Tooth wear: Your questions answered

In the first of a five-part series, **PROFESSOR ANDREW EDER** answers your questions on the subject of tooth wear in general practice...

QUESTION: I have a 25-year-old female patient who suffers with acute sensitivity.

Medically, she is healthy and, is in fact, a championship swimmer. I suspect, however, that the latter has something to do with her complaint. What advice can you give for dealing with the problem; both from a diagnosis point-of-view, and in terms of treatment?

Answer: There are many causes for acute sensitivity. But, in very broad terms, it is either because of pulpal inflammation, giving rise to altered sensation; or, alternatively, it is due to the proximity of the insult to the pulpal tissue, due to caries, tooth surface loss, periodontal disease or even trauma. Very often, it will be a combination of two or more of the above.

In order to manage this concerning sensitivity, it is essential to first determine how many teeth are involved; how long the problem has been present; and then to arrive at a diagnosis, albeit a provisional one in the first instance until more information becomes available.

If there are caries or an irreversible pulpitis, then conventional treatment should be instigated without delay. If, however, tooth surface loss is identified as the cause, then a short- and a longer-term treatment plan should be agreed and instigated.

If swimming is highlighted as a potential aetiological factor for the loss of enamel or dentine, contact with the water will need to have taken place very regularly, over a long period of time (ie. almost daily swimming for many years).

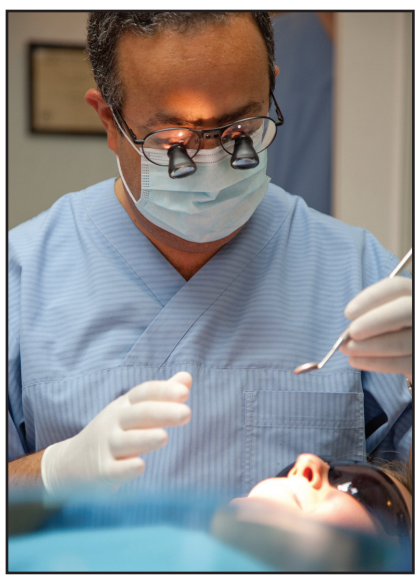
Please rest assured that this is not seen in the casual or social swimmer, so I wouldn't suggest that anyone cancels their holidays quite yet! Although chlorine is often highlighted as the cause, chlorine is a gas, and it is rather chlorine-containing substances, rather than chlorine itself, that will be implicated. But, the pH does not fall significantly below the erosive danger level, otherwise significant skin problems would also be seen.

The short-term plan would normally include symptomatic pain relief, with the removal of any causative agents, if these can be identified, as well as the application of desensitising pastes and even plastic restorative materials, as appropriate.

A longer-term plan might include the same, together with well-fitting mouthguards, filled with fluoride-containing toothpastes, or similar, as well as the provision of rather more substantial protective restorations, as necessary.

The key to success revolves around the correct diagnosis and also the rate of progression. This avoids treatment that may be more damaging than the disease itself, particularly in such a young patient. ■

Reader enquiry: 109



About the author

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The London Tooth Wear Centre offers an evidence-based and comprehensive approach to managing abrasion, attrition and erosion. It promises to utilise the latest clinical techniques and a holistic approach in a professional and friendly environment.

Fine line between concern and trouble making

By Barry Appleby, President, Dental Technologists Association

THE delicate line dental technicians tread with clinicians, who might brand "trouble-making", what we class as "genuine concern", was highlighted recently at the DTA office.

A dental technician had been asked to add a canine tooth to an existing acrylic partial denture. Sounds simple enough. But, the dental technician had noticed three issues: the denture appeared to have slipped out of correct position during the impression taking; the patient did not appear to be using the device properly; and a worrying mark was seen on the patient's right alveolar ridge crest.

There were also further concerns. If these problems were raised with the clinician, would it be seen as messing about in someone else's dental team role? And would that result in a confrontation of "do you want my laboratory work or not?".

The main issues

These sorts of concerns relate to two main issues. Firstly, the Medical Devices Directive[1] (MDD) requires that the dental technician, on receiving a prescription, actually reviews the request.

Under a contract review, they must decide if they are capable of meeting the requirements and providing a useable custom-made dental device. In this case, an addition of a 33 to a lower partial denture.

