

Novel technology used to make restorative dental material

October 2 2014, by Jim Scott

A novel dental restorative material that should make life easier for dental care experts and their patients, which is based on technology developed by a team of University of Colorado Boulder engineers, was unveiled today by the 3M Company.

Based on work by a team led by Professor Christopher Bowman of CU-Boulder's chemical and biological engineering department, a team from 3M ESPE developed the new polymer, which makes it possible for dentists to fill cavities with a single application that is then cured with light to achieve the desired strength and shape. Currently it can take up to four applications of [polymer material](#), with each layer requiring an individual light-curing procedure, to fill a single, deep-tooth cavity, said Bowman.

The new restorative material also eliminates expensive dispensing devices, according to 3M ESPE, part of 3M Health, a business group of 3M based in St. Paul, Minn. And unlike some composite cavity-filling materials used today that can shrink or even leak at the surface of a tooth over time, the new material has been shown to have lower stress and to be more wear resistant over time.

The innovative technology development effort between CU-Boulder and 3M ESPE included the financial support of the National Institutes of Health. The new 3M restorative material, primarily for posterior teeth, is known as Filtek Bulk Fill.

"Our team is excited about seeing this process come to fruition," said Bowman. "Hopefully there are other implementations of this technology in other fields on the horizon." The [technology](#) was licensed through the CU Technology Transfer Office.

Provided by University of Colorado at Boulder

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