ANATOMICAL SIMULATOR OF PROSTATE MORCELLATION AND ENUCLEATION WITH HOLMIUM LASER

SESPA researchers have developed a device to train health professionals in the use of the HOLEP surgical technique (Holmium laser enucleation of the prostate) for the treatment of obstructive urinary symptoms in benign prostatic hyperplasia.

Interested in looking for companies to license the Utility Model

Description

Benign Prostatic Hyperplasia (BPH) is the most common prostate disease in the male population and can cause a number of bothersome symptoms such as blockage of urine flow from the bladder.

To treat this disease, there is a surgical technique called holmium laser enucleation of the prostate (HOLEP). It is currently accepted and recognised by the main international urological guidelines as an effective and safe technique.

The problem is that HOLEP is not frequently performed in the urological world because it is a complex technique to perform, which means that it is not performed safely, especially in the early stages of the surgeon's learning curve. Furthermore, although many centres have a holmium laser device, they usually do not perform the HOLEP technique because they do not have a urologist trained in it.

Therefore, a simulator device is presented as a solution to train the critical steps of HOLEP surgery on the same inanimate and anatomical model.

This simulator device developed is key to improving the training and skills of urologists in the HOLEP technique, as it will allow users to train the correct positioning of working instruments, correct hand movements and tactile response as well as the simulated resistance of artificial structures to that of human tissues, making it vital to train professionals as any error during surgery can lead to perforations or injuries that can lead to temporary or permanent urinary incontinence.

Main applications and benefits

The manikin allows the training of healthcare professionals in the Urology Department in the use of the HOLEP technique for the surgical treatment of BPH.

The advantages of this technology include the following:

- ✓ A useful and effective tool to improve the professional skills of urologists in the field of prostate surgery.

The device would have a significant impact on the training of urological surgeons by facilitating the learning of the HOLEP technique. In this way, surgeons who receive this standardised and accredited training will be able to perform this type of surgery with less difficulty than if they were to do it directly on a patient, which will lead to better treatment of BPH in the population.

- ✓ Increased value for companies purchasing this product: The companies that market the Holmium laser do not offer any standardised and accredited training programme for the HOLEP technique, which is a problem for customers who do not know how to use it.

Therefore, companies that purchase and market the simulator device together with the Holmium laser, thus offering a training package that provides a technical accreditation prior to its use in humans, will achieve a larger scale distribution reaching more hospital services that intend to implement this technique.

Protection

Utility model application

Priority date: 24/07/2024

In time to apply for extension of protection to other countries

Main inventors

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