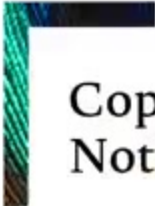


We are learning on
Noongar land



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Cutting out the complexity of Class 2 Posterior Composites

Dr. Amit Gurbuxani MRACDS(DPH), BDSc, MDPPH, FPFA, FICD, FADI

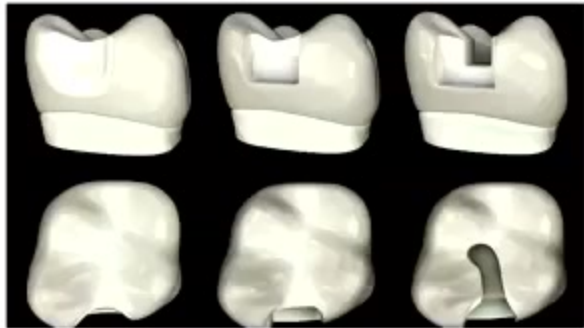
Why do most Class II composites fail ?

Factors can influence the clinical success of class II composite restorations

- patient characteristics
- tooth preparation
- matrix utilization
- composite composition—dentin bonding

Today I'm going to show you how almost all of these failures come from only four critical steps.

Class II -Direct
Posterior
Composites



Size and Location of Restoration

- The position of the tooth in the arch and the size of the cavity have been shown to be a factor in the success of a restoration. One study found the risk of failure in the molar area to be twice as high as for premolars,¹⁰ while another study placed the failure rate in lower molars as three times that of the upper premolars.¹¹ Multi-surfaced restorations are also more prone to failure than single surface restorations. **A study calculated that for every surface added to the restoration, a 40% increase in the failure rate resulted.**¹⁰

- Opdam NJ, Bronkhorst EM, Roeters JM, Loomans BA. Longevity and reasons for failure of sandwich and total-etch posterior composite resin restorations. *J Adhes Dent.* 2007;9(5):469-475.

Tooth Preparation

Prepare only enough to

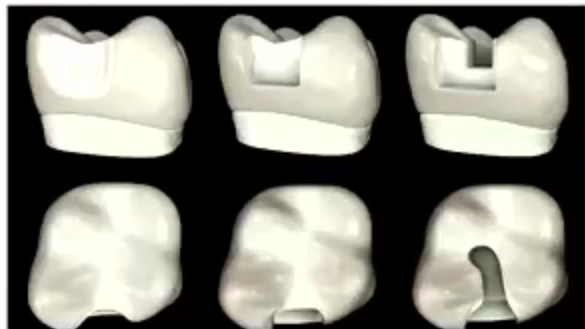
- Remove disease
- Preserve enamel
- Allow matrix placement

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Class II -Direct
Posterior
Composites



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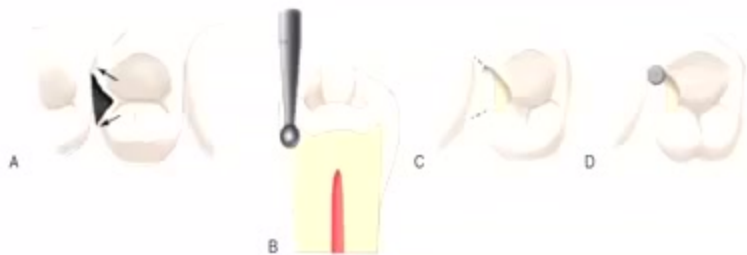
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*This is not
Convenience
Form ?*

The pulpal floor is prepared with the instrument to a depth that is approximately 0.2 mm inside the DEJ. The instrument is moved to include caries and all defects facially or lingually or both, as it transverses the central groove. Every effort should be made, however, to keep the faciolingual width of the preparation as narrow as possible. The initial depth is maintained during the mesiodistal movement, but follows the rise and fall of the underlying DEJ



05/12/25

Intraoral Camera, 13.14



05/12/25

Intraoral Camera, 13.14



05/12/25

Intraoral Camera, 13.14



05/12/25

Intraoral Camera, 13.14



Should I bevel this margin?

Enamel?

→ Yes

Small occlusal?

• → Usually no

Visible proximal enamel?

→ Maybe

Root dentine?

