



Dental Student

Supporting Dental Students since 1991

2023 | Issue 23



AI in dentistry

We look at the future impact of artificial intelligence

Pages 8-9

This issue: **ADSA President report**
Initiatives for 2023

School report updates
Another busy start to the year

Am I good enough?
Getting to grips with imposter syndrome

The courage to try again
Finding your feet when times get tough

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Welcome

From Dental Protection

Thank you to everyone involved for their time and effort spent on contributing to this publication. This is our 23rd edition of *Dental Student Australia*, and another fantastic read with so many useful articles and photos capturing special moments.

Hello from your dental school representative

Hi readers! Kara here, Dental Protection's Business Development Executive and your Dental School Representative. I have plenty to update you on since our last edition.

Our team has been flying all over the country, meeting with students far and wide and looking back at all the university events we have attended, it really solidifies our commitment to the dental schools by offering continued support and advice.

Congratulations to the many graduates who came through in December 2022, and have now settled into working life. We hope they are all enjoying life as a dentist and making the most of the exciting opportunities coming their way!

The team and I have been on the road promoting our student membership package to lots of eager newbies.

Hello

from ADSA!

The Australian Dental Students' Association (ADSA) is a prominent organisation that represents and supports dental students across Australia. Since our establishment in 2009, we have built a rich history of uniting, and being the voice of nearly 4,000 dental students across Australia. ADSA plays a crucial role in promoting excellence in dental education, fostering professional development, and advocating for the interests of dental students.

We serve as a unified voice for dental students, providing a platform for communication, collaboration, and networking among our members. Through our various initiatives we endeavour to enhance the educational experience of dental

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Kara Stokes
Business Development Executive
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We have attended heaps of student events in Semester 1, and have been able to attend some great tradeshows and host some fantastic lectures. We had such a fun time going out to all the universities over the past few months, so we want to say a massive thanks to La Trobe Uni, Adelaide Uni, UQ, Melbourne Uni, CSU, Sydney Uni, Griffith Uni, UWA, and JCU for inviting us to be a part of your special events. I am pleased that our cute tooth socks and handy beach bags have been so popular with all the students.

We look forward to seeing you at the ADSA Convention on the Gold Coast from 27 November to 3 December.

Cover for volunteer work

Did you know that protection for overseas volunteer work is one of the benefits of student membership with Dental Protection? We have members in over 70 countries around the world, so if you have arranged a volunteering trip in one of these locations, then we've got you covered*. Please get in touch with us before you travel so we can help organise your dental indemnity well in advance.

Spotlight on Risk ON DEMAND

If you missed our recent virtual conference, you can watch it for FREE online and on demand now. Access your e-learning account to catch up on topics such as social media, artificial intelligence, resilience, and so much more!



Keep in touch on Facebook

Not yet our friend on Facebook? Find the Dental Protection Australia page today to see the latest news on upcoming events and topical articles, and to check out our recent photos. It's a great way to stay connected and learn more about all that Dental Protection has to offer.

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Graduating this year?

Check out *The Young Practitioner Survival Guide* section of our website for all sorts of tips. This is a dedicated resource for young dentists including articles, competitions and information on working abroad and volunteering.

Kara

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Sanika Shorey
ADSA President



students, facilitating the exchange of knowledge and ideas, and promoting holistic development in the field of dentistry. In doing-so, we hope to be able to provide our members with key-learning experiences that provide immense opportunities of exposure to the ever-changing dental landscape – something we cannot always find within the walls of academic institutions.

One of ADSA's primary objectives is to ensure the welfare and well-being of dental students. With calendar events such as 'R U OK Day', and mentorship programmes such as 'Dentist for a Day', we hope to support our members through every step in their journey through dental school. We hope to connect even more of our members to industry

professionals and foster greater professional networks with our upcoming annual ADSA Convention, held at the end of the year. To engage with more of our events, and keep up to date with our initiatives, be sure to sign up as a member on our website **adsa.org.au** and follow us on our social media pages: Facebook and Instagram @ausdsa.

Best wishes

Sanika Shorey



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School Reports Update

Read what other dental students from all over Australia have been up to so far in 2023

A

The University of Adelaide

AUDSS kicked off 2023 with a series of events to welcome first year students into the world of dentistry. O-Week introduced freshers to their course and the various portfolios of AUDSS and ADSA, with the freshers' BBQ and Buddy Day providing further opportunities for peer-mentoring and forming valuable friendships.

To grasp the last glimpse of summer, the wonderful Comm Aid portfolio organised a picnic at the Adelaide Botanical Gardens to raise money for Common Ground Dental Clinic, which provides pro-bono dental care for vulnerable and marginalised members of the local community.

In March, AUDSS hosted its annual Traffic Light Party, a major social event designed for students at the Adelaide Dental School across different years to get together. This was soon followed by Dent Camp, where students made their way to Dzintari (~80km from Adelaide CBD) on the Friday and spent two nights engaging in themed parties, boat races, and a scavenger hunt.

On the educational side, there have been various AADPDs introducing the different dental specialties to students, with Oral Surgery being the primary focus for Sem 1A. Dr Ken Lin and Dr Ven Woo gave a series of lectures on surgical extractions, third molar extractions, and how to manage medically compromised patients. Students also gained further insight from the AI Dente podcast hosted by AUDSS, with a recent episode featuring our 2023 patron Dr Selbach and her journey to periodontics.

