to a level where it's unparalleled, and it's only going to get better. I'm super excited for the future.'

DIGITAL DENTISTRY IS NOW

Insights 2024 demonstrated that digital dentistry is not just the future, it's very much the present and it has no signs of slowing down. In addition, it highlighted how reachable digital dentistry is across the globe – no one can survive in the industry without digital dentistry today. It has enhanced every aspect of dental care, from treatment planning to DCP collaboration.

And particularly for dental technicians and labs, of whom many often feel under-appreciated, this conference celebrated their passion, potential and technical brilliance, with dental technology taking centre stage.



This sentiment was shared by dental technician Margarita Vaitelyte, who said her key takeaway from Insights 2024 was the 'feeling of security'.

She said: 'Seeing the dental industry and us, technicians, involved in it makes me feel confident. The progress of technology, the tools we have and the communication we are now able to develop between the dental surgery and lab are helping us to become a better team.'

DIGITAL TECHNOLOGY HAS GROWN TO A LEVEL WHERE IT'S UNPARALLELED


She was also impressed by the atmosphere and speaker line-up, and was 'extremely happy' to be able to meet her idols in person.

She continued: 'If you are looking for a good excuse to escape, Insights 2024 offers the perfect combination without the feeling of guilt: professional development hours plus the beach and sun!'

The success of Insights 2024 was crystal clear from day one. There was no shortage of lively discussions or helpful tips and, without question, delegates left feeling inspired and engaged.

Christine McClymont, global head of marketing and communications at Exocad, said: 'I hope that no matter where the attendees stood in their digital journey, they walked away with at least one key lesson on how to improve their workflows further. I am confident everyone did and that every participant made a valuable connection to a peer or a manufacturer and to us.'

She added: 'Our big takeaway is that it was the right decision to grow the event, as there continues to be a great need for education in CAD/CAM.'


'It really is the key to success in digital dentistry, and we see how inspiring and rewarding it is to spend time face-to-face with the global Exocad community.' 



30-Min Time Savings per Hawley Retainer

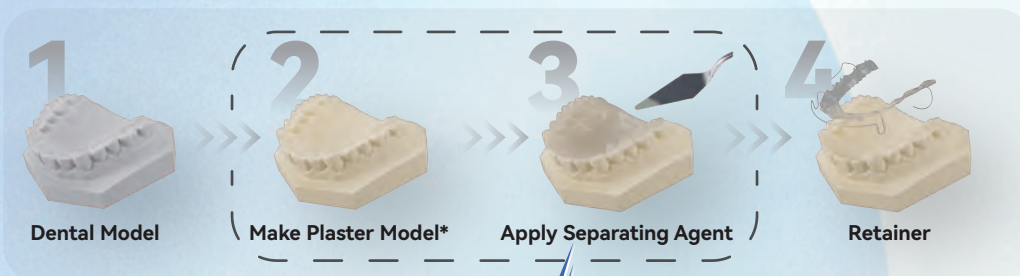
form acrylics faster and easier with HeyGears™ **Model ES resin**

 **Print once, no plaster models required**

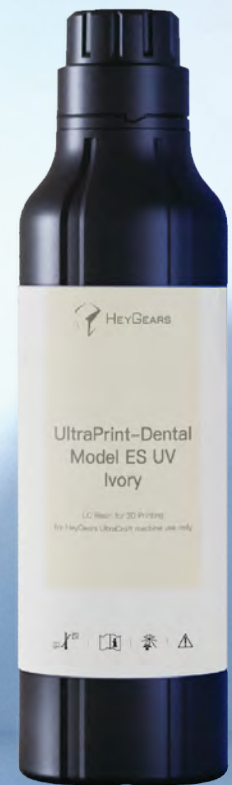
 **No separating agents required**

* The actual separation success rate may vary depending on various factor.
* Easy separation with common self-curing acrylic brands.

Before



After



* Some dental models may have poor separation performance. Plaster models may be needed in those cases.

