

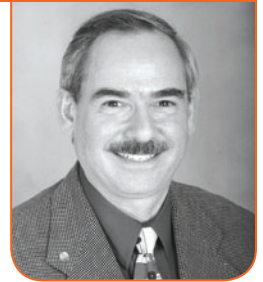
Case Presentation

Segmental Matrices for Primary and Permanent Class II Composite Restorations

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Dr. Fred Margolis received his B.S. and D.D.S. from The Ohio State University and his certificate in pediatric dentistry from the University of Illinois College of Dentistry. Dr. Margolis is a Clinical Instructor at Loyola University's Oral Health Center. He is a fellow of the Pierre Fauchard Academy, International College of Dentists, American College of Dentists and the Odontographic Society. He is the author of a course manual, Beautiful Smiles for Special People, and has written articles for both lay and professional publications. He is a product evaluator for several dental manufacturers.

Dr. Margolis is director of the Institute for Advanced Dental Education and has lectured both nationally and internationally. He is a consultant to the ADA's Council on Dental Practice and an ADA Seminar Series Lecturer. Dr. Margolis is in full-time private practice of pediatric dentistry in Buffalo Grove, Illinois.



Introduction:

When restoring Class II restorations in children, teenagers and adults, the goal is to provide tight contacts, good contours, and proper anatomy of the restoration. There are many types of matrices which one may use. The author has found, in restoring thousands of restorations in children and teenagers, segmental metal matrices provide all three of the goals previously mentioned. The purpose of this article is to review several previously published articles and illustrate several examples of metal matrices.

Case 1: T-bands

The T-bands that provide the best contacts are the .001" brass matrices. These bands can provide quick and easy matrices and are used by the author for young children. These bands are used with wedges and provide tight contacts for Class II restorations in young children. (Figure 1)

Figure 1



Case 2: Segmental Matrix Bands

Figure 2

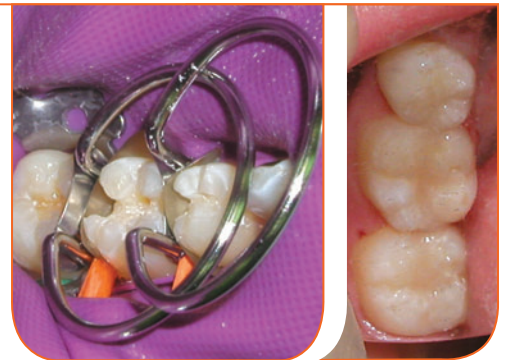
According to Loomans, B.A., et al; "The use of sectional matrices combined with separation rings resulted in tighter proximal contacts compared to when circumferential systems were used." (1) The author has found this to be true in both primary and permanent teeth when restoring Class II resin composite, compomer, resin modified glass ionomers, and glass ionomer materials. Figure 2 illustrates the use of the segmental matrix system in primary class II restorations in children.



Case 3: GDS Matrix System

Figure 3

The author has lectured throughout the world and has asked his audience which matrices give the best contacts they had ever experienced. In EVERY case, the segmental metal matrices is the answer given. The segmental matrix, when used with a wedge and separation rings, gives tighter proximal contacts in permanent Class II restorations as shown in figure 3.



The author recently discovered another advantage in using segmental matrices. Many of our teenage and adult patients are undergoing orthodontic treatment and therefore may have bands, brackets, and archwires in place when a Class II restoration may be needed. With a segmental matrix the operator does not have to remove the wires and or bands and brackets, but can utilize the segmental matrix to provide the required contour and proximal contacts. (Figure 4)

Figure 4

Garrison Dental Solutions has newer 3D-Rings that can be used for permanent teeth, however due to their shape, the author prefers the Gold or Grey rings for primary molars. The Soft Face 3-D ring (orange) is more difficult for primary molars and around orthodontic appliances. In these cases, the Composi-Tight Gold or Grey thin tine G-Rings are indicated.



Reference:

- 1) Loomans, B.A., et al. Comparison of proximal contacts of Class II resin composite restorations in vitro. Oper Dent. 2006 Nov.-Dec; 31(6):688-693.