

The 'poor tooth design' claim refuted

I'm writing in reference to the recent article "The 'poor tooth design' claim refuted", offered by Dr Jerry Bergman in *Journal of Creation* 34(1), 2020. The article was well written and inclusive of many ideas that lead to tooth fracture. Bergman did an excellent job describing the 'guts' of teeth and enamel makeup. I would simply and humbly like to add that the predominant reasons for tooth failure, whether natural enamel or those restored with fillings or fabricated crown restorations, were only lightly touched upon in the article while a more compelling and pervasive explanation exists.

It is true that intact teeth are subject to ruin by bacteria, both in decay and periodontal disease. It is also true that restored teeth, either by fillings or crowns, are practically found to be even weaker. When you combine weaker teeth with the following information, well, let's just say that's what keeps dentists in business. As I tell my patients, teeth with crowns have a checkered past! And there is no argument at all with the superior design of intact dental enamel and the design of teeth, the jaw structures, *particularly* the temporomandibular joint (TMJ) and the occluso-muscle relationship between them. I would even say ingenious!

By far, in day-to-day dentistry, the most prominent reason for intact enamel failure is occluso-muscular wear, often termed bruxism (figure 1), where the teeth are at the mercy of the muscles which gird and guide the mandible, all the while shepherded by the anatomy of (hopefully) healthy TMJs. The study of this relationship has come to be titled 'OD' (Occlusal Disease).



Figure 1. Worn teeth due to occluso-muscular wear or teeth grinding (bruxism). The front teeth have been ground down over time.

Treating the effects of OD now comprises at least 60% of my practice. In short, muscle always wins and will carve a path of destruction.

There is a plethora of muscles that are 'in charge' of guiding the mandible in all of its excursions. As humans, we don't 'chomp' like alligators; our mandibles also move side-to-side in an infinite number of directions. Throw in the teeth and you have the makings for masterfully masticating a satisfying meal. But the teeth, their numbers, their anatomy (shapes) and their relative position to each other (side-to-side and inter-arch) all play a part in determining best function and in protecting each other from excessive wear.

If those teeth, however, are misaligned, missing, over- or under-restored, and placed in 'conflict' with the workings of healthy muscles, even God's brilliant design of enamel will not prevent them from giving way. The best designed and constructed buildings of the strongest material can all meet their match, when challenged by the forces of nature.

There is so much more to this discussion: size and growth of jaws, modern dietary factors, etc., which Bergman touched on, are all important

factors. The most current and compelling information and research now includes the size/volume of the airway in its relation to jaw growth and proper nasal breathing. This is known to directly affect tooth position, thereby affecting function, hygiene, need for restorations and the impact of those very strong muscles.

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