We are so proud of our students and wish everyone all the best for the remainder of the year.

Carol Lam
Year 2



C

Charles Sturt University

The Charles Sturt University (CSU) Student Dental Association's first event of the year was the 'First Year Social Bowling Night' in February. This was a social mixer, where the first years were encouraged to meet other students from dentistry at a relaxed and fun event. There was a good turnout, and fun was had by all.

In March, CSU had its annual Clubs Day, where we were able to show our new students the various clubs and organisations they could be involved in, including ADSA membership, ADA NSW, Dental Protection, and our own CSU Student Dental Association (SDA).

Next up was our 'First Impressions' trivia night. This is an annual mentoring programme where we connect our first year dental students with mentors in a more senior year to help guide and support them through their first year. The programme aims to help our first years transition into their dental degree, which for many is also their first university experience. This was our second social event of the year, but our first trivia night. We were happy with the turnout and much enjoyment was had.

Then we had our annual 'Crown Cup' sports day, where the different student years competed against each other for the coveted Crown Cup. The competition was fierce, and a few injuries were had. In the end, the glorious fifth years took the prize.

CSU was pleased to be involved with the ADSA blood challenge this year, with many of our students rolling up their sleeves to contribute to this great initiative. CSU is so proud to have come second place in the blood drive competition. Thanks to our donations we will help save 117 lives. Well done everyone!

Finally, we had the Roland Bryant Cup in April, which is our annual sports competition with the University of Sydney. This year, Charles Sturt University were the hosts for the event. Making the most of the home court advantage, CSU were able to win the Roland Bryant Cup for 2023!

There's more to come from the CSU SDA and we are looking forward to seeing what the rest of the year brings.

Chris Pertudo
Year 3

G

Griffith University

2023 started with a bang! Academically, our dental student association has hosted many workshops and lectures, such as a workshop on the pharmacology of local anaesthetics. We've been holding ongoing first year oral biology bi-weekly tutorials too, which help consolidate knowledge and prepare for assessment.

As for our more social and sporting events, we hosted our brand-new event 'Amazing Race' to welcome first year students through fun challenges and mingle with their fellow cohort. This was followed by our annual 'Icebreaker Mixer', a great night for all years to get to know each other. In March, we had our UQDSA and GUDSA Beach Day, sponsored by Dental Protection, at Phillip Park, Main Beach, giving students a chance to interact with UQ dental students. At the end of April, we had our all-white attire boat party, setting sail after sunset for a fun social evening.

Also new this year, our dental student association expanded and rebranded our past ADSA Committee into a Community Committee, with hopes of focusing on student mental wellness and promoting a community atmosphere. Our Community Committee held our first-ever World Oral Health Day photo booth contest with prizes and was happy to see engagement from all dental-related degrees!

We were overjoyed to come first place in the ADSA Blood Drive! Our GUDSA team flooded the Southport Donor Centre last semester to give valuable blood and plasma donations. Our contributions will help save 156 lives. In semester one we also held our most successful bake sale, with proceeds going to the Esesson Foundation.

There is still so much to look forward to for the rest of 2023.

Jen Ruskowsky
Year 2



J

James Cook University

James Cook University (JCU) Dentistry has had a busy year so far. Our O-Week consisted of multiple events, such as a Trinity Beach BBQ, icebreaker night, market day with multiple sign ups to JCUDSA, Palatine's trivia night, and a party bus – the highlight of the week. We've also announced the winner of our annual assassin's game – a free-for-all game where you try to eliminate your target anonymously by throwing a sock at them, unless of course they're holding a watermelon OR you're eliminated first.

This year, we introduced a new initiative where every month one specialist from the faculty gives us a talk on how to manage difficult cases in a specialist private practice. An interesting month in particular was Prosthodontic Ponders back in April, where a few fourth year students presented some of their complex cases from the clinic.

Also in April, we hosted a trivia night for the non-profit, Rosies. It was a huge success, with multiple prizes being awarded to 1st, 2nd and 3rd place. We had a loupes tradeshow the following night with multiple companies coming up north for us. At the tradeshow, we also had a Dental Protection station where many people signed up, seeing the importance of insurance and the benefits they have to offer. And recently we hosted our inter-year sports carnival, where the fourth years took the trophy!

Arushi Joshi
Year 4



L

La Trobe University

The Bendigo Oral Health and Dentistry Society (BOHDS) started 2023 with a flurry of activities. We had the privilege of hosting our esteemed sponsors, Dental Protection, ADAVB, Guild Insurance, and MIPS, during the market day event held in O-Week, where we extended a warm welcome to returning students and first year students.

The event generated a lot of interest in ADSA and the blood drive, and the BOHDS committee provided useful tips and advice to the incoming class of students. Over the next few weeks, we organised several events to help the new members ease into the BOHDS family, including Amalgames – a night of fun games and mental stimulation, bowling night – which provided an opportunity for inter-year level interactions, and the loupes festival – where students could try and purchase various loupes.

Looking ahead to BOHDS week, we had a packed schedule of events, including laser tag and karting night, movie night, games night, and a pub crawl. The pub crawl event was particularly successful, and we had a great turnout of fourth and fifth-year students, providing an excellent opportunity for socialising with peers. We are delighted to report that our Bendigo Fun Run fundraiser was a huge success, thanks to our collaboration with the Bendigo Run Association and ADSA.

Our gold coin Fun Run was held on the 27th of April at Lake Weerona and we managed to raise \$115 for the Australian Dental Association.

