Novel 3D-Printed Flexible Polymer Esophagus Stent for Esophageal Cancer

Published date: July 11, 2019

Technology description

More than 17,000 patients are diagnosed with esophageal cancer each year and it ranks sixth among all cancers in mortality. Many who are diagnosed have an occluded esophagus and utilize a self-expanding metal stent (SEMS) for drinking and feeding. However, SEMS stents can cause chest pain, restenosis, and can even migrate into the stomach. This technology provides a 3D-printed tubular flexible polylactic acid/thermoplastic urethane (PLA/TPU) stent with upward spiral grooves. This unique design allows for excellent flexibility with the ability to gradually self-expand and revert to its original shape. This design overcomes the complications associated with SEMS with a higher expansion and compression force than SEMS stents. Additionally, the novel 3D-printing method enables a lower cost stent that can be personalized and tailored to the patient.

Institution

Florida Atlantic University

Inventors

Yunqing Kang
Assistant Professor
Department of Ocean and Mechanical Engineering
Maohua Lin
Graduate student
Department of Ocean and Mechanical Engineering
Chi-Tay Tsai
Professor
Department of Ocean and Mechanical Engineering

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com