Properties	Standard	MODEL ES
Viscosity(mpa·s)	ASTM D 2393-1986	200
Flexural strength(Mpa)	ASTM D790	27
Flexural modulus(Mpa)	ASTM D790	1000
Heat Deflection Temperature(°C)	ASTM D648	53

- **Extremely low viscosity** (perfect for mass-production)
- Heat deflection temperature reaches 53°C (127.4°F), can **withstand the boiling** process of self-curing acrylic (50°C, 120°F).

Achieving rapid patient acceptance

Toni Tauste presents a full denture makeover case in which the patient was delighted with his youthful smile



TONI TAUSTE

Dental technician and lab owner, Vallès ATM

The loss of natural teeth and having to depend on dentures can be a very challenging experience, especially for 'youthful' patients. In these cases, any denture is initially perceived as a foreign body.

For immediate acceptance, it is essential that patients are satisfied with their appearance, the hold of the dentures and the functionality when chewing and speaking, right after integration. This is the only way that the



FIGURE 1: The implant- and mucus membrane-supported full denture after implementation in resin



FIGURE 2: Vitapan Excell is based on the morphology of natural teeth

THE SELECTION OF THE ANTERIOR TEETH TOGETHER WITH THE PATIENT PLAYED A KEY ROLE IN FUTURE ACCEPTANCE



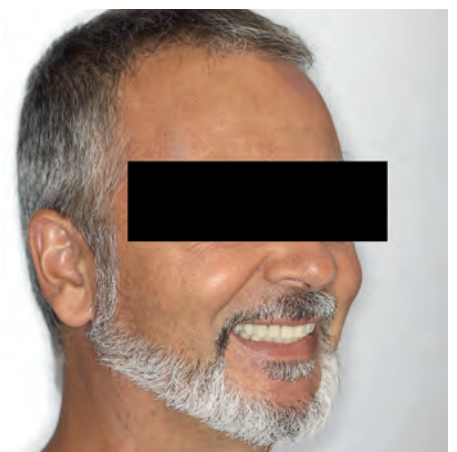
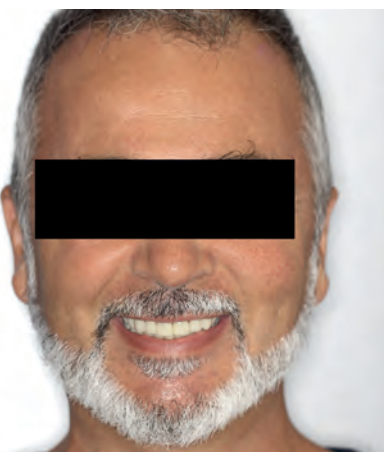
FIGURE 3: The denture in the upper jaw, reinforced with a metal framework, was designed to be palate-free



FIGURE 4: The juvenile surface texture of the teeth were lightly polished to achieve an age-appropriate appearance



FIGURE 5: A healthy periodontium was simulated with the papilla design



FIGURES 6 TO 8: The patient was very enthusiastic about his new, youthful smile. The teeth used made an appropriate makeover possible, leading to rapid patient acceptance

feeling of a foreign body fades into the background and rapid acclimation is possible.

The following article will discuss the critical contribution made by the anterior tooth set to rapid patient acceptance.

CLINICAL CASE

A 48-year-old patient had a high degree of tooth mobility and massive bone deterioration due to generalised, chronic periodontitis. Due to the severe periodontal damage, none of the natural teeth were worth saving and had to be extracted.

For a secure hold of the dentures and palatal freedom in the upper jaw, implants with ball head anchors were to be placed in the same session. We planned to reinforce the upper jaw restoration for sufficient stability of the construction with a metal framework.

The Vitapan Excell anterior set and Vitapan Lingofom posterior set were to be used for removable implant prosthetics. Both prefabricated tooth lines consist of MRP (microfiller reinforced polymer matrix) composite formula, which has high abrasion resistance.

WHEN THE TWO DENTURES WERE
FITTED, THE PATIENT IMMEDIATELY
TOOK ON A SIGNIFICANTLY YOUNGER
APPEARANCE

SHADE AND SHAPE SELECTION

The selection of the anterior teeth together with the patient played a key role in future acceptance. In this case, it was possible to use the natural teeth that were still present as a guide. However, the patient wanted a lighter tooth shade and a younger appearance.

