



Southern Illinois University System

Applications

- Video-assisted thoracic surgery

Inventors

Traves Crabtree, MD

Dr. Crabtree is a physician and professor in the department of surgery and director of the surgical skills laboratory for the SIU School of Medicine.

Timothy York, PhD

Dr. York is an assistant professor of electrical and computer engineering at Southern Illinois University Edwardsville.

Mitchell McKay, MS

Mr. McKay earned his master's degree in electrical engineering from SIU Edwardsville in 2018.

Mingshao Zhang, PhD

Dr. Zhang is an assistant professor of mechanical and industrial engineering at Southern Illinois University Edwardsville.

Contact

Robert Patino, JD

Director

rpatino@siumed.edu

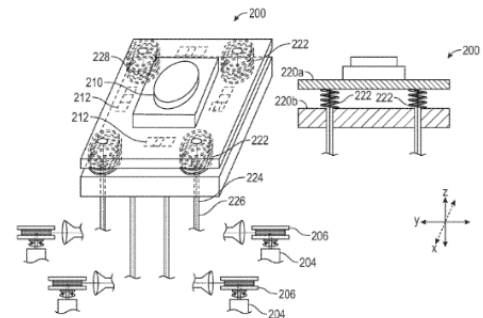
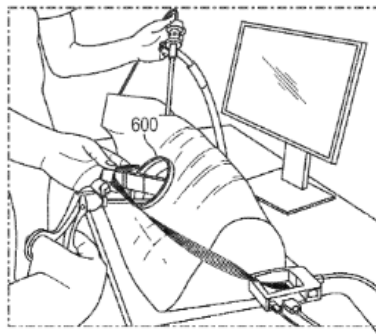
(217) 545-3824

Multifunctional Camera System for Video Assisted Thoracic Surgery

Video-assisted thoracic surgery (VATS) is a type of thoracic surgery performed with the assistance of a small video camera that is inserted into the patient's chest. VATS patients enjoy shorter recovery times, reduced post-operative pain and lower complication rates as compared to patients that undergo comparable non-VATS surgeries. However, VATS camera systems have a number of disadvantages stemming from the use of long, rigid camera rods to accommodate the camera. These disadvantages include requiring additional incisions, additional pain and nerve damage resulting from manipulating and inserting the rigid scope, difficulty in manipulating the camera around soft tissues, difficulty in visualizing the relevant structures due to the camera form factor, and requiring a member of the surgical team to manipulate the arm.

Invention

SIU researchers have developed a multifunctional camera system having a bendable arm and camera configured to be inserted into the thoracic cavity of a patient. The camera head has a high definition video camera, light source and a view adjustment mechanism for changing the viewing angle of the camera without changing the position of the camera head. A controller controls the view adjustment mechanism under the command of a surgeon.



Key Advantages

- Bendable arm is adjustable to a set, predetermined position
- HD video camera and light source located at end of the bendable arm
- Allows user to change the viewing angle of the camera without requiring user to change the position of the camera head

Status

U.S. patent application #16/376,551 was filed on April 5, 2019. The technology is available for license.

Other opportunities related to this technology, included but not limited to sponsored and/or collaborative research, may be available. Please reach out to the designated contact identified at left for more information.