

ZOOM IN: AMED INSIGHTS

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Dr. Jorge F. Zapata, ed

Advancements in Adhesive Dentistry: Deep Subgingival Restoration and the Dental Microscope

The Advancements in Adhesive Dentistry

Adhesive dentistry has become the gold standard in restorative dentistry due to its minimally invasive nature, requiring less removal of healthy tooth structure. It also maximizes the bonding surface area of dentin, which improves the longevity and effectiveness effectiveness of restorations. This approach was developed by Professor [Dr.Ikonoshi and Dr.Nikaido from Japan 1990] and consists of two main techniques:

1. Immediate Dental Sealing (IDS)
2. Resin Coating Technique (RCT)

What Are Immediate Dental Sealing (IDS) and Resin Coating Technique (RCT)?

- Immediate Dental Sealing (IDS): This is the application of an adhesive system to freshly cut dentin to improve bond strength and reduce sensitivity. IDS helps seal exposed dentin tubules, which reduces the chances of postoperative discomfort and improves the bond

strength.

- Resin Coating Technique (RCT): This technique involves applying a thin layer (about 0.5–1 mm) of flowable resin composite over the IDS. This serves to protect the bond and isolate the pulpal floor, preventing irritation from external stimuli.

Benefits of IDS and RCT

- Studies show that dentin bond strength improves significantly over time, but IDS can dramatically increase bond strength in just 10 minutes.
- The application of a thin layer (0.5 to 1 mm) of flowable composite is sufficient to protect the bond, reduce sensitivity, and isolate the pulp from external stimuli. Sensitivity is one of the most common complaints from patients following resin composite restorations.
- IDS and RCT can be applied to both direct and indirect restorations. Additionally, these techniques can be used for endodontically treated teeth, sealing the coronal gutta-percha and reducing leakage under the final restoration (Tagami and Magne).