

Remote Endoscope Handle Manipulation

(FCCC Ref. 168-AG)

Background

Natural Orifice Transluminal Endoscopic Surgery (NOTES) is a surgical procedure performed with an endoscope passed through a natural orifice, such as mouth, nose, urethra, vagina, or anus. NOTES allows limited or no external incisions or scars but has the disadvantage of requiring presence of two or three surgeons and/or endoscopists to perform the procedure.

Summary of the Invention

Renowned clinicians at Fox Chase Cancer Center and Columbia University designed remote endoscopic manipulator that fits most standard flexible endoscope handles. Novel remote-controlled robotic endoscope handle, robotic control of the tip of the endoscope (right hand), and robotic control of the endoscopic guidewire instruments are described in detail. This invention is an optimal solution for hospitals, because it eliminates the need for one operator while ensuring safe NOTES procedures, and enables surgeons to use their existing endoscopes instead of purchasing new robotic NOTES endoscopes.

Advantages

- Targeted, effective, precision treatment of tumors.
- Enables minimally-invasive scar-less surgery while performing complicated procedures.
- Easy to handle and operate by minimal personnel.
- Cost-effective, prototype exists.

IP Status

European and USA patents issued EP2247229B1 (2016), US 8,409,080 (2013) and US 9,706,907 (2017).

<https://patents.google.com/patent/WO2009099633A1>

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