Talking with Patients

Occlusion (Part 1 of 2)

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WHAT IS IT?

Occlusion is the term used to describe how the upper and lower teeth fit together. Under normal circumstances, the teeth are aligned in the mouth in a "U" shape called the *arch*. The lower arch is slightly smaller than the upper arch, which allows for the upper teeth to slightly overlap the lower teeth when the teeth are brought together. Also, under normal circumstances, the upper and lower back teeth fit together without interfering with each other. The lower front teeth are designed to touch and slide against the back of the upper front teeth, guiding the lower jaw as it moves when chewing or speaking. The jaw joints also help guide the lower jaw.

It is possible for teeth to fit together in many different ways. Dentists have classified upper and lower teeth positions that vary from those described earlier as types of abnormal occlusion or *malocclusion*. It is important to note that malocclusions can be subtle or severe, and that not all malocclusions require correction. Crowding, cross bite, overjet, and overbite are examples of malocclusions.

WHEN IS ABNORMAL OCCLUSION (MALOCCLUSION) A CONCERN?

The position/alignment of the teeth and jaws has the potential to greatly impact psychological well-being and social interactions. Malocclusion has the potential to lead to several problems, including difficulty cleaning teeth and gums, tooth wear and fracture, periodontal disease, and temporomandibular disorders. Patients with untreated malocclusion may begin to suffer from chronic head/neck pain resultant from muscle stresses. Malocclusion can also negatively affect the appearance of a smile.

Correct tooth relationships allow ease of access for flossing and brushing. Teeth and gums usually remain healthy when effectively cleaned on a daily basis. This is in part due to natural, self-cleansing contours created when teeth are properly aligned. Teeth that have unusual angulations or crowding are more difficult to clean and may become more prone to dental and/or gum disease. Some individuals suffer from loss of the bone support immediately around their teeth. Malocclusion also may cause the bone loss to progress more rapidly.

At times, the arch shape for the upper teeth may be too narrow. This malocclusion prevents the upper and lower teeth from fitting together correctly, and may also impact the position and protection of the tongue and cheeks during normal function. In children, this may not allow the development of a normal adult occlusion.

Some individuals have teeth that will not all fit into the upper and/or lower arches. This may result in excessive crowding and distorted positioning of the teeth and can directly influence how the upper and lower teeth contact. This crowding may also have a negative impact on the position of the lips and the smile.

When someone experiences ongoing destruction of their teeth from decay, fracture, wear, or a combination of these, the occlusion

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is frequently damaged as well. Loss of a tooth or multiple teeth may allow shifting of the remaining teeth, which may alter the occlusion. These changes may not only impact the ability to chew but may also negatively influence the smile, lip position, facial features, and/or jaw function.

More subtle malocclusions may allow excessive contact of the back teeth during jaw movement. In some individuals, this excessive contact has the potential to encourage hyperactivity of the jaw muscles, which may result in soreness of the muscles and/or joints. At times, the additional muscle activity may result in wear of the biting surfaces, loss of tooth structure along the gumline, looseness of the teeth, and/or tooth fracture. Stressful life events may foster a tendency to squeeze the teeth together (clenching) or to rub the teeth against each other (grinding). Clenching and grinding of the teeth has been given the name "bruxism." Bruxism may alter the interrelationships of the teeth, muscles, and joints, which, in turn, may further aggravate the tendency to clench and to grind.

In the next issue, we will discuss how malocclusion is identified and treated.

DISCLOSURE

The authors do not have any financial interest in the manufacturers whose materials are discussed in this article.