



**Improve  
Class II  
Outcomes**  
AT EVERY STAGE

# The Importance of Class II Success ON PRACTICE HEALTH

Why do the experts count Class II restorations as one of the most important aspects of practice growth? Primarily because the Class II restorative procedure not only accounts for a significant part of your income, it also plays a large role in the experience of approximately 1/3 of your patients. With 50% of new patients coming from referrals, patient satisfaction directly influences your practice's ability to grow and maintain your revenue stream. Therefore, by improving this one procedure, you can create a positive experience that impacts multiple areas of your practice.

## CHALLENGES OF CLASS II IN PRACTICE

- Difficult access for equipment
- Lower fees relative to time spent
- Lengthier procedure
- Less predictable results
- Increased stress for both you and your team

Another variable in Class II restorations is the growing popularity of composite placements over amalgams—**70% of direct restorations used resin-based restorative materials**, according to a 2006 ADA report. At the same time, other reports claim that **Class II resin restorations are 10 times more likely to be replaced at the clinician's expense than amalgams**. With these facts in mind, improving your Class II outcomes at every stage is clearly gaining in importance.

Therefore, materials advancements that make your posterior composite procedures faster, easier, and more profitable, without compromising clinical outcomes, could be the key to your practice goals.



CASE STUDY BY DR. JASON SMITHSON

# The First Step Toward IMPROVING EVERY STEP

Depending on your practice, there are many ways to approach improving your Class II procedures. As composite placement is technique-sensitive and requires a number of exacting steps, different products may be used to drive successful outcomes. For example, selection and use of the appropriate matrix system is one major step to predictably superior restorations.

## KEYS TO SUCCESS

- Preparation
- Isolation
- Contact Creation

The right matrix system allows you to create or re-create the proper contact and contour that are essential to a favorable clinical outcome. Attaining the vertical profile of the restored tooth is equally as important, along with proper functional occlusion. Finally, a good matrix system requires minimal finishing to reach these goals.

Without a solid foundation, your Class II success can be compromised before you even begin with adhesive or composite materials. One of the most common missteps is not taking full advantage of a modern restorative sectional ring and matrix device.

## CASE STUDY BY DR. SIMON MCDONALD



Cavity prep



Rings and matrices placed



Composite placed



Completed restoration

# Creating a Solid Foundation

## PREPARATION

Studies have shown that in a majority of Class II restorations, the clinician nicks the adjacent tooth with the bur during prep. When this occurs, it roughens the tooth surface, creating an area for bacteria to aggregate. To prevent this occurrence, clinicians tend to allow valuable extra preparation time to proceed more slowly and carefully. However, using an interproximal guard to protect the adjacent tooth allows faster, more confident preparation without risk of injury.

## ISOLATION

Isolation is critical in Class II restorations, especially when using resin-based materials. If the field is contaminated with moisture, the physical properties of the restoration may be undermined. Your capacity to seal the restorative field from surrounding moisture is impacted by a number of factors: restoration location, tissue irritation, and the level of seal provided by the matrix system.

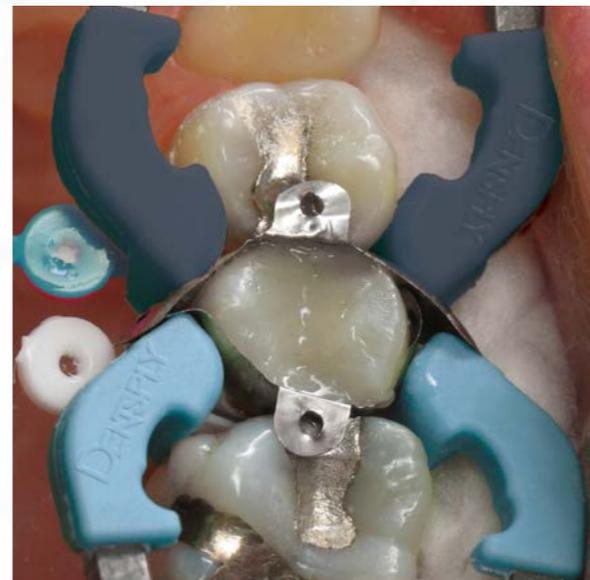
Unfortunately, because the traditional Tofflemire band engages with the tissue all the way around the tooth, and the wooden wedge is forced into the interproximal space to create separation between the teeth, bleeding is more likely to occur. With sectional systems, the matrix band engages with only a portion of the tissue surrounding the tooth, while the ring separates the teeth to make room for the matrix band. This design is more tissue friendly, reducing the amount of bleeding that occurs.

## CONTACT CREATION

Ultimately, achieving proper interproximal contact and contour is the critical factor in a Class II restoration. The tooth being treated should tightly contact the adjacent tooth at the middle third and have a natural, convex contour. An open or improperly shaped interproximal contact can result in a fracture or periodontal inflammation, bone loss, and recurrent caries due to food impaction in the interproximal space.



