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# Are dental professionals able to confidently detect signs of erosive tooth wear?

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Erosive tooth wear (ETW) is the 3rd most commonly observed oral health condition, after dental caries and periodontal disease.<sup>1</sup> The nature of erosive tooth wear as a condition associated with modern diets may mean that dental professionals are less confident in identifying signs and managing the condition.

A recently published study, *“Dentists clinical decision-making for erosive tooth wear: An online pilot study”* was designed to examine dentists' abilities to diagnose and manage ETW relative to sound and caries-affected teeth. Supported by funding from GSK, it forms the second part of a series which initially looked at patients' identification of signs of ETW. To access information on the first study [click here](#).

The study's design recruited dentists to participate in an internet-based survey including images of tooth surfaces with signs of ETW, caries or healthy teeth with no sign of impact.

The results indicate that dentists were less confident and less able to correctly diagnose and manage ETW when compared to caries, particularly at early stages. They were also less likely to recommend management strategies for ETW than caries at each level of severity.

*This study highlights the need for continued education for dental professionals to support the identification of the signs of ETW at all stages.*

## **Dentists clinical decision-making for erosive tooth wear: An online pilot study**

Goldfarb M, Maupomé G, Hirsh A, Carvalho J, Eckert G & Hara A  
Journal of Dentistry 2020; 100: 1-6

**Click here** to access the study



## Methodology



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The study design was a web-case-based survey. Participants were recruited through the Indiana Dental Association (N=36) and were shown images of sound teeth, teeth with ETW and teeth with dental caries. The BEWE was used to determine the severity of teeth with ETW. Dentists were asked to report:

- Is there a dental condition for the circled tooth? Y / N
- How confident are you with your judgement of whether or not there is a dental condition for the circled tooth? Scale 1–5
- Select the condition you would diagnose (from 6 options)
- Would you recommend clinical management for the patient's circled tooth? Y / N
- How likely would you be to recommend management strategies? Scale 1–5

## Results

### Detection

- 88% of sound teeth were correctly identified
- Detection of ETW at all levels was significantly poorer than the equivalent images of caries (Figure 1)

### Confidence

- Confidence ratings were significantly lower for moderate and severe ETW when compared with moderate and severe caries
- The difference for teeth with initial ETW and initial caries was marginally significant

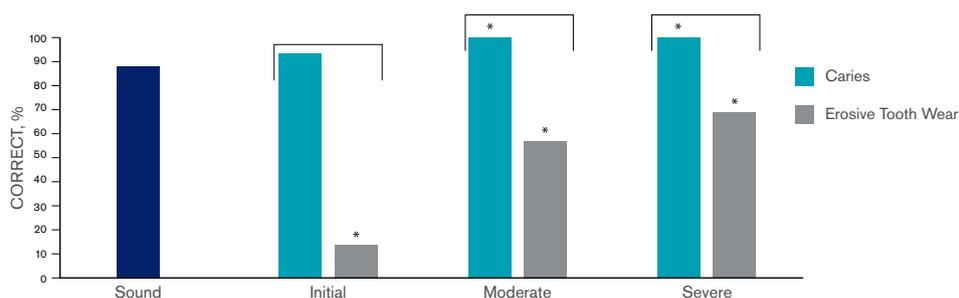


Figure 1: Dentists' recognition of different severities (initial, moderate and severe) of erosive tooth wear (ETW) and caries, as well as sound teeth. Bars connected by brackets differ significantly from each other ( $P < 0.05$ ); bars marked with asterisks differ significantly from sound ( $P < 0.05$ ).

## Diagnosis

- 92% of sound teeth were correctly diagnosed (Figure 2)
- There were significantly fewer correct diagnoses for initial ETW than initial caries, fewer correct diagnoses for moderate ETW than moderate caries and marginally fewer for severe ETW
- Only 24% of cases for ETW were correctly diagnosed across all stages of ETW compared to 78% of cases of caries



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## Management strategies

- Dentists were more likely to recommend most management strategies for caries than ETW at all levels

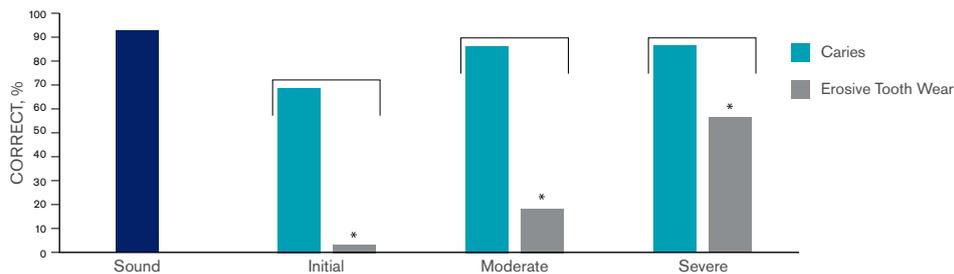


Figure 2: Dentists' diagnoses of different severities (initial, moderate and severe) of erosive tooth wear (ETW) and caries, as well as sound teeth. Bars connected by brackets differ significantly from each other ( $p < 0.05$ ); bars marked with asterisks differ significantly from sound ( $p < 0.05$ ).

This research highlights that dentists may struggle to detect the presence of ETW at all levels of severity, but particularly at early stages. Given that nearly 90% of the US population is at risk of erosive tooth wear from acidic food and drinks this indicates a need for additional education and research.<sup>2</sup>

1. Bartlett DW et al. Monitoring erosive toothwear: BEWE, a simple tool to protect patients and the profession. 2019; 226(12): 930-932
2. GSK Data on File. IPSOS 2014 Survey of 3,506 US adults at risk of acid erosion.

