Tooth wear: The impact of a stressful lifestyle

In the third of a five-part series, **PROFESSOR ANDREW EDER** tackles the issues of stomach acid reflux and bruxism...

QUESTION: My 55-year-old patient has a very stressful lifestyle and suffers from stomach acid reflux. He has ground his teeth down to a very low level and has difficulty chewing. In addition to this, he suffers with TMJ pain. What advice can I offer him and where do I start in terms of diagnosis and treatment?

Answer: Unfortunately, stress is a major causative factor in bruxism and, once the habit has been initiated, it is often perpetuated without intervention. TMJ pain may arise due to parafunctional activity, which might include prolonged periods of forceful tooth contact. However, the aetiology here is multi-factorial. Stomach acid reflux is a result of common gastro-intestinal problems, such as hiatus hernia, and may also be linked to stress. Due to the erosive insult, the dentition will wear at an accelerated rate and, when coupled with bruxism, the result can be severe. In this case, the wear can be considered pathological rather than physiological as it has advanced beyond that which would be expected in a 55 year old.

By taking a detailed history and carrying out a thorough clinical assessment, the aetiology can normally be established and a diagnosis made. In this case, both attrition and erosion are at work. A comprehensive treatment plan directed at both prevention and management can now be prepared.

By the time the teeth are ground to a "very low level", the occlusal morphology has been lost and effective mastication will be compromised. It may even be that limited mastication of food is exacerbating the gastric reflux.

Some of the medications prescribed to control gastric reflux can also cause dry mouth, reducing the acid buffering potential of the saliva. Patients may resort to drinking acidic or sugary beverages for temporary relief or to stimulate saliva, introducing an additional erosive or caries assault. It is advisable to liaise with the patient's medical practitioner to discuss whether an alternative medication is available.

Addressing the symptoms holistically is essential for successful management as stress and medical complications feature here. Asking the patient to rate their stress level, and identify the triggers, guides discussion about the ways in which it might be reduced, such as lifestyle changes.

Advice to prevent further wear includes:

- Brushing effectively yet gently with a relatively soft toothbrush.
- Using a toothpaste that is fluoridated to 1400ppm and low in abrasivity.
- Waiting an hour before toothbrushing after consuming acidic foods/drinks to avoid damaging softened/more vulnerable enamel.
- Only consuming acidic foods at meal times.
- Using a fluoridated mouthwash daily, at a different time to toothbrushing and/or prior to consuming acidic food and drink.
- Limiting fruit juice intake to once a day.
- Reducing or eliminating carbonated drinks.
- Not holding or "swishing" drinks around the mouth and drinking through a straw.
- Trying not to drink anything except still water between meals. For those patients requiring something else, coconut water has recently become more widely available and has a pH of around 5.4, which still has a mild erosive potential. Herbal teas, not of fruit origin, and low fat milk are also alternatives.
- Ensuring snacks are "safe", eg. nuts, rice, seeds, vegetables, grains, pasta, meat, fish.
- Chewing sugar-free, xylitol/sorbitol-sweetened gum after meals (preferably containing tricalcium phosphate).
- Until care and stability have been achieved, a soft diet may be recommended to minimise acid reflux as a result of limited mastication.

Monitoring levels of wear

Monitoring levels of wear is an essential aspect of treatment, with clinical photographs and study casts being the most useful indicators of ongoing changes.

In order to re-establish function and aesthetics, restoration of the dentition is necessary. Prior to this, splint therapy is required to stabilise the occlusion. A Michigan splint relaxes the masticatory muscles and repositions the mandible, thereby alleviating pain and achieving stabilisation prior to restorative treatment. Space may also need to be created, particularly if just the anterior teeth need to be restored. It is imperative that the patient wears their splint nightly to adopt a correct and reproducible position prior to commencing treatment.

The splint should be reviewed regularly, particularly during the reconstructive phase of treatment. In the long term, as parafunction is stress-related and, therefore, likely to present during future stressful times, a splint will protect the restored dentition from excessive future wear and help maintain functional movement of the TMJ with posterior stability and anterior guidance.

Non-steroidal anti-inflammatories can also be taken and a referral to a physiotherapist or osteopath with specialist knowledge of TMJ may be helpful.

A conservative approach to restorative management is of paramount importance as much tooth tissue has already been lost. Posterior opposing teeth need to be restored to ensure satisfactory function and distribute forces appropriately. The simplest treatment may involve placing adhesively retained, tooth-coloured fillings where small amounts of enamel and dentine have been lost, or adhesively retained cast or ceramic restorations for more extensive wear cases.

Due to the multi-factorial aetiology, advanced wear and loss of function in this situation, more comprehensive care is likely to be required. As a result, liaising with or referring to a specialist may be helpful to gain assistance with diagnosis and treatment planning or even to carry out certain challenging aspects of treatment such as splint therapy, crown lengthening or comprehensive care, which might require and increase in the occlusal vertical dimension. ■

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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.

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Easing migraine pain

DR PAV KHAIRA presents a successful case in which a patient's pain was relieved...

CAROL had been suffering from migraines for many years when she first approached the Migraine Care Institute. "I started with migraines when I was about 13. As I have got older, they have got progressively worse," she said. When the headaches were especially painful, little could be done to relieve the discomfort. "Going to bed in a darkened room was the only way to get any relief from it," she added.

As well as sleepless nights when the headaches have led to sickness, there has been a substantial impact on Carol's career and ability to socialise. In common with many sufferers, she has found it difficult to do things many of us take for granted. "It has interfered with a lot of things. I have had to cancel things because I could not go out. It has been a big part of my life," she said.

Carol's situation was further complicated by additional health problems, including diabetes. A recent migraine had been especially debilitating. Having spent much of the day in bed, Carol attempted to get up, only to collapse. Her blood sugar and blood pressure were both low. "I think it was all caused by the migraine," she commented. Her husband was so concerned that he called for an ambulance.

Carol felt that migraines might be the one ailment she could actually get rid of, and that her life would improve enormously if she did. Her hopes were given a boost when her husband returned from a visit to the dentist. "He came home and said there was a procedure I could have that might reduce my migraines," said Carol. Having been prescribed several kinds of medicine by her doctor, with varying degrees of success, she was sceptical but decided to try it out. "I decided to give it a go. When you get migraines like I do you'll give anything a go."

Two weeks after having an NTI-tss device fitted, Carol had already experienced considerable relief. "I've had a couple of 'funny heads', but certainly no migraines. Whether they would have developed into migraines, I'm not sure but, certainly up to now, I've not had any," she commented.

"When you suffer with bad migraines, if there is anything at all, you've got to try it. If it just stops half of what you get, it's still better than suffering the full migraines." ■

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About the author

Dr Pav Khaira – founder and director of Migraine Care Institute.