Rings and matrices placed



Composite placed



Prior to finishing



Completed restoration

CASE STUDY BY DR. GRAEME MILICICH

# Match Tools to Materials

## DISADVANTAGES OF TRADITIONAL TOFFLEMIRE

Often the final appearance of the composite when using a Tofflemire system will have a very flat profile from the gingival margin to the occlusal-proximal cavosurface. Control of the contact against the adjacent tooth is difficult, and simple wedging does not provide enough displacement for consistent results.

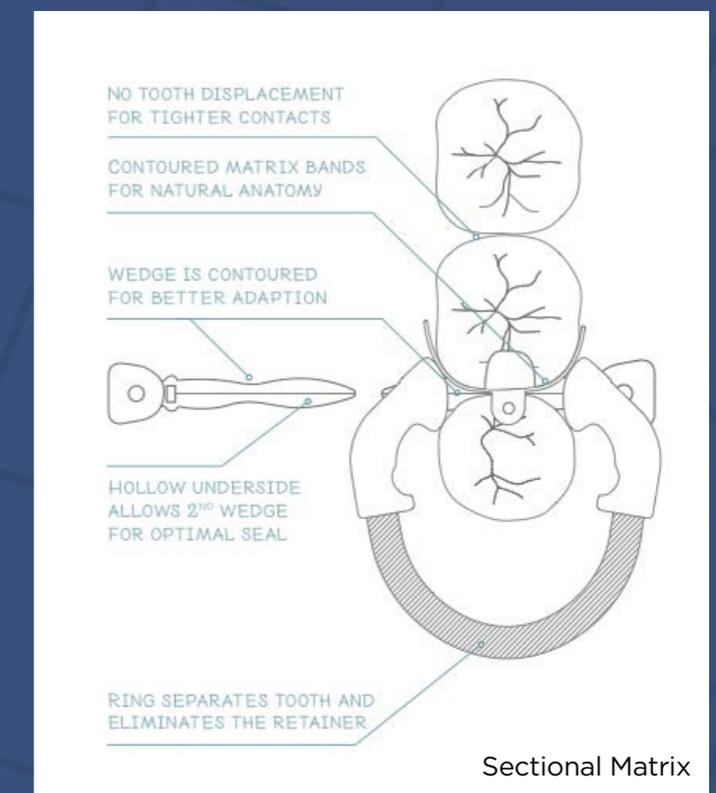
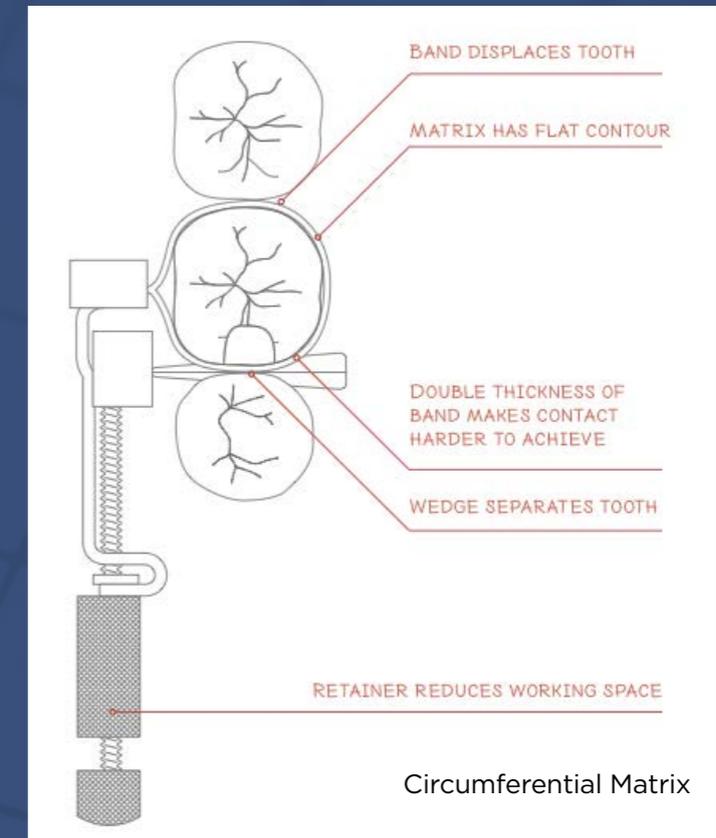
- Designed for amalgam, not composite
- Difficult to create contact
- Poor anatomy
- Higher chance of early fracture, failure
- More finishing required to create adequate anatomy
- Risk of opening/lightening the contact when adjusting the occlusal

## SECTIONAL MATRIX SYSTEMS ARE KEY TO SUCCESS

With the new advanced sectional matrix systems, rings are made with nickel-titanium to create a consistent force to separate teeth, helping to deliver a tight gingival seal and anatomically shaped restoration. Ring tine design helps the system remain stable on significantly damaged teeth. This design prevents the matrix from collapsing into wide cavities, and can be used when a cusp is missing. Ring tines maintain a fit on the tooth that complements the wedge and works with the matrix to seal and shape the restoration, minimizing required finishing. Fine wave-shaped wings on the wedge compress and flare for easy placement and a true fit and seal that minimizes impingement of soft tissue. The super-thin tabbed matrix has a pronounced marginal ridge and significantly greater horizontal curvature for accurate anatomy.

