New cavity treatment offers no drilling, no filling

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There is no drilling necessary, and the procedure is typically completed without any anesthesia. Credit: University of Alabama at Birmingham

A new clinical trial at the University of Alabama at Birmingham School of Dentistry is offering patients with cavities in between teeth a new, less painful treatment option.

The new treatment, called resin infiltration, is a way to treat small cavities in between teeth. Normally, the only way to access these cavities is by numbing a patient with a shot and drilling away tooth structure to access the cavity. Resin infiltration allows the dentist to slide a plastic perforated sheet between the teeth with the cavities.

"When we develop cavities between teeth, sometimes we have to go through the tooth, and we end up damaging healthy tooth structure," said Augusto Robles, DDS, assistant professor and director of Operative Dentistry Curriculum. "This new system allows us to skip the drilling and helps us preserve that structure."

The cavity is first cleaned by pushing a gel that prepares the surface to accept the resin infiltrant through the perforated sheet. The tooth is then filled by pushing a liquid resin through the perforated sheet. A dental curing light is then applied to the tooth to cure the resin, and the treatment is complete.

There is no drilling necessary, and the procedure is typically completed without any anesthesia.

"Since this is a no-shot and no-drill treatment, it is popular with patients," said Nathaniel Lawson, DMD, School of Dentistry Division Director of Biomaterials. "And since no tooth is removed, it is a very conservative procedure."

The resin infiltration is one-of-a-kind, and it is an FDA-approved, commercially available product made in Germany, but mostly is being used only in clinical trials in the United States. The UAB Clinical Research Center is conducting the largest U.S. clinical trial of this product, enrolling 150 patients in the study.

Both Robles and Lawson agree that this new system, if adopted

nationally by practicing dentists, could be a game-changer for the future of dentistry.

"I never thought this would be possible for dentistry," Robles said. "In my 24 years of practicing, this changes everything we've done so far. It's marvelous."

Although this new system helps restore teeth, there are a few prerequisites for patients looking to dodge the drill. This treatment works only in between teeth or on smooth surfaces where there are small cavities. Some cavities that are large or are on top of teeth are not suited for this kind of system because the liquid resin used cannot build up shapes.

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"The resin has to be liquid to be able to be absorbed into the cavities in between teeth," Robles said. "So at this point, the application is pretty specific."

The UAB School of Dentistry continues to be at the forefront of innovation and patient care. It is clinical trials like this one that give dentists and researchers much to look forward to.

"I'm so proud to be a member of UAB, where I can be a part of a center that is testing new and innovative products," Lawson said. "This is one of the most innovative products in dentistry I've seen in a while."

Patients interested in participating can make an appointment for a free 20-minute X-ray and screening appointment by emailing SODBiohorizons@uab.edu. There is no cost to participate in the study.

Provided by University of Alabama at Birmingham