The highlight of the year so far was our unforgettable BOHDS camp at Camp Kookaburra, where we enjoyed outdoor activities and themed nights, such as 'let it glow' and 'celebrities'. This was a unique opportunity for the first-year students to meet and interact with students from other year levels, and a refreshing break from our academic commitments.

Chantelle Chuang
Year 2



M

The University of Melbourne

The University of Melbourne Dental School was stoked to start off the 2023 year in the sun with our O-Week shenanigans, including our official orientation day for DDS1 and our annual scrub crawl, where everyone got to mingle and meet the new incoming class of 2026. O-Week included lots of games, food, and activities that led to new friendships and mentorships.

With the momentum of the new year in play, we also had our annual Dent Camp: Camp Cavity, where we ignored everything that we know about sugar and ate lots of candy, drank lots of pop, and had free flowing alcohol (in between meals...). The night ended with a giant dance party where everyone dressed up as 'something sweet'.

Afterwards, we took a break on the big party events and had some wholesome events such as World Oral Health Day, the ADSA blood-drive, and the Teddy Bear Hospital. Before the Easter break, the Melbourne Dental Student Society threw its first ever inter-faculty party with the faculty of medicine and physiotherapy – this was a one-of-a kind event for all three societies and was a fantastic start to a much-needed break. It's been a hectic and jam-packed first half of the year, but we have a few more big events up our sleeves for the rest of 2023.

Stephanie Nguyen
Year 2



Q

The University of Queensland

2023 has been terrific so far for the University of Queensland (UQ), with a series of social and educational events that successfully set a foundation for a great and engaging year. The first highlight was O-Week, where first year students were welcomed into dentistry through various fun activities – specifically a scavenger hunt and spicy ramen competition.

The sausage sizzle and peer-mentoring programme were also introduced to allow bonding opportunities between different cohort members. This was further emphasised through our 'Meet and Greet' event which successfully attracted 350 attendees. Mystery mobile game and merch giveaways were incorporated to generate hype and get people to mingle with others.

March started as the busiest month so far, with multiple sporting events, in particular board games night, badminton day, and beach day (collaborated with GUDSA). All events were highly anticipated with a great turnout, which demonstrated excellent execution behind the scenes of the UQDSA committee. A grad Q&A panel was also hosted, with guest speakers being professionals from different specialties, allowing students to gain insights into the real world of dentistry. Topics such as job interviews, postgrad pathway, and private vs public practice were discussed. March also marked the first month of the Blood Drive, where a group donation with ten donors was organised. Various marketing strategies such as reels and Colgate giveaways were utilised, resulting in great participation, and I would like to thank all donors for saving lives.

The highlight of April was our first ever 'Sip N Paint', where a fun and creative environment was initiated. On 25 May we hosted the ADSA Bake Sale with the aim of delivering health equity and holistic dental care to disadvantaged people through donating to the Fill the Gap charity.

Stay tuned for our next events.

Tracy Nguyen
Year 3

S

The University of Sydney

SUDA has been working hard with a focus on encouraging networking, providing students with useful resources and celebrating the diverse communities that our students are a part of. We started off the year with a hugely successful welcome night, where BOH and DMD students of all years were able to mingle. We then had a fantastic 'Mardi Gras Trivia Night', sponsored by Dental Protection, where big brains were put to the test in the battle for some great prizes.

In March, our sold out Dentchella 2023 cruise was a huge success, and we hope to continue our track record of events where our students have a blast! SUDA also held our loupes showcase, open to students of all cohorts, with record breaking attendance numbers recorded.

April was packed with Ramadan festivities, with SUDA hosting its first ever 'Ramadan Iftar Night' at Westmead Hospital. As the sun set and the call to prayer echoed across the hall, students, faculty, and staff gathered to break their fast in a spirit of community and companionship. Students from all backgrounds bonded over their mutual love for food, creating lasting friendships. As the night drew to a close, everyone left with full bellies, happy hearts, and a sense of togetherness. The Iftar night was truly a celebration of diversity, inclusivity, and the joy of coming together.

Most recently, we've been looking after the mental health of our students with Mental Health Month. We've had cookies, yoga classes, and an adorable visit from the Napean Therapy Dogs! We rounded off the month with a free lunch for students.

Jordana Wang
Year 4



W

The University of Western Australia

The University of Western Australia (UWA) Dental Students' Society (UDSS) has been busy organising a wide range of events in the first half of 2023. Our calendar kicked off with the annual social event, 'Prime and Bond', where we welcomed new members and fostered connections between our fellow students. We also organised a t-shirt design competition for our annual t-shirt, which showcased the creativity and talent of our members.

UDSS Education also hosted a Journal Club on bruxism, where we had a unique opportunity to learn about bruxism and its management from a specialist. In addition, we were delighted to have UWAMPS host a Pharmacy and Dentistry workshop that provided insight into the intersection of these two fields, and how they can work together to achieve better patient outcomes.

In April, we hosted a table tennis tournament and a Dentistry vs Podiatry badminton competition. These events were an excellent opportunity for our members to have fun and connect with one another through friendly competition. In May, UDSS created a team for HBF Run for a Reason and aims to fundraise for Lifeline WA. UDSS' sports department also organised an ice-skating event for anyone who wanted to de-stress before exams started.