The appropriate anterior sets for the upper and lower jaw were quickly found thanks to the shades and shapes available. The surgical pretreatment was carried out as planned so that the final removable work could be fabricated after the appropriate recovery and healing time.

YOUNG, NATURAL SMILE

When the two dentures were fitted, the patient immediately took on a significantly younger appearance. The three-dimensional anatomical layering of incisal, neck and dentine material, and the resulting shade and translucency progression appeared lively and authentic.

Since the tooth axes, the angular characteristics and the length-width ratio of the sets correspond to the golden ratio, the aesthetic zone was characterised by a harmonious overall appearance. The juvenile surface texture of the denture teeth was only lightly polished in the course of finalisation to adjust it to the patient's age.

Thanks to the wide interdental marginal ridges, the papillae could be designed in such a way that the adjacent gingival parts simulated a healthy periodontium.

The patient was immediately enthusiastic about his new, youthful smile. ■

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Compact LCD desktop printer with 52 µm print precision thanks to 4K display and high light intensity for fast construction times. The high-quality processed full metal housing, a huge build platform and an easy handling of the vat make the Dreve version of the Sonic XL 4K a user-friendly 3D printer for all dental applications.



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Straumann's portfolio on display

Straumann

Known for supporting clinical excellence across dentistry, Straumann Group demonstrated an array of its



straumanngroup

industry-leading brands at the British Dental Conference & Dentistry Show Birmingham.

Implant dentists had an opportunity to discover the different implant systems available, including those from Straumann, Neodent and Anthogyr.

With varying features, these solutions afford a spectrum of benefits for different patients and situations.

Clinicians interested in providing predictable aligner treatment were interested to discuss the Clearcorrect system, which offers an unparalleled level of customisability and control of tooth movements.

Other brands on display included Medentika and Dental Wings, showing the breadth of Straumann Group's comprehensive product portfolio.

www.straumann.com

BSSPD poster award winner

Schottlander

This year there were 27 posters on a wide range of topics entered at the British Society of Prosthodontics (BSSPD) conference. This presented the judges with a challenging task.

The eventual winner was Dr Tong Wah Lim from the University of Hong Kong for his poster entitled, 'Effect of ultrasonic cleaner combined



with denture cleanser on removable denture microbiome in community-dwelling elderly: a randomized controlled clinical trial'.

The trial demonstrated that the denture biofilm samples after ultrasonic cleaning with chemical cleanser intervention harboured ecologically less complex and less anaerobic biofilms while reducing pathogenic microbiome. This was through the combination of antimicrobial therapy and ultrasonic cleaning, which affected both the microbial community composition and the abundance of opportunistic pathogens, resulting in a less pathogenic removable denture biofilm.

www.schottlander.com

How much is my dental lab worth?

Dental Elite

While you may not be quite ready to sell your dental laboratory right now, you may want to know how to make your business more valuable and more saleable further along down the road.

A professional valuation can help you plan for that future.

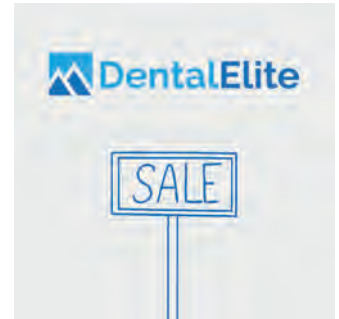
The valuation process can shine a light on potential areas for improvement that could make a significant difference to the value of your laboratory.

For example, minimising running costs can boost the value. So, maybe it's time to re-examine those workflow bottlenecks?

The team at Dental Elite has more than a decade of experience in the buying and selling of dental businesses – contact the team today.

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Vision, precision, transformation

ADI

Discover the ADI Team Congress 2025 entitled 'The implant aesthetic kaleidoscope', taking place 1 to 3 May 2025 at the Brighton Centre.

To match its exciting and colourful title, the congress aims to highlight the multitude of skills, techniques and expertise required by a dental implant team, and the way these complementary elements create some truly beautiful results.