• → No



05/12/25

Intraoral Camera, 13.14



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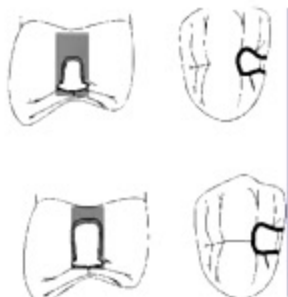
Root dentine?

• → No



Placement of occlusal bevels has demonstrated no benefit to the longevity of class 2 resin composite restorations

- Bevels



Pre Wedging

- Helps separate the teeth: easier to place matrix band – especially if preparing a slot technique or else if the caries is not extending beyond the contact.
- Some form of tooth separation, due to the PDL, such that after the restoration and the wedge is removed the tooth will return to its original position and lead to a tighter inter-proximal contact.
- Prevent damage to the adjacent tooth of restoration. Eg using a fender wedge, wedge guard, etc)

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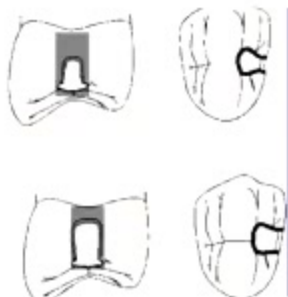


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Intraoral Camera, 13.14







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The Matrix Checklist

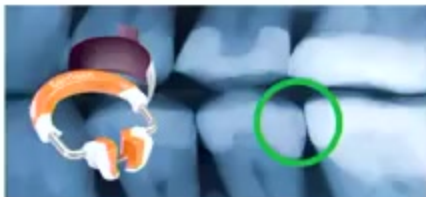
Every matrix must achieve

- ✓ Gingival seal
- ✓ Tight contact
- ✓ Correct contour
- ✓ Proper marginal ridge height



Tofflemire-style System

1. Fails to restore proximal anatomy
2. Thin contact at the marginal ridge
3. Large food trap below
4. Increased likelihood of fracture, occlusal interference, recurrent caries, and periodontal disease



Composi-Tight® Sectional Matrix System

1. Operator-friendly retaining system
2. Naturally contoured bands
3. Anatomically correct contacts
4. Contacts at the height of contour
5. Rings produce optimal tooth separation for excellent, tight contacts





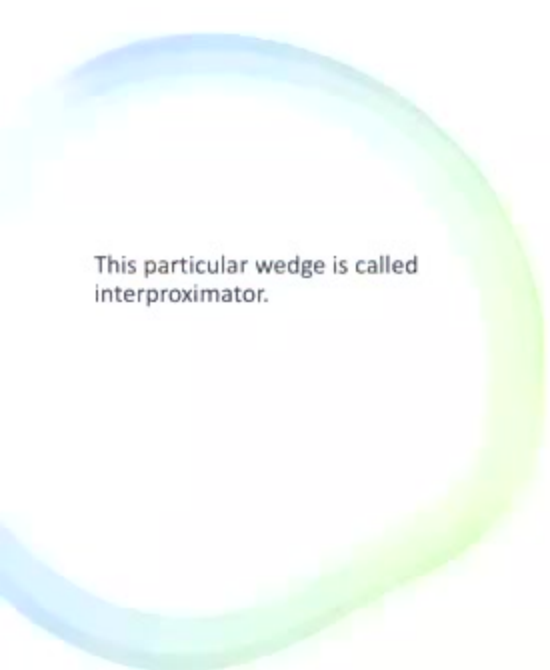
This particular wedge is called
interproximator.



Wedge Placement Tips.

- Remember to hold the band down from the coronal aspect while placing the wedge. Can use your finger to hold it in place.
- You can use that finger which is holding the band down to rotate the wedge to place it from buccal or lingual.
- Have a snug fit (no gap between proximal wall and the matrix). If gap is still present decide if large size wedge or double wedge or Teflon and wedge.





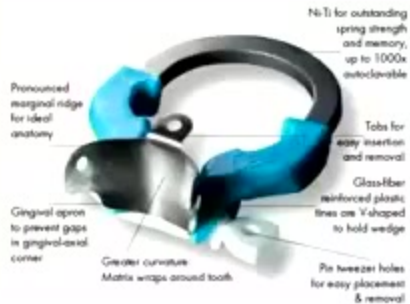
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Double wedging system





Sectional Matrices

- Metal Sectional matrices. Variety of pre curved, subgingival and coated or non coated

