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# Features of smart dentin replacement in dental clinic

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**R**esin-composite is one of the most common and widely used materials in dentistry. It is known that patients' requests and clinicians' interest in <u>esthetic</u> restorations are not limited to anterior teeth, but posterior tooth-colored restorations have grown considerably over the last decade. With the objective of increasing wear resistance and gloss retention, resin composite restoratives based on nano filler technology have been introduced to the dental profession and progressed from nano filled to nano hybrid. Two- Year Clinical Evaluation of Smart Dentin Replacement Flowable Resin Composite as A Liner under Class II Resin Composite Restorations. SDR is a low viscosity base composite for posterior restorations used in an open sandwich technique (Fig. 1). It was developed to restore the dentin equivalent part of the restoration.



# Fig. 1: Diagram depicting SDR optimal placement.

#### Features

- Smart Dentin Replacement (SDR) in posterior teeth (open sandwich technique in class II).
- Flowable consistency (self-leveling)
- Bulk-fill (4mm increments)
- Light cured (20 seconds)
- Capped with any universal or posterior composite
- One universal shade

#### Compatible with conventional adhesives

The aim was to evaluate the effect of bulk-fill composites – Activa and Smart Dentin Replacement (SDR) on cuspal deflection in endodontically treated teeth with different access cavity designs. SDR is a flowable bulk filler for posterior teeth. It allows light penetration for curing up to 4mm at a time. <u>Polymerization</u> shrinkage is 3.5%, comparable to other flowable, but less than many hybrid composites. Dentsply claim that the marginal stress caused by polymerization shrinkage is around 1.5 MPa - substantially less than other composites, so the chance of marginal leakage is greatly reduced. Bulk-fill resin composites have recently been developed to simplify the restorative technique because they may be placed in a single increment of 4–5 mm. The bulk-fill composites are divided into 2 groups, the low- and high-viscosity materials.



CEC designs showed lesser cuspal deflection than traditional endodontic cavity designs. SDR can be considered as a choice of material for access restorations. The effect of bulk-fill composites, Activa and Smart Dentin Replacement on cuspal deflection in endodontically treated teeth with different access cavity designs

## Biography

Reem Alshaibani has a graduate from Riyadh Alelm University dental college 2011, work as general practitioner for 7years, she completes her advanced education in general <u>dentistry</u> in 2019, and she is registrar at prince sultan military medical city.

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