

Natural teeth problems from occlusion issues

By Van B. Haywood, DMD

Over time, patients may develop occlusal problems that are related to wear on their teeth or changing oral conditions. These changing oral conditions could include loss of teeth and changes in restorations. Sometimes the removal of tooth contacts or interferences on a tooth or restoration can be just as noticeable as the addition of contacts or interferences. These findings may be signs or symptoms that teeth need occlusal adjustments:

1 Premolars are mobile or molars are cracking. If the canines do not touch in maximum intercuspation, then the patient cannot have canine guidance—the appropriate guidance that protects the posterior teeth. Lack of canine guidance means some other weaker tooth will be responsible for guiding the mandible and be subject to occlusal trauma. The trauma on that tooth may result in tooth fracture, mobility, noncarious cervical lesions (abfractions) or cracks.

2 Patients complain that long appointments make their temporomandibular joints pop. TMJ sounds such as clicking and popping are generally not treated or addressed unless there is also pain. Some patients are not aware their joint makes these sounds. However, clicking and popping are often more pronounced when the jaw muscles are tired, causing the jaw and disk to not move in harmony. If you don't identify the baseline status of a joint that clicks or pops in the initial

examination, patients may assume your treatment caused the joint problems and sounds. Alternately using and not using a bite block throughout the appointment can help with muscle tiredness, since a different set of muscles are used for closing on the bite block than for holding the mouth open.

3 You observe excessive posterior enamel wear and facets in places that the teeth do not normally touch. When posterior teeth contact in excursive (lateral and protrusive) movements as demonstrated by wear facets, the teeth in contact send signals to the brain as if there is food between the teeth, which causes more muscles to be active. This activity can result in headaches, excessive wear, abfractions or fracture of the tooth and restoration. Marking the teeth with two colors of articulating paper can help determine small interferences that need adjustment. Generally, having the patient grind around in all excursive movements on red paper, followed by closing into maximum intercuspation on blue paper can help identify inappropriate excursive contacts (marked in red) from normal MI contacts (overmarked in blue) on the posterior teeth. If you see any excursive contacts on the posterior teeth marked in red, those contacts should be removed by an occlusal adjustment.

4 Patients have worn the molars into dentin and have sensitivity. If patients grind their teeth (bruxism) at night, it may not be

possible to stop their grinding, as nocturnal grinding may be caused by a central nervous system disorder or sleep apnea. Rather than allowing the bruxism to continue unaddressed, it would be desirable to protect their teeth and restorations from further wear, cracks or loosening of crowns by having the patient wear a hard bruxism splint at night. Patients need to understand that a splint is a much more cost-effective treatment for tooth wear or fracture than continually placing or replacing crowns.

5 Patients complain about biting their cheeks or tongues. Often the patients do not have adequate horizontal or vertical overlap of the teeth to push the cheeks or tongue away from the occlusal contacts. This problem can reoccur over time as teeth wear down owing to grinding. Reshaping the teeth on the buccal aspect of the mandibular teeth or the lingual aspect of the maxillary teeth to move the occlusal contacts away from the edges of the teeth can eliminate or reduce that problem. In addition, altering the buccal surface contour of the maxillary tooth by adding a composite restoration bonded to the unprepared surface of the tooth will provide more horizontal overlap by pushing out the tissue. If an excessive contour is needed to displace the tissue, patients should demonstrate that they know how to properly position and use a toothbrush to clean the area below the thicker restoration. A bruxism splint

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for night wear can also allow the muscles to rest so that they operate more smoothly during the day with less accidental biting of the cheek or tongue.

6 Patients have sensitive teeth with cracked marginal ridges, which seems OK clinically and radiographically. Caries progresses easily through cracks with no visible radiographic indications until the lesions are very large. Sometimes an exploratory “caries biopsy” may be indicated to remove the fractures and determine if caries is present, based on discolorations showing at the fracture sites. This type of exploration also allows clinicians to determine the extent of the cracks and whether or not the teeth may have vertical root fractures. Cracks may extend into the pulp, resulting in pulpal death that requires endodontic therapy. Before endodontic therapy is prescribed, the pulp chamber floor should be carefully explored for possible cracks, as cracks generally indicate removal of the teeth, while clean chamber floors indicate a reasonable prognosis for tooth survival after endodontic therapy and placement of a crown. Removal of fractures and adjusting the occlusion are the preferable to placing a crown over a crack that has not received some initial exploration.

7 Patients are wearing down their lower anterior teeth.

Recently, obstructive sleep apnea has been related to bruxism, since sleep

bruxism moves the jaw and helps open the airway. This nocturnal grinding can be observed in both children and in adults. Dentists should consider referring patients to physicians for a sleep study to determine if they have sleep apnea. While the use of continuous positive air pressure (CPAP) with a mask is the criterion standard for treatment of sleep apnea, dentists can also use oral appliance therapy for patients with mild to moderate cases. These appliances worn while sleeping advance the mandible and open the airway. Even if patients use CPAP, a bruxism splint can help with both opening the airway and avoiding further grinding and tooth damage. As well-used items, teeth need to be monitored for changes in their occlusal conditions that can result in their early demise or that can indicate other health problems that need to be addressed.



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