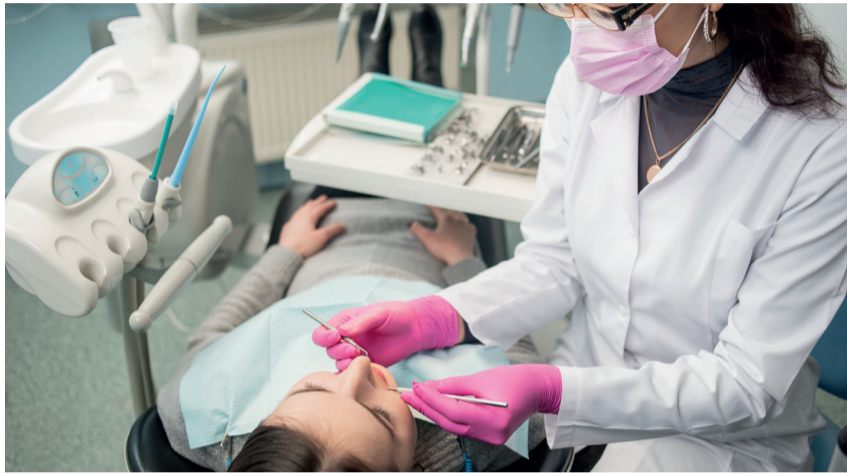


# Keeping on top of tooth wear

Professor Andrew Eder presents an overview of some of the more recent research related to tooth wear to help dentists stay current.



According to the Adult Dental Health Survey of 2009, since 1998 there had been a 10% increase in the incidence of tooth wear, from 66% to 76%. Overall, the prevalence of tooth wear extending into dentine was high, with 77% of dentate adults showing some tooth wear in their anterior teeth.<sup>1</sup>

The growth of moderate wear in young adults over the last few years, as highlighted by the latest Adult Dental Health Survey, is particularly worrying because it is indicative of destruction beyond that which we would expect for our patients at that stage of life.

The Survey states: "The greatest increase was in the youngest three age groups; 15 percentage points, 10 percentage points and 13 percentage points for those aged 16 to 24, 25 to 34 and 35 to 44 years respectively... While the increase in moderate tooth wear is small, moderate tooth wear in 16 to 34 year olds is of clinical relevance as it is suggestive of rapid tooth wear."<sup>1</sup>

This measurable increase in pathological tooth wear is, in part, the reason why there is a wide range of research being undertaken in relation to various types of tooth surface loss, in an effort to establish an evidence-based pathway for, first and foremost, preventive care – and restoration if all else fails.

## Monitoring erosion

In 2018, a group of key opinion leaders met in the UK to discuss the need to record tooth wear during an oral health assessment, representing best practice.

They reached a consensus that the basic erosive wear examination (BEWE) offered a convenient way to record such tooth surface loss. It was felt by the group that, if implemented appropriately, BEWE could be carried out at the same time as the basic periodontal examination (BPE), as they are performed in a similar manner, thereby reducing the burden on dentists carrying out a thorough examination.<sup>2</sup>

Using the BEWE and sharing what the dentist learns with the patient, combined with preventive advice, is integral to oral health. As Bartlett and colleagues (2019) wrote: "The BEWE is a simple screening tool designed to detect erosive tooth wear in clinical practice and can be used efficiently. Its use is advocated to protect

the oral healthcare provider and the patient, as the prevalence and awareness of this condition increases."<sup>2</sup>

## Special needs

Until recently, very little information has been available concerning erosive tooth wear and patients with intellectual disabilities. In an effort to bridge this gap, Marro and colleagues (2019) set out to determine the presence and severity of erosive tooth wear in athletes with an intellectual disability participating in the Special Olympics in Belgium.<sup>3</sup>

They found that half of the athletes up to the age of 25 had at least one tooth surface affected by erosive tooth wear. The research further indicated that its severity and prevalence was considerably higher in athletes with Down's Syndrome than those without, perhaps as a result of the medical and orofacial characteristics linked with the genetic disorder, such as reflux and medications prescribed, as well as malocclusions, mouth breathing and a high level of bruxism. Overall, about 10% of the athletes screened were in need of restorative treatment as a result of tooth erosion.<sup>3</sup>

