

# Clinical trial for dry mouth

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A clinical trial using an all-natural lozenge to treat dry mouth, a condition that impacts 40 percent of American adults, is under way at Georgia Health Sciences University College of Dental Medicine.

"These patients' mouths are as dry as if you've closed the faucet, and we want to turn that faucet back on," said Dr. Stephen Hsu, Molecular and Cell Biologist and co-investigator of the study. "The cells and glands that produce saliva are still there, they're just not working."

Through previous animal studies and human sample testing, GHSU researchers found that [dry mouth](#) involves [salivary gland](#) inflammation, fewer antioxidants and elevated markers for abnormal growth and [DNA damage](#) caused by free radicals. Powerful antioxidants in green tea, called polyphenols, reduce that damage to the salivary gland.

"With green tea polyphenols, we have an agent that's helping to correct the salivary gland's abnormal behavior," said Dr. Douglas Dickinson, Associate Professor in the Department of Oral Biology and co-investigator.

The team formulated an all-natural lozenge containing green tea polyphenols, xylitol and jaborandi leaf extract, a plant used in South and Central America to promote saliva production. The lozenge offers a slow, extended release only in the mouth, not the systemic effect caused by prescription dry-mouth medication, which can prompt side effects such as diarrhea and excessive sweating, said Dr. Scott De Rossi, Chairman of the Department of Oral Health and Diagnostic Sciences and

principal investigator.

Sixty patients will be followed during the eight week trial, with half taking the lozenge and half taking a placebo. The four daily doses of the lozenge taken during the trial are equivalent to drinking four or five cups of [green tea](#), which benefits overall health, the researchers added.

"I think the promise here is that patients are going to feel better and we're going to see some improvement not only in how their salivary glands function and how their mouth feels, but also how the glands look on a cellular level," De Rossi said. The hope is that the lozenge's effects will last for hours after it has dissolved.

For their efforts, he and his GHSU co-investigators, Drs. Dickinson, Hsu, Stephen Looney and Kalu Ogbureke, have received one of three International Innovation in Oral Care Awards sponsored by the International Association of Dental Research and GlaxoSmithKline.

The \$75,000 award, presented today at the 89th General Session and Exhibition of the International Association of Dental Research in San Diego, advances research that directly benefits the public's oral health. The initial part of the study was funded by a \$50,000 grant from the Georgia Research Alliance.

Xerostomia, or dry mouth, can be caused by autoimmune disorders such as Sjogren's syndrome, chronic medication use, uncontrolled diabetes and cancer therapies. It can cause bad breath, advanced periodontal disease, mouth ulcers, discomfort, trouble speaking and swallowing and a burning sensation at night.

Provided by Georgia Health Sciences University

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