Surgical Suturing Device

The Surgical Suturing Device consists of a needle which has a circular arc shape (about 240 degrees) that is moved in a circular path in a guiding frame by friction between the needle and a timing belt. The timing belt, in turn, is moved around by a pulley and a pair of bevel gears which are actuated manually or by a small electric motor. The movement can be provided by continuous motion of one finger, and the surgeon has total control of the needle in terms of both position and direction in which the needle moves. Automation of suturing tasks for laparoscopic surgery is considered the “holy grail” of laparoscopy. This invention will significantly reduce operating times for surgeons and, in turn, dramatically reduce the total cost of this important form of surgery for hospitals.

Applications

Automation of suturing tasks for endoscopic and laparoscopic surgery. As suturing is one of the most time-consuming and exhausting tasks of surgery, this device will significantly reduce operating times and costs for minimally invasive surgery, as well as reducing the potential for accidental tissue damage.

Competitive Advantages

- A circular procedure for suturing, which is more natural.
- Improvements in the surgeon/instrument interface in using endosccopic instruments, such as enhancement of motion and force capabilities.

Development Stage

A working prototype has been developed and tested.

Intellectual Property Status

U.S. patent No. 5,766,186 issued 16 June 1998.

Partnering Opportunity

Available for exclusive or non-exclusive licensing.

Contact

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