While the sample of participants does not represent society as a whole, since Olympic athletes tend to be well-supported and receive frequent medical and dental care, as the authors wrote, the results show, "The need to generate knowledge with respect to aetiological factors involved in this specific population, in order to provide a correct management and prevention of ETW [erosive tooth wear] in populations with ID [intellectual disability]."<sup>3</sup>



## Communicating with young adults

Given the evidence that tooth wear in 16 to 34-year-olds is suggestive of rapid tooth wear,<sup>1</sup> it would seem sensible to consider how best to communicate with this cohort, in order to raise their awareness of the problem.<sup>4</sup>

Verploegen and Schuller (2019) did exactly that, ascertaining that young adults prefer to receive information about their oral health from their healthcare provider, along with written, tailored information.<sup>4</sup>

This may come as a surprise; in this day and age, we tend to assume the younger generations prefer to receive information via digital platforms but Verploegen and Schuller (2019) ascertained that 67% did not use online resources to find out about tooth wear – probably because they did not even know it was an issue.<sup>4</sup>

In practical terms, although acknowledging some limitations with the research, Verploegen and Schuller (2019) suggested: "There is a need to inform young adults about erosive tooth wear, and there should be a particular emphasis on delivering information to individuals with lower levels of education. Chairside information in combination with a written, individual, tailored support is the most preferred way of informing young adults."<sup>4</sup>

## Sleep disorders

Earlier this year, Wetselaar and colleagues (2019) reviewed the literature linking tooth wear with dental sleep disorders in adults. The dental sleep disorders they considered were:

- Sleep-related orofacial pain
- Oral moistening disorders
- Gastroesophageal reflux disease (GERD)
- Obstructive sleep apnoea syndrome (OSAS)
- Sleep bruxism.<sup>5</sup>

They found that tooth wear is associated with orofacial pain, xerostomia, GERD and sleep bruxism. They also found these disorders to be inter-related and multifactorial. Whilst further research is needed to substantiate the conclusions drawn in the study, there nonetheless appears to be strong need for an interdisciplinary approach between primary healthcare providers, to manage health-related sleep disorders.<sup>5</sup>

On this, Wetselaar and colleagues

(2019) stated: "Such a team ideally should consist of dentists specialised in TMD [temporomandibular disorder]/orofacial pain, dentists specialised in dental sleep medicine, and dentists specialised in restorative/prosthetic dentistry, particularly in diagnosing and managing tooth wear. Only a comprehensive approach can result in a state of the art diagnostic process and thereby resulting in optimal care."<sup>5</sup>

## Knowing what's best

When you search for the latest information on tooth wear, there is a plethora of information out there – not all of it as good as one might hope. So, whilst it is important to stay current, it is also imperative to understand the limitations of any given piece of research and to be able to translate those of good quality into knowledge that can be used in practice.

Only then can we offer our patients the best possible level of care, hopefully preventive in the first instance but, when all else fails, restorative too, to return their form and function.

Supporting general dental practitioners in these endeavours, The London Tooth Wear Centre® offers an evidence-based and comprehensive approach to managing tooth wear, using the latest clinical techniques and a holistic approach in a professional and friendly environment. If you have any concerns about your patient's tooth wear, please visit the website at [www.toothwear.co.uk](http://www.toothwear.co.uk), email [info@toothwear.co.uk](mailto:info@toothwear.co.uk) or call 020 7486 7180.

## References

1. Adult Dental Health Survey 2009. The Information Centre for Health and Social Care 2011
2. Bartlett DW et al. Monitoring erosive toothwear: BEWE, a simple tool to protect patients and the profession. *BDJ* 2019; 226(12): 930-932
3. Marro F et al. Erosive tooth wear in Special Olympic athletes with intellectual disabilities. *BMC Oral Health* 2019; 19: 37-42
4. Verploegen VJN, Schuller AA. Erosive tooth wear: Knowledge among young adults and their preferred information sources. *Int J Dent Hygiene* 2019; 17:85-92
5. Wetselaar P et al. Associations between tooth wear and dental sleep disorders: A narrative overview. *Oral Rehabil* 2019; 00: 1-11 ■

## About the author

**Professor Andrew Eder is a Specialist in Restorative Dentistry and Prosthodontics and Clinical Director of the London Tooth Wear Centre®, a specialist referral practice in central London. He is also Dean and Professor of Dentistry at the University of Buckingham Dental Institute and Emeritus Professor at the UCL Eastman Dental Institute.**