

Dear Reader,

Do you do force finishing in cosmetic dentistry?

I have been practising clinical dentistry for almost 20 years. Now my major clinical workload is shifting towards the management of complex smile defects due to occlusal disharmony. These cases are always difficult to manage because destructive force components are not visible.

In the performance of cosmetic dentistry, the force components are frequently neglected or misunderstood. Therefore, the physical strength of tooth-coloured restorative materials is still an important topic in cosmetic dentistry. The clinician hopes that the selected restorative materials will overcome potential fracture of the restorations and hence generally selects materials that are much stronger than natural teeth. However, it is necessary to understand that the highly concentrated bite-force locations within the occlusal scheme may not always fracture the restorations, but will create other problems with the teeth, muscles and/or joints in some patients. Therefore, if the clinician overcomes potential fracture through material choice, he or she may actually be ignoring the underlying force factors.

It is interesting to note that, globally, we cosmetic dentists spend more of our clinical time and effort on aesthetic outcome. This is because aesthetic components are always visible to both the clinician and patient, and the outcome can be immediately appreciated. However, the force components are invisible, and their negative effects are not easily appreciated clinically until they become chronic. Another reason that occlusal force can be overlooked is that special tools and clinical techniques are required to demonstrate and measure the force factors clinically. Therefore, force is the most neglected component in cosmetic dentistry.

Last year, I proposed the integration of the concept of force finishing into the conventional case-finishing protocol of dentistry. I am pleased to mention here that the concept has been widely accepted in dentistry. I think it is because the word "finishing" is greatly relevant in dentistry. The concept of force finishing is based on the universal principles of force balance and load timing during dynamic occlusion. Optimally, after proper force finishing, all teeth should come into contact with one another at about the same time and with harmonised occlusal forces and measurably short disclusion timing. When this does not occur, the clinical case is considered to be unbalanced and poorly force finished.

In cosmetic dentistry, forces are finished using articulating paper marks, but scientifically speaking such marks can tell the clinician only about the location of tooth contact and the contact area. In order to achieve quality force finishing, the clinician needs to use the proper tools and technology. The fundamental tool for force finishing is a digital force scanner (T-Scan III, Tekscan) that can measure clinical bite-force data precisely and objectively, while displaying the findings for clinical interpretation and treatment. Such clinical data helps the clinician to achieve tooth-contact forces and timing sequences that are preservational, rather than destructive, regarding the final case result.

It is to be noted that whatever the theory or concept of occlusal scheme selected during the treatment procedure, the role of force finishing is paramount to achieving long-term optimum results in terms of health, function, aesthetics and high patient satisfaction with minimal biological cost.

Yours faithfully,



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