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Do dental patients identify the significance of signs of erosive tooth wear?

Modern lifestyles, even healthy ones, can be high in dietary acids. 87% of adults are at risk of enamel erosion due to their diets¹ and 46% of adolescents are already showing signs of enamel erosion.² Early detection of the condition can be difficult with signs including thinning and translucency, surface changes (smoothing) and loss of structural features (rounding).^{3,4}

The study titled “*Are dental patients able to perceive erosive tooth wear on anterior teeth*” is the first part in a series of 2 papers funded by GSK in relation to erosive tooth wear. The study investigated whether dental patients within the US would identify the signs of enamel erosion when shown images of varied related wear and how this compared to their ability to identify the signs of dental caries.

At all stages, images of sound teeth were included to provide a healthy referent for the comparisons.

In all cases patients were less likely to seek dental advice for signs of ETW vs dental caries. In addition, patients were shown to rate teeth with initial ETW as more esthetically attractive than sound teeth. This may be due to the ‘polished’ or ‘shiny’ appearance from the initial smoothing associated with the condition.

The results of the study highlight a need for increased awareness of the signs of erosive tooth wear amongst the patient population, particularly as the signs of the condition cannot be reversed. Education should also remind patients of the need to discuss concerns with a dental professional for advice and the importance of early identification to prevent future damage.

Are dental patients able to perceive erosive tooth wear on anterior teeth?

An internet-based survey assessing awareness and related action

Goldfarb M, Hara A, Hirsh A, Carvalho J & Maupomé G
JADA 2020; 151(1): 10-15

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Methodology



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The study recruited participants through the Amazon Crowdsourcing Service (N = 623). They were shown standardized images of buccal surfaces of teeth – either sound, with signs of erosive tooth wear or signs of caries. They were then asked to report:

- “does the circled tooth look normal?”
- “how likely would you be to schedule a dentist appointment based on the appearance of the circled tooth?”
- “How attractive would you rate the circled tooth?”

This was completed for teeth with no, initial, moderate or severe signs of ETW and caries.

Results

- At all levels of severity, patients had lower recognition of signs of erosive tooth wear than they did of caries

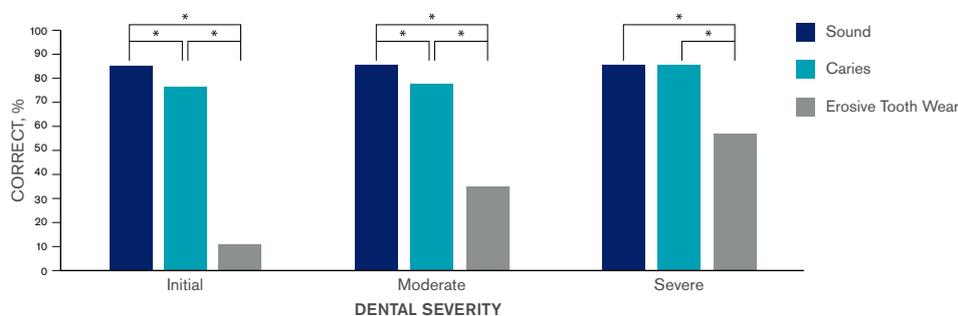


Figure 1: Patient recognition of erosive wear, caries and sound teeth *P<.001

- Patients were less likely to schedule a dentist appointment for initial, moderate or severe ETW than the equivalent stage of caries
- Patients rated teeth with all stages of tooth wear to be less esthetically attractive than teeth at the equivalent stage of caries
- Additionally, patients rated teeth with initial ETW as more esthetically attractive than sound teeth and were less likely to schedule a dental appointment for these initial signs than sound teeth.

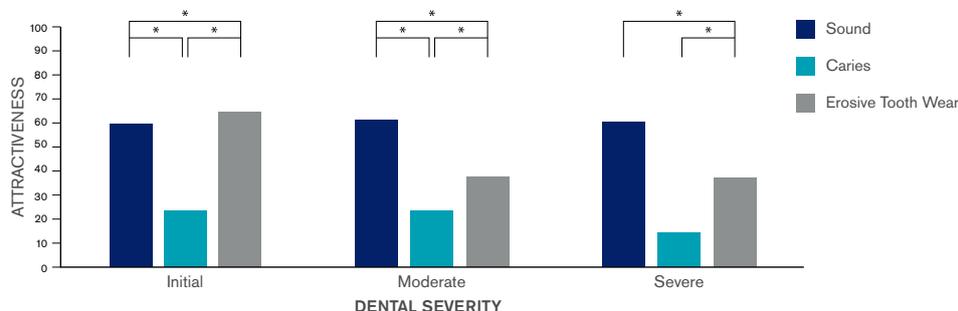


Figure 2: Mean ratings of attractiveness for erosive tooth wear, caries and sound teeth *P<.001

1. GSK data on file, IPSOS 2014.
2. McGuire Jet al. Int J Paediatr dent 2009; 19(2): 91-98.
3. Lussi A et al. Am J Dent 2006; 19:319–325.
4. Ganss C, Lussi A. Diagnosis of erosive tooth wear. In: Lussi A (ed.) Dental erosion. Basel, Karger, 2006.