All in all, the UDSS has had a successful first half of 2023. Our events have provided a platform for our members to learn, connect, and have some fun along the way. We can't wait to see what the rest of the year has in store!

Jadelynn Hiew
Year 3





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Oral hygiene instruction

Dr Saskia Salvestro is a dentist practicing in Wagga Wagga with over a decade of experience in the dental profession as both a dentist and oral health therapist

Saskia works both in private practice and as an academic at Charles Sturt University. She believes oral hygiene instruction is the most valuable conversation a clinician can have with their patients, so long as it's taught properly, and primarily involves the patient in the process.

Oral hygiene instruction: floss or interdental brushes (IDBs)? Manual or powered toothbrushing (PTB)? As busy dental practitioners, we need to have a better appreciation and understanding of evidence behind patient-directed biofilm control and what we recommend for our patients. This helps to avoid the repetitive and dull oral hygiene instruction carousel our patients are tired of hearing, and the time that we – as time-precious practitioners – can't ethically charge for, but rely on for optimal treatment outcomes.

One thing I've learned over the past decade in the dental profession – both as an oral health therapist and a dentist – is that patients genuinely like to know what's happening in their mouth, and if given the chance, to help themselves improve.

With modern dentistry continuously evolving, and more complex treatments becoming readily available and affordable (such as dental implants and orthodontia), it's not only our job as practitioners to be abreast of the latest research, but additionally to take into consideration the influence of patient-involved, individualised oral-hygiene maintenance programs, as part of the treatment itself.

I always highlight to periodontitis patients that their treatment outcome is dependent on the 80/20 rule, both of which involve biofilm removal in a similar environment: the 80% involves the

patient carrying out personalised oral hygiene as prescribed in their home environment. The other 20% is the dental team's responsibility clinically for non-surgical or surgical periodontal therapy. It's important to emphasise and communicate with patients the fact that no treatment, no matter the complexity or cost, will survive long-term, without a healthy periodontium (Samet & Jotkowitz, 2009¹).

The concept of oral hygiene instruction can be as simple or as complex as a practitioner creates. The central value behind oral hygiene instruction is often overlooked: ensuring prevention of gingivitis, periodontitis, and dental caries. Not to mention the bidirectional relationship between dental and systemic health. We are responsible for involving our patients in their disease control – if patient involvement is dismissed, the likelihood of their risk of disease progression increases.

Understanding the target: health or disease?

Latest evidence in supragingival biofilm control categorises patients into 'health' or 'disease'. The benefit of this is our ability to further individualise and modify oral hygiene instruction, and further involve our patients in their homecare. Prioritising quality oral hygiene instruction far outweighs quantity when it comes to results.

When looking at biofilm control research, it's important to understand whether that research is recommending specific techniques for a patient who is periodontally healthy, or a patient who has gingivitis or periodontitis.

For example, when recommending flossing to a patient, most research consensus explains "*flossing is only beneficial in gingival health*" vs research that explains "*flossing is not beneficial compared to interdental brushing (IDB) [in gingivitis patients]*". There are two different consensuses here, and if not understood correctly, one could find that IDB far surpasses flossing in terms of biofilm removal and that flossing is a 'waste of time', when in fact, a healthy patient who is looking to maintain their oral hygiene can use floss to remove interdental plaque, so long as it maintains their oral hygiene.

On the other hand, a patient with gingivitis or periodontitis would be more successful controlling plaque deposits with an IDB, as the evidence points to IDBs as superior for plaque removal vs floss in gingivitis and periodontitis patients.

We are acquiring quality information that can be used in a brief discussion, compared to tiresome and impractical 'cookie-cutter' oral hygiene approaches. Following up on this new advice at a subsequent appointment – and asking patients how they are doing with their new routine – can enhance the relationship and make patients more open to further modifications.

What to recommend: floss or interdental brushes (IDBs)?

The evidence has spoken – flossing is not recommended in sites of disease, as most studies prove it is less effective at plaque removal than IDBs in diseased sites. IDBs are the most effective method for interdental plaque removal for diseased sites. If an IDB cannot be used for a specific reason, floss is then recommended (Salzer et al, 2015²).

A systematic review on patients with periodontitis by Sambunjak et al in 2011³ found unreliable evidence on the effectiveness of flossing in addition to toothbrushing for disease reduction on periodontitis patients after one and three months. The same evidence suggests that there are no studies reporting the effectiveness of flossing plus toothbrushing for preventing dental caries.

In 2022, further systematic reviews found rubber interdental picks were more efficient than tooth brushing alone in reducing plaque and gingival inflammation, measured in a periodontitis-affected population (Gennai et al, 2022⁴). This was supposedly due to the interdental papilla loss during this stage of periodontitis, and the subsequent biofilm accumulation in these difficult-to-reach areas. When involving the patients in these studies, rubber coated IDBs were preferred, due to the higher user safety and patient preference (Van Der Weijden et al, 2022⁵, Gennai et al, 2022⁴). It is common sense: if they prefer it, they are more likely to do it.

What to recommend: manual (MTB) or powered (PTB) toothbrushes?

The next big question many of our patients ask is whether a PTB is more effective than an MTB. In a systematic review and meta-analysis by Thomassen et al, 2021⁶, there was high certainty that use of a PTB over an MTB was more effective at plaque removal, and a moderate certainty in the benefit of an oscillating-rotating (OR) PTB over high-frequency sonic (HFS) powered toothbrush. OR toothbrushes had a statistical benefit over an MTB in reducing plaque levels in patients with gingivitis (Van Der Weijden and Slot, 2015⁷, Chapple et al, 2015⁸). Note here that this study specifically discusses findings within diseased sites. There is still a need for more research into the effectiveness of these modalities on healthy patients without gingivitis or periodontitis.

