

## Taking stock and looking ahead

Dr Amit Patel, president of the Association of Dental Implantology, reflects on the current and future dental implant landscape.

### The digital revolution continues

Like all areas of dentistry, implantology is going digital. A digital workflow can be applied to various stages in the treatment journey, often improving outcomes, as well as both the patient and professional experience. We are seeing an uptake of intra-oral scanners, which can acquire highly accurate impressions while improving patient comfort compared with conventional alginate methods. For the clinical team, digital scans can be easily integrated within the wider digital workflow and facilitate prosthetic design, as well as streamline communication and collaboration with colleagues. I would estimate that around 20-30% of clinicians in the UK now own and utilise these scanners, but I would expect this to increase in the next couple of years as the technology improves and becomes even more accessible.

CBCT is the other digital solution supporting dental implantology today. These scans have become central to precise and confident treatment planning, allowing clinicians to determine the ideal dental implant position, angle, depth and width in every single

certainly not yet the norm, my colleagues and I are receiving more enquiries about and requests for metal-free alternatives to conventional dental implants. This echoes some of the changes already seen across other disciplines of dentistry, such as restorative dentistry, and creates an interesting dynamic for the future. Ceramic implants are available for clinicians to utilise—backed by science and proved to deliver good clinical results—and these are now being employed more regularly than they were just a few years ago.

### Yet to come

There are some interesting technologies currently being introduced and in development that could have a positive impact on dental implantology in the future. For example, there is navigation software that allows the clinician to prepare the dental implant site using the CBCT scan in real time as a kind of virtual guide. It offers an alternative way to provide guided surgery, allowing for a freehand approach that makes use of digital technology for more accurate and confident dental implant placement. This kind of technology is still



•Dr Amit Patel is a periodontist and clinical lecturer from the UK.

which has been shown to inactivate bacterial biofilm far better than using a powder-spray system.<sup>2</sup> Given the spotlight on prevention of bacterial infection in the UK dental implant field, effective new ways of cleaning the products that we use would be widely welcomed.

Of course, this will be in addition to—or perhaps even second to—prevention of the disease in the first place. We know the risk factors for peri-implantitis, but if we can hone in on the exact mechanisms behind development, then we could change the game entirely for many patients. With more research, a greater understanding of the disease and the next generation of technology and materials, we will be even better equipped to stop peri-implantitis before it becomes a problem.

Aside from these, there will no doubt be a shift in some of the other clinical techniques and products employed as part of the dental implant workflow in the near future. For example, socket shielding is being brought to the fore at professional events, and novel dental implant designs are being worked on to help further minimise potential complications. It is an exciting time to be involved in the dental implant field and to utilise many new innovations as they reach the market. Concentrating on science-backed and evidence-based solutions remains crucial, but we can expect to deliver ever-better dental implant treatment to patients in the years to come. ◀

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case. This, combined with prosthetically driven planning protocols, ensures that any dental implant placed can be restored correctly for good function, aesthetics, maintenance and longevity.

### Attitudes to metal in the mouth

Another trend we are seeing in the UK is an increase in a patient-driven move away from metal. While

quite new to the field, but it is likely to become a more popular technique as the software evolves.

The other area in which changes are afoot is the management of peri-implantitis. Prevalence is difficult to measure, but according to current research, it occurs in 12.5% and 19.5% of cases at implant level and patient level, respectively.<sup>1</sup> A leading cause of dental implant complications, it remains a disease that is not

fully understood by the profession or by patients. Prof. Niklaus Lang from Queen Mary University of London once said at a conference I attended: “Periodontitis was made by God; peri-implantitis was made by man.” This illustrates the difference between the two diseases, and we must develop management techniques that take this into consideration. As a specialist periodontist, this is a topic I am passionate about, and the

Association of Dental Implantology has long recognised it as an important area for the progression of the field. We have held events dedicated to discussing the challenges of peri-implantitis and exploring potential solutions for this very reason.

For the future, how we clean dental implants will likely be further scrutinised. There is already technology available for electrolytic cleaning of the dental implant surface,

#### References

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### “It is an exciting time to be involved in the dental implant field and to utilise many new innovations as they reach the market.”

#### About the author

Dr Amit Patel graduated in dentistry from the University of Liverpool in the UK in 1997 and obtained his membership of the Faculty of Dental Surgery of the Royal College of Surgeons of Edinburgh in 2000. Dr Patel also underwent a four-year training programme in periodontics and implantology at what is now King's College London Faculty of Dentistry, Oral and Craniofacial Sciences in the UK, achieving a master's degree in periodontics and clinical dentistry. Passionate about providing specialist dentistry to the highest degree, Dr Patel also trains other dental professionals. As associate specialist in periodontics and honorary clinical lecturer at the University of Birmingham's School of Dentistry in the UK, he teaches at undergraduate and postgraduate level. He also lectures both nationally and internationally and is the current president of the Association of Dental Implantology, the UK's leading professional organisation in the field. More information can be found at [www.adi.org.uk](http://www.adi.org.uk).

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