UNIVERSITY OF TEXAS ARLINGTON | OFFICE OF TECHNOLOGY MANAGEMENT

Batteryless Endoluminal Sensing Telemeter (BEST™)

UTA (07-06)

Technology Need:

According to recent findings, 60% of the adult population will experience acid reflux, also known as gastroesophageal reflux disease (GERD), within a 12 month period and 20-30% will have weekly symptoms. Current diagnosisof GERD requires transnasal insertion of a catheter with electrodes connected to an external power supply into the patient's esophagus. This method is not only bulky but is known to cause discomfort to patients. A miniature wireless device that does not require a tethered connection is therefore preferred.

Solution/ Offering:

To address this issue, researchers at UTArlington have developed a Batteryless Endoluminal Sensing Telemeter (BEST), a wireless, battery-free sensor able to give readings almost instantaneously using radio frequency identification (RFID) technology. Due to its unique properties, BEST allows a comfortable, safe, cost-effective, disposable yet accurate screening method for clinical practice in diagnosis of GERD and distinguishing between the reflux of acidic and non acidic material.

Value Proposition:

- ✓ Battery-less
- ✓ Wireless
- ✓ Small in size
- ✓ Better accuracy
- ✓ Biocompatible packaging: no rejection for human body
- ✓ Miniaturization
- ✓ Longer implantation
- ✓ Comfortable for patients

Industrial application:

- ✓ GERD screening

Patent Status:

- ✓ Licensing Available
- ✓ US20080234599

Current Stage:

- ✓ Prototype

Meet the Inventor

Dr. Chiao is a Professor in the Department of Electrical Engineering, UT Arlington. Chiao is a prime example of a Renaissance man: His interests and expertise span a wide spectrum of research activities and artistic pursuits – esophageal reflux, MEMS, children's books, wireless devices, optical fibers, paper cutting, pain management, classical music, millimeter-wave sensors, engineering education, and more.

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