Title

Novel Solution for Dry Mouth Patients

Abstract

Oral Fluid Dynamics, LLC (OFD) is a technology startup working to improve the lives of millions of people suffering from a debilitating condition, chronic dry mouth. With its breakthrough approach using a specialized dental implant device that will function as an artificial salivary gland, OFD seeks to change the standard of medical care for dry mouth patients for whom no cure or effective treatment is currently available. Based on technology from UConn Health researchers, OFD recently was awarded a $225,000 grant from the National Institutes of Health. The grant, issued under the highly competitive Small Business Technology Transfer (STTR) program, will fund critical prototype development and laboratory testing. The company is currently located at UConn’s Technology Incubation Program at UConn Health in Farmington.

Once fully developed, Oral Fluid Dynamic’s technology will be implanted in the jaw to provide a consistent stream of saliva replacement fluid. The device is triggered through contact with the patients’ teeth and/or chewing motions. The artificial gland treats the fluid that surrounds cells and bone marrow fluid, pumping it into the mouth and serving as an effective means of remedying saliva deficiency. The device harvests these internal fluids and adjusts their chemical makeup so that they resemble naturally created saliva. Chronic dry mouth, also known as xerostomia, is considered a medical problem, which can cause oral discomfort and pain, difficulty chewing, swallowing and speaking, as well as tooth decay. Other saliva substitutes and topical therapies currently on the market, like toothpastes and mouth washes, have not proved to be effective for providing relief to those who suffer from dry mouth.

“This isn’t just a question of discomfort,” said co-inventor Dr. J. Robert Kelly in 2016, a seasoned inventor who holds nearly a dozen patents and counting. “Along with symptoms like frequent thirst, bad breath, and sticky mouth, chronic xerostomia can also result in rapid tooth decay, fungal infections, and problems eating and speaking due to insufficient saliva production. We expect our product will drastically improve quality of life for patients suffering from this condition.”

Learning Objectives

1. Review the etiologies of dry mouth
2. Examine available dry mouth treatments
3. Be introduced to a novel implanted device for harvesting fluid and delivering it intra-orally
Biography

LESLIE P. LAING
Leslie P. Laing has taught the undergraduate partially edentulous Prosthodontics course at the Faculty of Dentistry, University of Toronto. She obtained her B.Sc. and B.Ed. in Biology and Mathematics from the University of Toronto, her M.Sc. and Ph.D. in Microbiology and Immunology from Queen’s University (Kingston), and her D.D.S. and M.Sc. (Prosthodontics) from the University of Toronto. She holds fellowships from the Royal College of Dentists of Canada (FRCD(C)) in Prosthodontics and the Academy of Prosthodontists. She is the original Prosthodontist in the Restoring Smiles Foundation, where female victims of abuse are supplied with pro bono dental treatment. She is President of the Sjogren’s Society of Canada and practises Prosthodontics in Toronto and Brockville in eastern Ontario where she has established Sjogren’s Syndrome/Dry Mouth Resource Centres.