Precision Endosurgery Suturing Device

ID# 2006-3237

Sketch of endoscopic suturing device

Technology Summary

The invention is a novel endoscopic suturing device including a unique needle design. The design overcomes major limitations of related devices such as the inability to place multiple sutures, the inability to tie a knot without the help of a separate knot-tying device, the inability to tie a knot inside the patient, and the relatively large size which prevents through-the-endoscope placement. This technology is unlike currently available suturing devices because it can pass through a working channel (3-6 mm in diameter) of a flexible endoscope.

Application & Market Utility

The invention targets incisionless surgery using flexible endoscopes. A flexible endoscope has several channels including light transmission, image transmission, air and water, and “working channels” through which instruments are inserted. Natural orifice transluminal endoscopic surgery (NOTES) can replace laparoscopic instruments. In one procedure, the endoscope is passed through the esophagus and an incision is made in the stomach to obtain access to the abdominal cavity, thus avoiding an external wound and a deeper dissection.

Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL	1-3

Seeking

Investment | Licensing | Research

Keywords

- endoscopic suturing device
- incisionless surgery
- natural orifice transluminal
- endoscopic surgery
- NOTES

Researchers

Mary Frecker
Professor of Mechanical Engineering
Online Bio

Abraham Mathew
Graham H. Jeffries Professor
Website

James Cronin
Graduate Student Research Assistant

Originating College
College of Engineering

Office of Technology Management Contact
Ritter, Dustin
dwr18@psu.edu
814-863-7070