Researchers at the University of South Florida have developed a laparoscopic instrument that can be placed in the abdomen without creating an incision. It addresses many of the issues associated with current laparoscopic procedures and will ultimately decrease surgical operative time and increase surgical efficiency.

Laparoscopic surgery has become the standard for performing numerous surgical procedures across various specialties. Placement of laparoscopic instruments during surgery requires the creation of multiple skin incisions with a scalpel, and then placement of multiple laparoscopic ports. Typically, these ports range from 5 to 12mm in diameter. They are notorious for leaving abdominal scars and contributing to post-operative pain. More recently, Laparo-Endoscopic Single Site (LESS) surgery has been introduced as a means to perform minimally invasive surgery without noticeable abdominal incisions and to improve post-operative pain. However, this type of surgery is performed entirely through a single incision which introduces many challenges associated with the manipulation of operative instruments. These include inefficient surgical movements and loss of triangulation.

Our inventors have developed a laparoscopic instrument that can be placed into the abdomen without the creation of a skin incision. The shaft of the laparoscopic instrument is 1.6mm in diameter with a beveled end resembling an intravenous needle. The beveled end is placed into the abdomen similar to the placement of a needle. Multiple types of operative instruments can be attached to the beveled end via a docking device. At the end of the surgical procedure, the operative instruments are undocked and the shaft removed.

This novel laparoscopic device and procedure will allow surgeons to place multiple instruments, in any location, during the laparoscopic surgery, thus preserving triangulation and efficiency of the surgery without creating abdominal scars.

ADVANTAGES:
- Incision-less
- No abdominal scars
- Easy and efficient manipulation of operative instruments
- Decreased surgical time

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