

Quadrant Restorations with the Quad Matrix System™ from Garrison®



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He is an ordinary affiliate member of organizations such as the Accademia Italiana di Odontoiatria Conservativa e Restaurativa (AIC), Sociedad Española de Prótesis Estomatológica y Estética (SEPES), Sociedad Española de Odontología Conservadora y Estética (SEOC), and Asociación Española de Endodoncia (AEDE).

Dr. Henarejos has contributed to research in dentistry, publishing in journals like the *Journal of Prosthetic Dentistry* and the *Journal of Esthetic and Restorative Dentistry*. You can view his work on ORCID: <https://orcid.org/0000-0001-7215-0292>.

In addition to his academic pursuits, Dr. Henarejos runs a private practice in Barcelona. He can be contacted via email at victor.henarejos@uic.es or Instagram at @victor.henarejos.

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Restoring Class II proximal surfaces can be one of the most technically challenging tasks in dentistry. Dentists often face difficulties working on adjacent or quadrant restorations, especially when trying to achieve proper anatomical contours and ideal contact points. The process can be time-consuming, requiring precision and attention to detail, with results that are not always predictable. Some common postoperative complications include food impaction, gingival inflammation, sensitivity, and secondary complications caries.

Proper techniques, such as using sectional matrices, can help alleviate some of these complications. However, traditional systems often fall short in challenging cases. Some do not provide the necessary stability and contouring to create tight, accurate contact points, while others can be unwieldy or impractical when handling multiple restorations in a quadrant. These limitations can result in frustration, inefficiencies, and suboptimal clinical outcomes.

To address many of these challenges in Class II direct restorations, Garrison® Dental Solutions has introduced the Quad Matrix System™, an innovative solution designed to create precise contours and dependable contact points in both standard and back-to-back restorations. The system includes two groundbreaking products that transform Class II restorations: split wedges and asymmetrical rings. Both components are crafted to integrate seamlessly, enhancing workflow, saving time, and improving quality. Quad split wedges, available in four sizes (small, medium, large, and anatomical for irregular anatomies), adapt easily to various clinical scenarios. Their split design reinforces the gingival seal and prevents upward displacement by the papilla, ensuring stability throughout the procedure. The Quad wedge should be inserted from either the buccal or palatal/lingual side, with the split end positioned to emerge on the side with the widest embrasure. To complement and maximize the benefits of the Quad split wedge, Garrison has developed specific asymmetrical rings. These Quad rings work in tandem with the split wedges, effectively securing the matrix band, minimizing excess material, and promoting excellent contact points. One side of the ring features a driver tip designed to collaborate with Quad split wedges, ensuring a firm gingival margin seal, while the opposite side incorporates a traditional contouring pad to adapt to the natural tooth anatomy. These rings are available in short and tall sizes for both right and left quadrants.

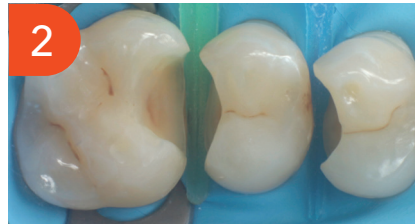
This clinical case report illustrates the replacement of a deficient Class II composite restoration in the maxillary right first quadrant using the Quad Matrix System, highlighting the benefits previously discussed.

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CASE REPORT: A 50-year-old male presented with several deficient Class II composite restorations in the maxillary first quadrant. Active and recurrent decay was observed both visually and radiographically, and the patient reported issues with food impaction and gingival inflammation. The chosen treatment plan was to replace the restorations with new direct composite restorations.



1 The initial situation after isolating the operative field with a thick rubber dam, showing carious lesions on the distal surface of the upper right first molar and both the first and second premolars, prepared for treatment.

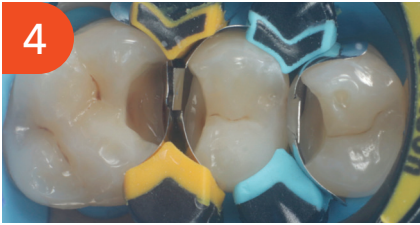


2 Cavity preparation completed. Carious tissue was removed using a fine diamond bur and ultrasonic tips. During this process, pre-wedging was performed with A+ Wedges from Garrison Dental Solutions due to their rigidity and ability to control potential bleeding. Finally, the cavity was sandblasted with 29 µm aluminum oxide.



3 Placement of the matrices and wedges from the Quad Matrix System. The matrices were selected based on the cavity size, choosing a Firm Band that most closely approximates the marginal ridge height of the tooth being restored or the ideal height. Regarding the wedges, the size was selected based on its fit in the interdental space. The wedge should be inserted approximately 50%. If the wedge cannot be fully inserted, it should be removed, and a smaller size should be selected. Note how the wedges open at one end to apply pressure and achieve better adaptation to the root anatomy of the tooth.

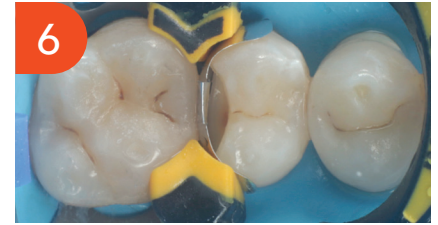
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Placement of the Quad Matrix System pressure rings. Two different ring sizes are chosen because the cavities vary in height. The driver tip of the Quad ring, indicated by the arrow on top of the tip, must be placed on the same side as the split end of the Quad wedge. This allows the ring to interact effectively with the two differently contoured areas of the teeth, securing the matrix band and minimizing excess material.



It is recommended to place all the matrices at once to ensure proper distribution of interproximal spaces, but the cavities are restored independently to achieve a better finish and tighter contact points. Generally, it is better to restore the cavities located at the outermost ends first. This approach allows for independent and more accurate polishing and finishing. In this case, the mesial side of the first molar and the distal side of the first premolar were restored first. Afterward, the Quad Matrix System was removed to verify and refine the obtained proximal contour.



Finally, only the distal cavity of the second premolar was restored, following the same protocol. By sequencing the restoration of the cavities, the Quad Matrix System can be used more effectively, reducing errors and, consequently, the time needed for polishing and finishing.



Occlusal view of the final restorations after the final polishing and finishing.

CONCLUSIONS: With the Quad Matrix System, you can achieve predictable, high-quality results while significantly reducing chair time, making it a must-have for Class II restorations. The Quad Matrix System is a unique and revolutionary solution for addressing the challenges of Class II restorations, especially in back-to-back cases. By simplifying the process and reducing chair time, this system empowers dental professionals to deliver exceptional results with consistency and efficiency.