A note on toothpaste additives and chemotherapeutic agents

Sodium-fluoride toothpaste has a weak inhibitory effect on plaque regrowth (Valkenburg et al, 2019⁹) – but we need the fluoride. Moderate evidence is available that brushing with an active-ingredient toothpaste, such as stannous fluoride or triclosan, has added clinical effect in plaque inhibition capabilities, more than the effect of a regular sodium fluoride toothpaste.

However, it is now known that triclosan is toxic and shouldn't be used. The consensus is that the risk outweighs the minor benefit these active ingredients have in our toothpaste (besides fluoride of course), and that, again, mechanical plaque removal is our best bet at eradicating gingival inflammation.

Chemotherapeutics and additives should always be used as an adjunct measure to mechanical plaque removal. Chlorhexidine's potent effect on oral flora (including the beneficial flora) has sparked new studies to investigate the potential of probiotic specific strains that target and weaken periodontal bacteria, such as *P. gingivalis*. Zinc oxide, zinc lactate 0.2%, and slow-release oxygen therapy that target anaerobes are also worth reading about (Valkenburg et al, 2019⁹).

Getting the patient on board

In gingivitis, interdental cleaning with IDBs should be professionally taught to patients (Sanz, M, Herrera, D, Kebschull, M, et al, 2020¹⁰). Having the patient involved in their dental hygiene routine is required for optimal oral (and systemic) health outcomes. It's important to understand that when delivering oral hygiene to our patients, we are dealing with differing personalities that need alternate approaches and discussions. As dental practitioners, utilising emotional intelligence can come in handy and can often result in a better relationship between the practitioner and the patient.

Our patients need to understand that we are not here to tell them what to do, but to help them improve what they already do. Patients also need to accept their role and responsibility in improving their oral health outcomes.



In summary

- Oral hygiene instruction is a complex, often overlooked, and modifiable discussion, with a priority for short, quality instruction tailored to the patient's individual needs. The patient should understand these needs may change and require modifying each time they visit and accept their responsibility as part of the 80/20 rule.
- Research recommendations for oral hygiene is either in patients who are periodontally healthy, or those who are not.
- Involving our patients in their oral hygiene routine is imperative for better oral hygiene outcomes.
- IDBs are the most effective method for plaque removal in diseased sites.
- Flossing is not recommended in sites of disease but can be used to maintain a healthy periodontium in non-diseased patients.
- In stage III periodontitis patients, IDB is more effective at removing interdental plaque than tooth brushing alone.
- Rubber-based IDBs are preferred by patients and will therefore be used more by patients. Use common sense and introduce patients to them.
- There's little evidence that chemotherapeutic agents improve plaque control alone, and so should only be considered as an adjunct to mechanical plaque removal.
- MTB or PTB is recommended as a primary means of reducing plaque and gingivitis (Sanz, M, Herrera, D, Kebschull, M, et al, 2020¹⁰).
- OR powered toothbrushes had a statistical benefit over an MTB in reducing plaque levels in patients with gingivitis.
- Normalise flossing or IDB anywhere, anytime. It doesn't just have to be in the bathroom during the oral hygiene routine, so long as it fits into the patient's lifestyle routine, it does not matter where or when it takes place.

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Artificial intelligence: future impacts for dentistry

Emeritus Professor Laurence J Walsh, looks at an exciting new development

Artificial intelligence (AI) is hardware and software that performs tasks that would normally require human input. It is a disruption that has arisen from the overlap of several areas of technology, especially the Internet of Things (big data), enhanced computational power and machine learning, and better algorithms.

Earlier in 2023, the US Food and Drug Administration gave clearance to the first AI-powered dental radiological detection software, and for dental AI-automated charting. There is increasing interest in AI systems that analyse clinical images or dental radiographs for caries, defects around restorations, endodontic pathology, and more. Periodontal AI classifies cases and identifies bone loss, while endodontic AI searches for vertical root fractures and apical lesions. While orthodontic AI classifies cases, finds landmarks, and predicts treatment outcomes. AI in oral medicine tracks oral premalignant lesions, while AI systems allow robotic devices to place dental implants or drill teeth using lasers.

AI should be a positive thing for a clinician, as it can reduce cognitive workload at any one moment in time, in the same way that automated systems in a modern jet aircraft reduce the number of separate individual systems that the pilot has to monitor and control. This means you can concentrate more on the task at hand, hopefully leading to lower error rates and less performance-related anxiety. AI can also be important for cross-checking, to make sure there are no missed steps.

Given these positives, what are the big challenges in AI in dentistry for the future? Currently, no machine learning approach is able to model all the elements of human intuition, because of complex pattern recognition processes that we apply.

The next issue is the notorious 'garbage in, garbage out' problem. It doesn't matter what form of AI machine learning or block chain is being used, if you have poor-quality data coming in, you're going to have the same coming out. Hence, datasets used to develop AI need to be free of bias and confounding factors.

