Academy of Prosthodontics 2019 Annual Scientific Session
Fairmont Banff Springs Hotel, Banff Canada May 29 – June 1, 2019

Program Speaker - J. Robert Kelly

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

J. Robert Kelly teaches graduate prosthodontics and biomaterials at the University of Connecticut Health Center. His academic credentials include the D.D.S. (The Ohio State University), an M.S. in dental materials science (Marquette University), the D.Med.Sc. in oral biology (Harvard and MIT) and a Certificate in prosthodontics (Harvard). He has served on the Council on Scientific Affairs of the American Dental Association (ADA), is Chairman of the ADA Standards Committee on Dental Products, Past-president, American Academy of Fixed Prosthodontics and the Academy of Dental Materials. Dr. Kelly has received awards for biomedical research (Harvard), research and post-graduate education (Assoc. Military Surgeons of the U.S.) and as a clinician/scholar (Amer. College of Prosthodontists).