

## Deciphering the opinions in full mouth rehabilitation



Full mouth rehabilitation (FMR) is an individualized treatment where the entire dentition is reconstructed and restored to optimize the health of teeth, gingiva, occlusion, and stomatognathic system. The rehabilitation should establish the function, the esthetics, and more importantly the biological efficiency of the stomatognathic structures. FMR is always challenging; its bewilderment arises due to diversified thoughts in science of FMR. In many situations, it is essential to follow a multidisciplinary approach, and the success greatly depends on the etiology, diagnosis, and applied scientific approach in rehabilitation.<sup>[1]</sup>

Jones, Turner and Missirlian, Dawson, and various classifications have been proposed in terms of tooth wear and teeth restoration in FMR.<sup>[2-4]</sup> Turner and Missirlian classification that aids in restoring vertical dimension is commonly followed among the peers because of simplicity in application.<sup>[3]</sup> The situations of missing teeth, implant support, and other biomechanical prosthetic considerations are not discussed widely in classifications and management. In the present situations of diverse etiology and treatment modalities, a rethought on exclusive classification of FMR is essential with all details pertaining from diagnosis to treatment.

Among the various aspects of FMR, the occlusal rehabilitation in FMR is highly discussed in various literature. The occlusal rehabilitation is widely classified as confirmative and reorganized approach. In many clinical situations, the reorganized approach is widely practiced.<sup>[4]</sup> The confirmative approach was more of eliminating occlusal interferences, removal of defective contacts, and reduction of tall cusps of opposing teeth. The reorganized approach is followed when the changes required in vertical dimension, failed restorations, bruxism or severe attrition, constraints in the interocclusal space, occlusal trauma, temporomandibular disorder, and disorder in functions and esthetics. The reorganized approach has fundamental process of establishing centric and eccentric occlusal relationships.<sup>[1,4]</sup>

The choice of occlusal scheme was divided among researchers. For understanding, it was divided between

centric and eccentric occlusal scheme. In centric occlusion, the thoughts varied between point centric and freedom in centric. Schuyler, Ash, Ramfjord, and Dawson were suggestive of freedom in centric stating it as a biological area rather than a point.<sup>[1,4,5]</sup> The varying studies had the thoughts toward point centric. Lately, it is widely accepted on centric occlusion harmonizing with centric relation. In clinical situations where the synchronization is difficult due to anatomical and physiological limitations, the freedom in centric was considered.<sup>[1,4,5]</sup>

The most standing point is occlusal contacts in centric relation occlusal contacts. The deliberations existed between cusp fossa and cusp marginal ridge contacts. The cusp marginal ridge contact is observed in natural dentition. In restored dentition, it is widely accepted to have cusp fossa contact. This shall establish tripodding of occlusal contacts, distributes the forces along the long axis of the teeth and aids in achieving better occlusal stability. Ideally, the tooth should be having minimum one tooth contact in each tooth in the posterior occlusion. More the contact, better the occlusion.<sup>[5]</sup>

Various eccentric occlusal schemes were recommended in the literature. Some of the common schemes that are followed are McCollum-Gnathological concept,<sup>[1]</sup> Stuart and Stallard (Schuyler) theory,<sup>[5]</sup> Wiskott and Belser-simplified occlusal design,<sup>[6]</sup> Pankey–Mann–Schuyler (PMS) Philosophy,<sup>[7]</sup> Hobo's Twin-Table Technique,<sup>[8]</sup> Hobo and Takayama Twin-Stage Procedure,<sup>[9]</sup> Youdelis Scheme,<sup>[1,5]</sup> and Nyman and Lindhe Scheme.<sup>[10]</sup>

The researchers had varied opinions in eccentric occlusal relationship in FMR. Stuart, Stallard, and Damico were suggestive of canine disclusion in eccentric relationship.<sup>[1]</sup> Majority of schools accepted mutually protected occlusal scheme where one group of teeth protected the other group of teeth by getting discluded. Pankey–Mann system proposed group function occlusion scheme in eccentric relation; later, Schuyler observation of canine disclusion was added to the PMS system.<sup>[5]</sup> Wiskott and Belser was suggestive of anterior disclusion in all eccentric movements and freedom

in centric.<sup>[6]</sup> Twin-table technique proposed two incisal tables with and without disclusion for restoring posterior teeth. The technique believed that anterior guidance influenced the condylar path and obtained posterior disclusion with incisal guidance tables.<sup>[8]</sup> Twin-stage was a modification of twin-table technique. The system considered the cuspal angle as the main determinant and proposed standard values for condylar guidance, Bennett angle, and incisal guidance to establish occlusion and disclusion in eccentric movements.<sup>[9]</sup> Youdelis Scheme was primarily suggested for advance periodontitis where canine-guided disclusion was planned, and with the loss of canine, the occlusion shall shift to group function occlusion.<sup>[1,5]</sup> Nyman System was designed for advanced periodontitis situation and long span prosthesis. The teeth are splinted to reduce the mobility and distribute the load to all teeth.<sup>[10]</sup> The differences in occlusal thoughts can be applicable to varying clinical situations. It depends on the tooth support, patient existing occlusion, supporting units, function, and esthetics.

Becker and Kaiser proposed guidelines comprehending all occlusal philosophies. The scheme proposed cusp-fossa occlusal contacts, least one occlusal contact per tooth, harmony between centric occlusion and centric relation, no nonworking side contacts, group function or canine protected in the lateral occlusion, no posterior tooth contacts in protrusive occlusion, no cross-tooth nonworking contact, and removal of all fremitus.<sup>[5]</sup>

FMR procedure majorly initiates with the diagnosis, treatment planning, and mock wax up. The procedure involved can vary with the differences between establishment of anterior guidance and posterior occlusal plane. The Hobos philosophy twin-stage and twin-table deliberate on the establishment of anterior guidance than the posterior teeth positions.<sup>[8,9]</sup> Panky–Mann initially insisted on the posterior teeth restoration with the addition of Schuyler ideology; the PMS philosophy also adapted the concept of incisal guidance. The procedures that involved in the prosthesis fabrication in FMR majorly involve among the philosophies of PMS and Hobos twin-stage and twin-table techniques.<sup>[7-9]</sup>

Although there exists a wider agreement among the procedures, variations in thoughts, techniques, and applications exist in FMR. Many of the reports provide

details on procedure; however, in clinical situation, the management of difficulties is less explained in the literature.<sup>[11]</sup> The literature widely evidences on occlusal concepts in FMR; findings are required to determine the influence of tooth/implant support, partially-edentulous span length, and the influence of restorative materials towards the occlusal rehabilitation. Lesser literatures are available, that determines the influences of these parameters and FMR studies are mostly lost with focus on occlusal rehabilitation. The advent of CAD-CAM restorations can simplify the procedures and can aid in the establishment of accurate occlusal contacts. However, findings on the same are limited. It is preferable to obtain consensus on FMR procedure that can aid in obtaining greater quality of life to patients. It is mandatory to design studies to obtain higher evidences to ascertain the thoughts and the procedures of FMR. The clinical studies on the same shall be more appreciative to establish evidenced-based protocols.

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