

Matrix bands for primary and permanent Class II composite restorations

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Choosing the best matrix system for the procedure and the patient can enhance clinical success

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When restoring Class II adhesive restorations in children, teenagers, and adults, the goal is to provide 1) tight contacts, 2) good contours, and 3) proper anatomy. There are many types of matrices on the market, however, in restoring thousands of restorations in children and teenagers, I have found that segmental metal matrices provide for all three goals. The purpose of this article is to review several previously published articles and illustrate several examples of available matrices.



Fig. 1

Case 1: T-bands

The T-bands that provide the best contacts are the .001 inch brass matrices. These bands can provide quick and easy matrices, and I use them for children and teenagers. I prefer the straight (vs. curved) narrow T-bands for primary teeth. These bands are used with wedges and provide tight contacts for Class II restorations in young children. (See Figure 1.)



Fig. 2

Case 2: Omni-matrix

The Omni-matrix? (Ultradent Corp.) has several advantages over the classic Tofflemire? retainer. The Omni-matrix has both pediatric and adult sizes and has the advantage of using metal or mylar strips. In this case, a teenager had her Class II restoration restored with the Omni-matrix. In a study by Gilmour, et al., the Omni-matrix was found to be a "suitable replacement for the non-disposable [Dentsply Ash] Siqveland matrix system."¹ See Figure 2.



Fig. 3

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Case 3: Sectional matrices with separation rings

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."² I have 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 3 illustrates the use of the segmental matrix system in primary Class II restorations in children.

Case 4: Segmental matrices with separation rings

I have lectured throughout the world and asked the audience which matrices give the best contacts they had ever experienced. In every case, their answer is segmental metal matrices. The segmental matrix, when used with a wedge and separation rings, gives tighter proximal contacts in permanent Class II restorations than any other matrix system I have worked with, as shown in Figure 4: Composi-Tight? from Garrison Dental Solutions; and Figure 5: the V-Ring? from TrioDent.



Fig. 4
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I 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.



Fig. 5
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With a segmental matrix, the operator does not have to remove any wires, bands, or brackets, but can use the segmental matrix to provide the required contour and proximal contacts. (See Figure 6.)

Garrison Dental Solutions has newer 3-D rings that can be used for permanent teeth, however, due to their shape, I prefer the Gold or Gray rings for primary molars.



Fig. 6
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The Soft Face 3-D ring (orange) is more difficult for primary molars and around orthodontic appliances. In these cases, the Composit-Tight Gold or Gray thin-tine G-Rings are indicated.

Conclusion

Matrix bands with the use of wedges is an integral part of restorative dentistry. I have described various types of matrices that can be used in providing well-contoured restorations with good proximal contacts for Class II restorations in primary and permanent teeth. Dental practitioners must decide for themselves which system works best for them.

Based on the current scientific research, I have concluded that a segmental matrix provides tighter proximal contacts compared to circumferential matrix band systems.²

References are available upon request, and will also be posted online at <http://www.dentaleconomics.com>. Click on "Resource Center," then "Download Center."

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