



# Tips and strategies for restoring large cavities using fibre-reinforced material

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Evidence has shown that one of the biggest challenges facing dentists today is restoring severely damaged teeth. In order for these restorations to be long lasting, certain biomechanical and biochemical criteria need to be met.

Even the smallest of cavities can result in dramatic failure due to poor material choice and incorrect biomechanical interaction between the tooth and the material. We often see cases where a small cavity was restored with amalgam a few years prior. The amalgam itself meets the material criteria but the biomechanical issues are clearly evident and cause severe cracks to develop. These cracks could lead to complete failure of the restoration with loss of vitality of the tooth, and possibly even loss of the tooth. Amalgam has long been relied

upon as a durable restorative material. But what value is a restoration itself that lasts for 20 years if the tooth fails? The final objective should be preservation of the tooth and not necessarily preservation of the restoration.

## **Cavity design**

When it comes to restorations of this nature there are two goals: to stop crack propagation and stopping new cracks from forming. To achieve this you will need a good material and a sound approach. When it comes to cavity preparation, the sharper the angles, the higher the stress created in the cavity. The difficulty today is that as dentists we often have to redo restorations with existing cavity designs for amalgam but restore those cavities with another



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