



**THE UNIVERSITY of TEXAS**

**HEALTH SCIENCE CENTER AT HOUSTON**

Office of Technology Management

## **HYBRID DENTAL POST AND CORE SYSTEM**

**Market:** In the United States, almost 15 million endodontic procedures were performed in 2005, with growth anticipated to reach to 21 million procedures by 2010. Reports estimated that the endodontic market in the United States was valued at \$220 million in 2005.

**Competitors and Current Problems:** Restorations for endodontically treated teeth are designed to protect the remaining tooth from fracture, prevent re-infection of the root canal system, and replace the missing tooth structure. The post, the core, and their luting or bonding agents together form a foundation restoration to support a coronal restoration (crown) for the endodontically treated tooth. Currently, the most prominent material used as posts are metal, which often lead to failure of post-retained crowns, as highlighted in a numerous clinical studies. Such failures associated with metal post use include: high risk of root fracture; high force resistance of metal post, resulting in stress and failure of the tooth structure; non-ideal aesthetic outcome of the restoration due to darker opaque metal; as well as traumatic and time consuming re-treatment post removal.

**The Technology:** Researchers at the University of Texas Health Science Center at Houston (UTHSC-H) have invented a hybrid dental post system consisting of a metallic post and a flexible polymer. In addition to particular designs of the metal post, a polymer has been incorporated to act as a stress breaker to distribute forces more evenly to the root structure. The hybrid post can chemically bond to dentin and retain direct cores by a combination of chemical and mechanical means. Advantages of the system include thermal adaptation to the root canal, as well as ease of removal by use of heat, solvent or a specific mechanical motion. This novel hybrid dental post system takes less time to place and can be used on the fly with individualized patient customization, without the laboratory wait time as other systems often require.

### **NON-CONFIDENTIAL TECHNOLOGY DESCRIPTION**

The preceding is intended to be a non-confidential summary of a novel technology created at the University of Texas Health Science center at Houston (UTHSCH), for which the University has obtained patent protection.

**UTHSC-H Ref. No.:** 2008-0003

**Inventors:** Bohluli, Pedram

**Patent Status:** Provisional Patent Application Filed

**License Available:** world-wide; exclusive or non-exclusive

To obtain further information about this technology, please contact:  
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