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A Rapid Technique for Closing Screw Access Channels



By Darin Dichter (/spear-review/author/darin-dichter/) on January 28, 2019 | (/bookmarks/bookmark/32533)

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Screw access channels are inherent to implant dentistry. I'd like to discuss a convenient technique for temporarily obturating these "chimneys."

There are a variety of materials that a restorative dentist can use to close off a screw access channel in a screw-retained restoration. Some materials provide better longevity than others and some provide easier removal than others. Ultimately, the material and technique selected should be based on the requirements for the individual situation.

There are common clinical situations in which I'd like to close off a screw channel, yet I know I'll have to come back and regain that access in the short term. In these cases, I'd rather not have to drill back through a relatively tough material like restorative composite. Temporary inlay materials like Fermit or its newer sibling formulations System.inlay /Telio CS Inlay (Ivoclar Vivadent) work well due to their low strength, relatively high elasticity and reasonable color. Other materials falling into this category include E-Z Temp Inlay (Cosmedent) and Clip (Voco).

Regardless of the manufacturer, all these materials require an intermediate layer to protect the screw itself from restoration removal and to prevent the material from locking into the screw's hexagon. Despite the benefits of an elastic material like Fermit, sometimes it's still more time consuming than I would like, both in terms of placing the restoration and later removing it. When I want something quick, I will often switch up my method by obturating the screw channel with an extra-low viscosity PVS impression material like Aquasil Ultra XLV (DENTSPLY/Caulk).



Insert the restoration and tighten the abutment screw to the desired torque. As a habit, I routinely rinse the screw access channel with 0.12 percent chlorhexidine gluconate and then dry. Inject the XLV directly into the channel, slowly backing out as the chimney is filled. Once complete, wipe the excess with your finger and wait for the material to set.

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Advantages to using this technique include obturating the screw access channel to prevent food and debris impaction while protecting the screw head. In addition, no cotton or PTFE tape is required as an intermediate layer, greatly simplifying removal. Though this technique is fast, it's not perfect.

The main disadvantage is the esthetic (/spear-review/2013/08/evaluating-facial-esthetics-facial-profile) compromise due to the color of the PVS impression material. I use Aquasil Ultra XLV and there is no mistaking its bright orange color. As an alternative, one could use a clear silicone; however, that would likely lead to a very dark temporary restoration if using metal cylinders. Additional disadvantages include the time required for the material to set and the fact that there is no bond to prevent bacterial ingress.

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In a perfect world, we would have a fast-setting, opaque, tooth-shade PVS that could be syringed easily into the screw channels, but until then there are times this technique just won't work due to the esthetics. Still, I am surprised just how often I can use this technique. Despite the shortcomings, using PVS to close off a screw access channel is another handy trick I like to keep in the bag. I hope you find it useful as well.

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