

## 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 selfexpanding 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 <u>Maohua Lin</u> Graduate student Department of Ocean and Mechanical Engineering <u>Chi-Tay Tsai</u> 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