The third major area is whether AI poses a challenge to the independence and autonomy of clinicians. Well-designed AI systems will not disempower clinicians, but instead will enhance their work. The big questions are: will AI tools be an optional aid that clinicians can choose to use to help achieve quality outcomes, or will AI be a mandatory 'must have'? How will the availability of

AI change the tolerance of patients and regulators for mistakes, errors, and misadventures? Will patients and regulators expect that AI will be used to check and verify decisions, to make sure that what dentistry we do is precise and accurate, and that our diagnoses and prognoses are correct?

These are important questions to ask, because they determine whether AI will be, overall, an improvement to practice, rather than yet another form of micromanagement, interference, or barrier in our professional lives.

The final area to consider is what AI will do in terms of workload. It will certainly alter workflow and efficiencies. In some cases, it will reduce workload. So, how does that then translate to our work/life balance and the inherent attractions and challenges of dentistry as a career? Fortunately, because of the complexity of dentistry and the need to deal with patients one on one, many of who are anxious and apprehensive, a caring human approach will always be required – something no robot or AI suite of technology can provide. We are very fortunate in that regard.

There are two very good recent reviews of AI in dentistry publicly available. These are a good introduction to the literature of over 100 papers on the topic – I recommend reading both if you want to learn more about this field.

The first is a 2023 narrative review that looks at some of the major developments that are emerging, frontiersin.org/articles/10.3389/fdmed.2023.1085251/full

The second is a 2021 high-level systematic review, downloads.hindawi.com/journals/bmri/2021/9751564.pdf

Laurence Walsh was one of the speakers at the Spotlight on Risk Dental Conference on Saturday 27 May. He explored in depth the impact of artificial intelligence on the working life of the clinician and shared his insights on how to embrace a forward-thinking mindset to thrive in dentistry in a constant changing world. The Spotlight on Risk Dental Conference, brought to you by Dental Protection, is available to watch on demand now.





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Impostor syndrome – am I good enough?

Impostor syndrome can be described as a pervasive feeling of self-doubt, insecurity or fraudulence – one that can stubbornly persist, despite much evidence to the contrary.

Dr Colm Harney, Dentolegal Consultant at Dental Protection, explores the concept

Aclaimed author Neil Gaiman recounts being invited to a gathering some years ago of the great and good, somewhere in the US – artists, scientists, writers, and discoverers of things.

He was standing at the back of the hall thinking at any moment they would realise he didn't qualify to be there when he started talking to a very polite elderly gentleman about several things – amongst others – their shared first name.

The gentleman pointed to the hall of people, and said words to the effect of: "I just look at all these people and think, 'what the heck am I doing here?' They've made amazing things. I just went where I was sent." And Mr Gaiman replied: "Yes, but you were the first man on the moon – I think that counts for something."

At that moment, he realised that if Neil Armstrong felt like an impostor, maybe everyone did. That feeling is close to my own heart having experienced it, on and off, many times in my own life and through the practice of dentistry.

What is Impostor Syndrome?

Impostor syndrome is that internal monologue that plays inside our head, and whispers to us that, any time now, I'm going to get that tap on the shoulder and be told "I see you... I know you're a fraud... you've been found out!". While it's reassuring to know that even Neil Armstrong experiences impostor syndrome, what do we know about its prevalence? The literature says that it doesn't discriminate on the basis of gender, race, age, or occupation. It is not some kind of abnormality, and it's important to note, not necessarily tied to depression, anxiety, or measurable low self-esteem.

In dentistry, there are a number of areas where impostor syndrome can play a role, for better or for worse.

Firstly, to state an objective truth, as dental professionals we have, to most outsiders, significant evidence of competence to do the job. It is mutually understood between patient and practitioner that there was a high threshold to entry, and then a significant amount of study and testing to be done to get the golden ticket – the certificate on the wall.

We have a job, which means somebody has seen fit to hire us, or we've gathered enough resources to start our own business. We wear a uniform, have elaborate equipment, use technical language, and are reasonably well remunerated – by most metrics of success in modern society we are highfliers.

Yet at the same time, once we graduate, if it hasn't been made clear at dental school, it dawns quickly that the qualification is only the beginning. The practice of dentistry, in whatever field you work in, is a lifelong journey of learning on the job, continuing education, mentorship, and discovering the limits of your capabilities – only to repeat and keep learning and growing.

Certainly, I was never told this when I graduated, and the early days of practice were a significant struggle for me – the certificate on the wall telling me I'm a bona fide, fully qualified dentist, the diagnostic dilemma, or the tricky procedure slowly going wrong, telling me otherwise.

Impostor Syndrome in dentistry

We are proceduralists, working in confined dark spaces to very fine tolerances, and, as a general rule, I believe we are perfectionists, always striving for the very best outcomes. Combine these traits, and you have fertile ground for impostor syndrome to flourish, especially in the early days of practice.

However, once the penny drops, and we realise the qualification is only the start of the journey and not the final destination, it becomes easier to put things into perspective – we are destined to always be on a learning journey.

Indeed, over 25 years after receiving the golden ticket, I still learn something every day of practice – whether it be a subtle tweaking of a procedure, how to better use a new material, or some way I communicated more effectively to a patient that I can use again in future.

And when it comes to perfection – in dentistry or any other aspect of life, it doesn't exist. 'Perfection' is like unicorns and the tooth fairy – fictional.

Another aspect of the modern world that can feed impostor syndrome is social media and the known impact it can have on self-esteem. If 'comparison is the thief of joy', then social media has the potential to be the echo chamber that distills all our insecurities and holds them up like a mirror to our face.

