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A Suitable Occlusion

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Recently, an article[1] appeared asking, what is the most suitable occlusion for implant rehabilitation? The question is challenging since we have yet to answer that question for ordinary restorative dentistry. Occlusion has the reputation of being the most crucial subject in dentistry, but also the most controversial. After all these years, what seems to be the problem? Exactly, what is a suitable occlusion? A simple answer is evasive because, over the years, the word's meaning has changed from an adjective describing teeth closure to a noun understanding of the masticatory system itself.[2] The circumstances that led to this transformation began when dentists were confronted with the damaging lateral forces of bruxism. They focused solely on the management because there was insufficient information regarding bruxism's etiology to assume a proactive approach. They discovered that by equilibration, bruxism's destructive lateral forces could be reduced by redirecting them to a more forward position (group function to cuspid rise). Since this process of "creating an occlusal scheme" successfully reduced heavy lateral forces, it became apparent that occlusion in function was just as important, maybe more so, than occlusion in closure, and the term "Functional Occlusion" [3]became synonymous with the masticatory system.

The problem is: that it is not functional, it is dysfunctional. People do not eat in such a manner; they grind. Caught between the bookends of "Functional "an adjective that describes movement and "Occlusion" a noun that indicates a static relationship, the term itself is an oxymoron. Creating an occlusal scheme by removing patient's enamel is not the correct way to reduce lateral parafunctional forces since a guard will suffice. It must also be pointed out that there has been little or no focus on vertical parafunctional forces (Dental Compression Syndrome or DCS) which are far more severe. Subsequently, two other interpretations of the word occlusion to describe the masticatory system were forthcoming: Jablonski,[4] influenced by advisors, described occlusion as a "relationship between all the components of the masticatory system" without explaining the difference between a good relationship nor bad. Later, Dawson[5] wrote that occlusion, the way teeth touched each other upon closure, should be identified by its relationship to the temporomandibular joint (TMJ). So different interpretations of the word contributed to the occlusion confusion.[6]

Referring to the masticatory system as some type of occlusion is not in our best interests. The glossary of prosthodontic terms[7] limits the definition to the static relationship of teeth being closed. Like any other biological system, the masticatory system should be identified and evaluated separately. A good occlusion's (physiological) hallmarks has been described[1] as functioning without problems, comfort, and stability. These are not hallmarks of a good or physiologic occlusion but of a masticatory system unaffected by dysfunction (deleterious outcome). If our goal is to minimize force overloads, we must proactively address the source and not reactively alter patient's teeth with occlusal schemes.

Managing parafunction is the "Name of the Game". A patient not affected by parafunction is in a state of occlusal comfort. The two forms of parafunction of most concern is clenching and grinding. Grinding (Bruxism) is easy to diagnose and managed with a guard: however, clenching (DCS) is complex. DCS is capable of forces exceeding 200 pounds per square inch,[8] so that it will take its toll on any restoration, implant or natural and the most likely suspect in the etiology of TMJ disorders. It is a silent disease in that most patients are unaware they are affected. It's list of etiological agents is long, which may include medication, exercise, motorcycle riding and lifestyle.[2] Since DCS occurs while awake, it is the patient's responsibility to monitor themselves and wear a guard if stress occurs, however diagnosis and patient education is ours.

A statement was made that "It is imperative that a favorable occlusion is relevant for maintaining the integrity of any prothesis for the long haul".[1] I agree but what is a favorable occlusion? If we are concerned about the true definition which is closure, it would be minimum contact, vertical loading, and non- interference with function. If we are concerned with the best performance of the masticatory system, it would a system free from parafunction.[8]

References

1. Rutkowski JL, Iyer S. Occlusion and Dental Implants--- Where Are We? J. Oral Implantrol. 2023; Vol.XLIX/No.Three.

2. McCoy G. The Story of Occlusion. J Den Ora Heal, 2023; JDROH-102

3. D'Amico A. Functional occlusion of the natural teeth in Man. J. Prosthet. Dent. 1961; 11; 899-915.

4. Jablonski S. Jablonski's Dictionary of Dentistry, Krieger publishing company, 1998, Malabar Florida

5. Dawson PE. New definition for relating occlusion to varying conditions of the temporomandibular joint. J Prosthet Dent, 1995.

6. McCoy G. The great occlusion fiasco. J Oral Implantrol. 2020; 46:139-144. Doi:10.1563/aaid-joi-D-19-00188.

7. The Glossary of Prosthodontic terms, Eighth Edition.

8. McCoy G. Dental compression syndrome: a new look at an old disease. J Oral Implantrol. 1995;25(1):35-49.