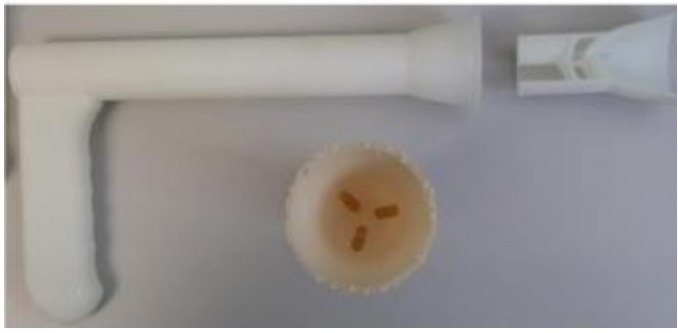
UTERINE MANIPULATOR FOR MINIMALLY INVASIVE SURGERY

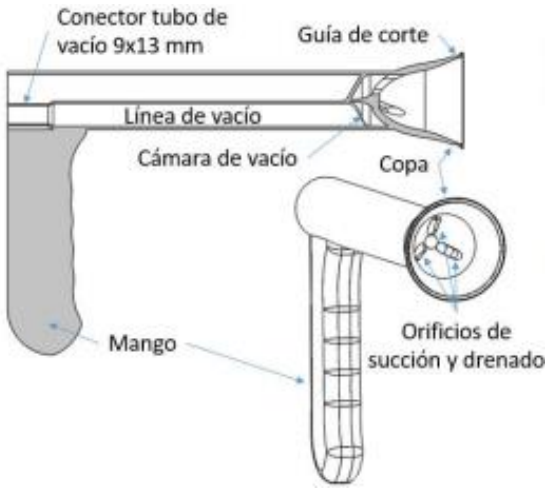


Description

Several studies have shown the need to design a uterine manipulator that improves the surgical technique with laparoscopic approach and, in particular, does not injure the initial uterine cervix tumour.

Researchers from the Biomechanics and Ergonomics Research Group of the Jaume I University and the Abdomino-Pelvic Oncological Surgery Reference Unit (UR - COAP) of the General University Hospital of Castellón, belonging to the Foundation for the Promotion of Health and Biomedical Research of the Valencian Community, FISABIO, have developed an atraumatic uterine manipulator for minimally invasive gynaecological surgery.

The aim of the researchers is that the patented surgical instrument can be applied for laparoscopic abdominal hysterectomy, with a vacuum clamping system to the cervix by means of a system of interchangeable cups of different sizes, so as not to injure the initial tumour and minimise the damage caused in the manipulation of the uterus and, therefore, the migration of possible carcinogenic agents.



Parts of the manipulator and example of 3D printed prototype

Technical advantages

Technical advantages:

- Injury to the initial tumour is avoided.
- Isolation of the tumour from the abdominal cavity.
- The damage caused to the manipulation of the uterus is minimised and, therefore, the possible migration of carcinogenic agents is minimised.
- Facilitates minimally invasive surgery, especially robotic surgery.

Business benefits:

- Reduced length of hospital stay after surgery.

State of development and Industrial Property rights

State of development:

- The technology is validated at pilot scale in laboratory environment.

Industrial Property rights:

- Invention protected by Spanish patent application with reference number P202330248 and filing date 24 March 2023.

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