The beautifully curated Instagram cases, on the 'perfect' patient, with the cusp carving and fissure staining are easy to compare with our real-world scenario of struggling to achieve a tight contact and grinding down all our barely adequate anatomy to match a worn dentition. How could I not be an impostor? Wouldn't my patient be better served by seeing someone as good as the Instagram practitioner?

Again, some perspective is needed. I've read and listened to some of the prominent social media posters say that it has taken years and years of education and training, along with trial and error, to get to the point of being able to post these 'perfect' cases. It takes a single-minded dedication – something I really admire and can aspire to when I am well prepared, working on an optimal patient with my best assistant and no time pressures. Yet for me, most of the time, I am comfortable running my own race and at the same time appreciating what can be done and taking a few tips here and there.

Overcoming Impostor Syndrome

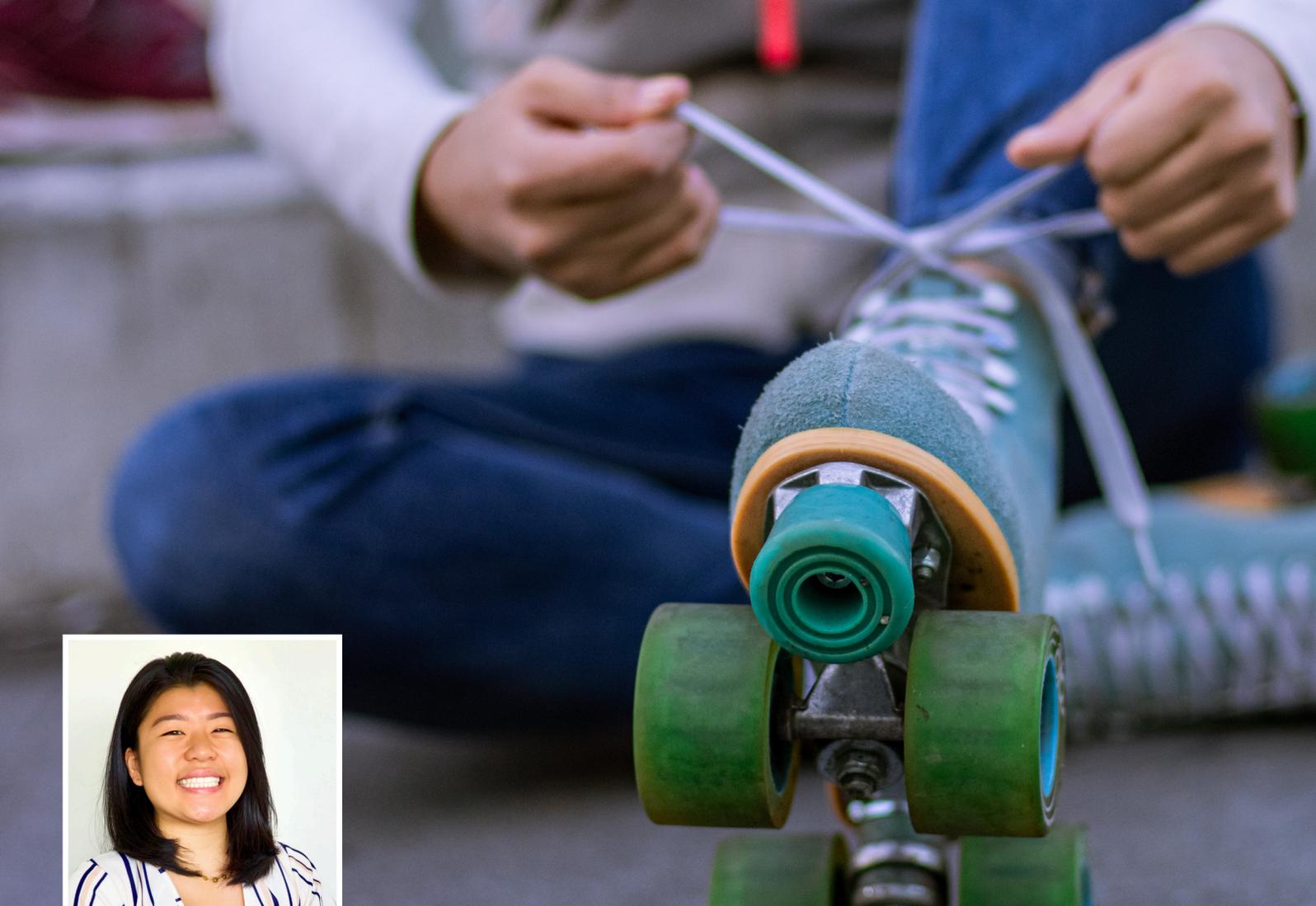
So how do we push past impostor syndrome and grow as practitioners? We need to continue making progress and, at a bare minimum, keep up to date and not remain stagnant or fall behind in the standards required to remain compliant with our regulator.

It is important to say that there is no one solution, as everyone's circumstances will be different, while also having influences from individual past experiences, upbringing, and culture.

While some practitioners we see, especially in the early days, may be too bold in launching into ventures and cases that they shouldn't, for the practitioner prone to impostor syndrome, there will be an inherent bias towards holding back, biding their time until they feel they are good enough.

The only suggestion I can make, is to consider, like Neil Armstrong, that most of us feel slightly out of our depth, especially when it comes to important work and breaking new ground.