The second is something that would, in the past, have been termed an ethical issue, but is now listed in the GDC's *Standards for Dental Professionals.* It relates to an aspect that is paramount in our own registration; that is to *"put patients' interests first and act to protect them".*[2]

This dental technician, as a registrant, faced a difficult ethical dilemma. They could either carry out the work; or if they informed the dentist, face being labelled a troublemaker, risking future work.

Meeting regulations

In the contract review phase, the dental technician's concerns were appropriately recorded (as required under MDD). Such clinical guidance would be indicated for new appliances on the *Statement of Conformance* (as required by the regulations).[3]

The GDC indicates that all registrants should: *"find out about laws and regulations which affect their work, premises, equipment and business, and follow them."* (Principle 5.4, *Standards for dental professionals*). Also, in its guidance, *Standards on Commissioning and Manufacturing Custom Made Dental Devices,*[4] it makes clear that compliance with the MHRA MDD regulations is essential.

Extract from the GDC Standards:[4] *"Registrants who manufacture dental appliances mainly outside of the mouth (for example, fixed bridges, crowns, etc.) If you make a dental appliance, whether you are a dental technician, dentist, or any other registrant, you must understand and comply with your legal responsibilities as "manufacturer" under the Medical Devices Directive 93/42/EC. (Including registration with the Medicines and Healthcare products Regulatory Agency (MHRA).)"*

The case

The case photograph, anonymised to protect patient confidentiality, is shown in the photograph in Fig 1.

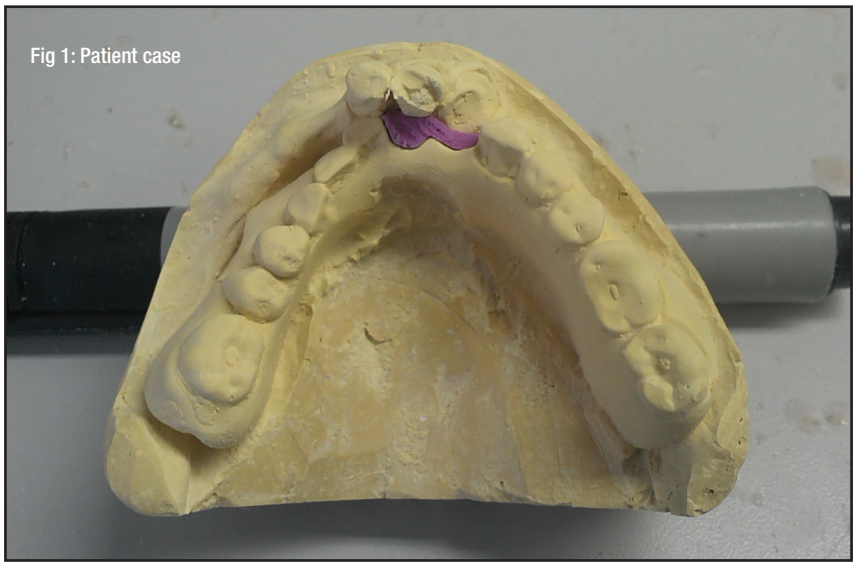

Fig 1: Patient case

The further abnormality – a mark on the patient's right alveolar ridge crest, below the gum work of the 33 and 34 area – at first, looked like a slight score mark on the patient's alveolar ridge.

The dental technician only saw a representation of the alveolar tissue in a plaster cast format, but raised the question: "could the patient be wearing this appliance consistently in the incorrect position, and was the denture flange responsible for the scoring?"

In contacting the clinician, the dental technician was told to "go ahead as it is only a temporary case". The dental technician formally recorded the comment; date; and name of the clinician, as required by the MDD; and continued to do what the prescription requested.

This particular case has not, some four months later, been part of a new denture prescription request. Further, you might actually wonder if the lower partial denture was actually ever made for this patient in the first place, noting the confusion regarding the existing canines and the fit.

The saga continues. ■

References

1. Medical Devices Directive: http://www.mhra.gov.uk/home/groups/esera/documents/publication/con007516.pdf.
2. GDC document, *Standards for Dental Professionals,* May 2005.
3. MHRA *Statement of Conformity*: http://www.mhra.gov.uk/home/groups/dts-bi/documents/websiteresources/con065699.pdf.
4. GDC Standards – *Commissioning and Manufacturing Custom Made Dental Devices*: http://www.gdc-uk.org/Newsandpublications/Publications/Publications/standards%20dentalappMarch11x3.pdf.