## RESULTS

- Natural contours
- Improved visibility
- Consistent success
- Tight contacts
- Minimal finishing



# 4 Steps to Better Class IIs

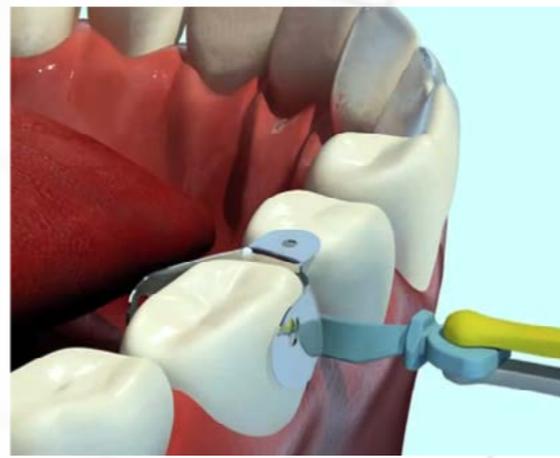
# 1

**Using pin tweezers,** place matrix band by engaging the pin in the top tab. Bend top tab back to adjacent tooth to set the height of the restoration.



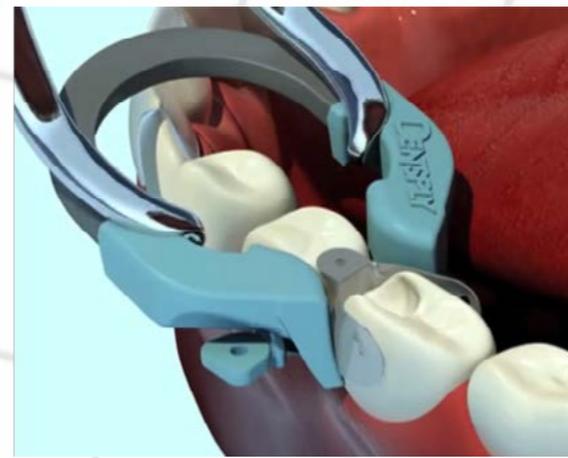
# 2

**Slide wedge interproximally** to achieve good gingival seal while index finger is placed on top of matrix tab.



# 3

**Engage notches in ring** with Palodent forceps and push ring against matrix band while seating ring on top of wedge.



# 4

**Second wedge** may be placed under existing wedge from opposite side for greater gingival seal.



# Take the Stress Out of CLASS II RESTORATIONS

You can easily and consistently deliver improved outcomes with the Palodent Plus system—an innovative sectional matrix system with nickel-titanium rings, anatomically shaped matrix bands, and adaptive self-guiding wedges that provide predictable tight contacts and restorations that accurately replicate the natural tooth anatomy.



## **PALODENT PLUS FEATURES**

### **Universal Ring**

- + Nickel-Titanium for outstanding spring strength and memory
- + Stackable for versatility; offers consistent separation force
- + Glass-fiber reinforced tines are V-shaped to hold wedge



### **Narrow Ring**

- + Same innovative features and benefits of Universal Ring
- + Tines set closer together for optimal separation on smaller teeth
- + Consistent separating force even on premolars



### **Matrix Band**

- + Palodent® Plus EZ Coat matrices' micro-thin, non-stick finish makes matrix removal easier
- + Pronounced marginal ridge for ideal anatomy
- + Significantly greater curvature on horizontal plane as matrix wraps around tooth
- + Gingival apron is optimally shaped to significantly prevent gaps in gingival-axial corner

### **Wedge**

- + Compresses on entry and flares upon exit for easy placement and seal
- + Hollow underside allows placement of second wedge from opposite side



### **WedgeGuard**

- + Lowers risk of interproximal damage to adjacent tooth
- + Facilitates faster and easier cutting of cavity preps
- + Guard detaches after prep, leaving the wedge in place



### **Forceps**

- + Locking function and angled grip arms hold the ring securely, mesially, and distally



### **Pin Tweezers**

- + Pin in tip positively grips hole in matrix and wedge for control
- + Naturally closed position minimizes risk of dropping matrix or wedge
- + Handy ball burnisher built into tip



# About the Company

Dentsply Sirona is the world's largest manufacturer of professional dental products and technologies, empowering dental professionals to provide better, safer and faster dental care. Our products and solutions include leading positions and platforms across consumables, equipment, technology, and specialty products. As The Dental Solutions Company™, Dentsply Sirona provides dental professionals a comprehensive end-to-end solutions offering. This offering includes some of the best-known and established brands in the industry. We are proud to be a preferred partner for dental practices, clinics, dental laboratories and authorized distributors worldwide.

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outcomes  
start here.

## Palodent® Plus Sectional Matrix System

The Palodent Plus system helps you start your class II direct restorations right. It ensures that every step of the procedure sets you up for successful results. Get a tight seal, accurate contact creation, anatomical contours and confidence in better clinical outcomes.

Visit [www.class2restorations.com/palodent-plus](http://www.class2restorations.com/palodent-plus) to learn more and request a free demo.

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