

HYBRID DEVICE FOR ADMINISTRATION AND ASPIRATION OF FLUIDS BY ENDOSCOPIC ENDONASAL SURGERY

Description:

Endoscopic endonasal surgery is a type of minimally invasive surgery used in the field of otorhinolaryngology or neurosurgery. This surgical methodology uses the nostrils as a natural access through which to perform the intervention. The biggest drawback in this type of surgery is the small size of the cavities in which it is operated. This makes it difficult for surgeons to work in aspects such as the forced visualization of the surgical field through an endoscope, losing the perception of depth and width of field. They also require high precision and control of the movement of said instruments, which is why the state of the art proposes the handling of instruments for endonasal surgery through the teleoperation of surgical robots. The present invention features a hybrid drug delivery and aspiration device for endoscopic endonasal surgery. It is a surgical tool designed to be manipulated by both a human and robotic assistant. The tool allows exchange of the shaft to adapt to any type of laparoscopic intervention.

Keywords:

[Pharmacology](#), [Cirugía Endonasal](#), [Drug Manager](#), [Aspirator](#), [Surgical Robot](#)

Sectors:

[ICT](#), [Electronics](#), [Health](#), [Engineering](#)

Areas:

[Electronics](#), [Health Sciences](#), [Therapeutics](#), [Instrumentation](#), [Robotics](#), [Technological Improvements](#)



Advantages:

At present, there are no endonasal endoscopic surgical tools capable of performing both aspiration and fluid delivery tasks. In turn, this tool has the advantage of being able to be manipulated by a robotic arm, which allows these tasks to be automated. It also has the advantage of being able to be used with multiple sizes and shapes of shanks, thus adapting to almost any type of laparoscopic intervention.

Uses and Applications:

The use of this invention is focused on operating rooms. Among the possible types of laparoscopic surgery, its main area of application is endonasal endoscopic surgery, which is performed through the nostrils with long-shank instruments. However, it could be applied to other areas of laparoscopic surgery such as abdominal, thoracic...

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