

Tooth wear: Worn down by drink and drugs

In the fourth of a five-part series, **PROFESSOR ANDREW EDER** considers challenges posed by alcohol and substance abuse...

QUESTION: During a recent consultation, a 23-year-old female patient divulged a high alcohol intake and regular social drug use as part of her lifestyle as I was taking down her medical history. The patient was not symptomatic but was concerned that her teeth looked shorter when she smiled. What advice could you provide for giving realistic, preventive guidance and what treatment do you suggest?

Answer: A sign of tooth wear is certainly reduced coronal height, resulting in the teeth appearing shorter on smiling.

Alcohol is acidic and therefore highly erosive, especially when consumed frequently, in large quantities, over an extended period of time. It may also be that the high alcohol intake occasionally causes vomiting, which will exacerbate the damage to the dentition.

Social drug use often causes users to clench or grind their teeth, and this puts the patient at higher risk of tooth surface loss. Combined with a reduced perception of pain caused by drugs, it is likely that bruxism will continue without intervention until the substance-induced effects have worn off. Regular drug use will lead to repeated

assaults, resulting in attrition.

So, while alcohol consumption and social drug use in isolation will have detrimental effects on the teeth; when they are used together, the result will be magnified.

The clinical picture will also be different when compared with attrition or erosion in isolation. Erosion causes the tooth tissue to be more vulnerable upon tooth-to-tooth contact. Attrition causes incisal and occlusal surfaces to be ground flat to each other, resulting in lost morphology. In severe cases, mastication becomes difficult.

Unless one or both aetiological factors are reduced or, ideally, eliminated altogether, this pathological wear will continue.

It is important that the patient is informed her lifestyle choices are the cause of her concern; however, communication with her needs to be non-judgemental and unhurried.

Advice needs to be realistic and, unless the patient is fully complicit to immediate change, gradual. Effective prevention against further progression involves education, recognition, objective predictors and control through treatment and home care.

Preventing further damage

Using clinical photographs and study models is ideal because they enable the wear to be monitored, allowing preventive strategies to be assessed at regular intervals. They also provide very effective visual aids for further discussion with the patient.

"SMART" goals are helpful for both the clinician and patient; they are Specific, Measureable, Attainable, Realistic and Time bound. It is only through listening to the

patient that these can be set and recorded.

A good place to start is by asking the patient to complete a diet sheet; this is beneficial to eliminate any other causative factors the patient may not have thought significant.

If advice is to be focused on limiting the damage of a lifestyle harmful to the dentition, the following can be recommended:

- Drinking erosive drinks through a straw to direct liquid to the back of the mouth and avoiding swishing drinks around the mouth.
- Avoiding carbonated and fruit juice mixers (which may be difficult as there is little else available and wine also has a low pH at around 3.5).
- Drinking water between alcoholic beverages helps buffer their acidic potential.
- Chewing sugar-free, xylitol- or sorbitol-sweetened gum to help neutralise acid.
- Never brushing immediately after acidic exposure, but waiting at least an hour. If this is not possible, rinsing with a fluoride mouth rinse and then applying a paste containing high fluoride or calcium phosphate to the teeth without rinsing before bed is worthwhile.
- Using fluoride mouth rinse through the day.
- Use of a toothpaste low in abrasivity and a soft toothbrush.

Protecting worn surfaces

To reduce the detrimental effects of parafunctional activity on the teeth and temporomandibular joint, a splint should be provided and worn daily. This is particularly important following alcohol and social drug consumption, but perhaps unrealistic. Small actions, such as leaving it beside the bed or placing a note on the pillow, might remind the

patient to wear it.

Furthermore, adhesive restorations may be indicated to protect the worn tooth surfaces and provide the patient with an immediate aesthetic improvement. Restoration with composite resin requires little or no tooth preparation, thereby preserving the remaining tooth tissue. It may be, however, that sufficient space is not available and so the occlusal vertical dimension may need to be increased, although an orthodontic approach utilising the Dahl technique may be sufficient to create localised space.

Palatal, adhesively-retained veneers can achieve this, as well as reinforcing the tooth structure and acting as a barrier to further assault. If there is concern, however, that the posterior teeth also require protection, then numerous posterior teeth may need to be restored with cuspal coverage restorations, which may either be adhesively-retained or conventional preparation.

Regular check-ups are imperative to discuss the patient's progress, monitor rate of wear, provide further guidance, support lifestyle adjustments and provide motivation. ■

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