We need an optimal amount of caution – enough to keep progressing, yet not so much as to slip drastically beyond our scope or skillset, and risk harming our patients. This balancing act is a good thing. To feel like an impostor means that you care, are conscientious, and will give your best effort with all resources available to you at the time – this can only be a virtue and a measure of the type of practitioner I would like to see if I were a patient.



The courage to try again

Dr Erica Hwin graduated as a dentist from the University of Sydney last year. Erica is Dental Protection's Young Dental Practitioner Representative for 2023, and has kindly shared some helpful and inspiring insights with our readers, which we hope will assist you in your journey to becoming a dental professional.

About a year ago, as one of my impulse exam-procrastination purchases, I bought a pair of roller-skates. Mind you, I can't even ride a bike, so to skate precariously on tiny wheels was an entirely foreign and very daring concept for me. As with all novel things, there is that thrill of unravelling the shiny packaging and unboxing your brand-new toys. But very quickly, you learn that it's a lot more difficult than the ads online make it seem.

The first time I fell, I winded myself. I remember the sheer terror as I felt my legs fly out from beneath me and the concrete ground coming up hard and fast before my very eyes. What if I knock out my front teeth? Or if I snap my wrists? I'm not even insured for them yet.

The thing is, as with every new skill in life, whether it be roller-skating, learning to drive, giving local anaesthetic, or extracting a tooth, you'll stumble first before you find your footing. The initial fall always hurts the most, but after wearing off the hip bruises and knee scrapes, you adapt and become numb to the feeling. You pick yourself up and go again, and again, and again. Falling? It just becomes part of the process. Dentistry is no different.

As fresh graduates at the very beginning of our careers, everything is new, foreign, and unfamiliar. There is a lot of stumbling to be done. In those initial months after graduation, we will have encountered so many 'firsts', including procedures we never performed during dental school, conversations we've never been faced with, and situations we've never even seen or heard. We'll revel in the joys and the triumphs of our first major achievements – our first crown prep, our first wisdom tooth extraction, our first happy patient review. We will also face the disappointment of our first mistakes and defeats.

If there's one thing that I miss from dental school, it's the lunchroom rant sessions. That feeling when you come out of clinic, push open the door to the common room, and are met with the absolute ruckus of everyone sharing their war stories. Who was stuck with a difficult patient, a tooth root that wouldn't budge, a hot pulp they couldn't numb, or a pulpal exposure that was unavoidable? We're all in it together – sharing the emotions, celebrating each other's wins, and sympathising when things don't go to plan.



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...as with every new skill in life, whether it be roller-skating, learning to drive, giving local anaesthetic, or extracting a tooth, you'll stumble first before you find your footing

One of the realities of graduating, especially going into a practice of seasoned dentists who are so good at what they do, or being a solo practitioner with no-one else around, is that you lose that solidarity and that perspective. I have had friends and fellow new graduates tell me that they feel like an absolute failure or utterly incompetent because they've been unable to diagnose caries on a bitewing, drilled into a tooth without decay, nicked an adjacent tooth while prepping a crown, fractured files, snapped roots, sliced a lip, perforated, had angry patients come back in pain.

The reality is, so have I. I have felt the same, and I know for a fact that every dentist I ask at some point in their career, has as well. But when we're on our own, when we don't share these experiences, whether it be out of fear of judgement or scorn, and when we let the pressure to be perfect suffocate us, it all takes a toll. It is easy for the struggles you have to make you feel like it's just you. That you're not good enough.

And rather than getting back up on our feet, rather than growing from it, it can bring us down. It can instil a fear within us, doubt in our own capabilities, and hesitancy to face the same situation again. We forget that it's all part of the process. We forget that everyone goes through it. We forget how many times we fell on our faces as children before we learnt to stand firmly on our own two feet.

Our goal, as healthcare professionals entrusted with the care of our patients, is to achieve the optimal outcome for them. But excellence is a product that takes time to harvest and cultivate. Crops don't flourish overnight and neither do our skills. It is the same for athletes, for chefs, for artists, and for entrepreneurs. Upon graduation, this was something I had to really come to terms with, and to manage my expectations of myself. To realise I am not

special. I am not born with gifted hands. Just like every clinician before me, dentistry is a skill that will take time, patience, persistence, and whole lot of hard work to master.

So, it is okay if we don't get it right the first time. It is okay if it isn't the best. It is okay if we make mistakes. So long as we learn from it, muster up the courage to try again, and strive towards doing what's right. If it doesn't work this time, try it again. And if that doesn't work, try it another way. The only way we will get better is by practice and repetition, and each time we do it, we will be a little bit better. Falling is just part of the process, right?

There is no profession quite like ours, where we are working so intimately with our patients – ones who, for the most part, don't like us. Within minutes we are switching from emergency extirpations to surgical extractions, from a family of hygiene to a crying child and their anxious parents. Perhaps what makes our profession so incredible is the resilience in our people. We see dozens of patients a day, hundreds in a month, thousands throughout the year. And yet every patient that comes through our door, we start anew. Big smile, strong wills, intense focus, and unwavering determination to do our very best.

Dentistry is not an easy profession. It isn't easy to get into, to work through, or to stay within. But there's a reason we've made it this far.

And so, I challenge us to remember – when times are tough, when we fall hard, and when we feel like we're just not good enough – that we are a profession with the toughness and grit to push through. The heart and care to do what's right. The persistence and hunger to learn more, and the bravery and courage to try again.



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