Dr Zaki Kanaan, president of the Association of Dental Implantology (ADI), extends a warm welcome to attendees: 'The biennial ADI Team Congress is one of the leading dental implant meetings, not just here in the United Kingdom but also one of the foremost implant meetings in Europe.'

'The ADI congress is more than a platform for learning; it's a community coming together to share, connect and inspire one another. Beyond the educational sessions, join us in Brighton for a congress that promises growth, inspiration and fun.'

'We are excited to welcome you all and look forward to creating memorable moments together.'

www.adi.org.uk/association_dental_implantology_congress



The Prettau zirconia line Zirkonzahn

Zirkonzahn's zirconia range has grown over time into a material line consisting of six different types of Prettau zirconia.

- With a very wide range of applications – from partial crowns to full arches – Prettau solves common problems such as narrow spaces, bruxism or ceramic chipping for functional and aesthetic restorations
- Prettau 2 and Prettau 2 Dispersive are translucent with excellent flexural strength. Their aesthetic properties allow the design of monolithic restorations, preventing the risk of ceramic chipping. With Prettau 2 and Prettau 2 Dispersive, patients receive biocompatible, individual and stable dental restorations, from single crowns to full arches. Dispersive has a slight natural colour gradient
- With the new Prettau 3 Dispersive



zirconia, the concept of Gradual-Triplex-Technology was introduced. In addition to the colouring, also translucency and flexural strength levels change. In this way, while the incisally increasing translucency results in a highly translucent incisal edge, the cervically increasing flexural strength leads to an extremely high flexural strength at the tooth neck

- Prettau 4 Anterior and Prettau 4 Anterior Dispersive have been

Zirkonzahn®
Human Zirconium Technology

specially designed for the anterior region and are therefore characterised by a particularly high translucency. Both materials are suited for the posterior region. These two types of zirconia are suitable for the production of single crowns, inlays, onlays, veneers and three-unit bridges.



Zirkonzahn Shade Guides are composed of monolithic zirconia sample teeth in the shape of premolars, upper and lower incisors. They are available in Prettau 2 Dispersive, Prettau 3 Dispersive and Prettau 4 Anterior Dispersive zirconia.

www.zirkonzahn.com

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Enhanced CPD

LAB/JULY/AUGUST/PATEL/PAGE 14

1. In this article, what does RME stand for?

- a. Rapid mandibular expansion
- b. Removal metal expander
- c. Rapid maxillary expansion
- d. Radical manufacturing experiment

2. What treatment was the patient undertaking?

- a. Orthodontics
- b. Endodontics
- c. Periodontics
- d. Implant dentistry

3. Traditional orthodontic bands are often made of...

- a. Gold alloy
- b. Stainless steel
- c. Rubber
- d. Chromium-nickel-cobalt

4. What was the final phase of the technical process in this case?

- a. Polishing
- b. Welding
- c. Laser sintering
- d. Design of RME screw

LAB/JULY/AUGUST/MUNTENASU/ PAGE 16

1. The author got her dental technology degree in...

- a. Iceland
- b. Romania
- c. England
- d. Bulgaria

2. The author details three phases in this case. The first step entails the creation of what?

- a. An immediate loading temporary bridge
- b. The provisional bridge and custom abutments
- c. A full contour zirconia bridge
- d. None of the above

3. What does the author state as being the main advantage of using CAD/CAM technology?

- a. It is the fastest way to preview the final outcome
- b. It enables the patient to function normally
- c. All the parts can be designed and manufactured using the same source design without recreating each step
- d. It enables an aesthetic appearance

4. For the last stage of creating the definitive full contour zirconia bridge, what should the dental technician focus on?

- a. Communication with the dentist
- b. Achieving the desired aesthetic outcome
- c. Ensuring the patient recommends the lab
- d. Explaining how to care for the bridge after placement



NEXT STEP

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Labs and dentists have never collaborated so efficiently before



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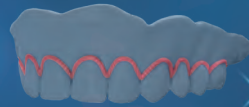
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