

## Decoupling With Time - Disconnect to connect

Biomimetic Restorative Dentistry Protocols

- 1) Stress Reducing Protocol
- 2) Bond Maximizing Protocol



One of the stress reducing protocols = Reduction of increment thickness of composites in dentin surface (<2mm).

Biomimetic direct restorative protocols were introduced to prevent - pulpal floor debonding and internal micro gap formation in large occlusal cavities. This protocol includes Decoupling with time (DWT). Therefore, by "decoupling" the bonded connection between the dentin hybrid layer and the subsequent restorative layers for a period of time, the maximum cohesive strength of the tooth- restoration complex can be achieved.

Dental adhesive applied on prepared cavity wall and cured → Wait for 5mins → Layer of composite increment (<1.5mm) placed on adhesive layer

### Advantages of DWT

- 1) Dentin bond is allowed to reach its full potential without being pulled towards faster forming enamel bond.
- 2) Dictates polymerization shrinkage stress to the developing dentin bond and hybrid layer.
- 3) Overcomes potential issues relating to hierarchy of bondability, by allowing each substrate to form its maximum potential bond strength in stress free environment.

