

## PRESS RELEASE

### Robotic-assisted surgery for genital prolapse shows promise

Study: University Hospital Bonn robotically suspends the cervix with a body's own tendon

**Bonn, November 13 – If a woman's pelvic floor is severely weakened, the uterus and vagina may descend. As a result, affected women suffer from prolapse symptoms and possibly bladder, bowel and sexual dysfunction. If conservative treatment options do not help, the uterus does not necessarily have to be removed, but can be surgically suspended using a synthetic mesh. Since 2022, single hospitals in Germany have also been performing this procedure using a body's own tendon. The urogynaecology team of the Department of Gynaecology and Gynaecological Oncology at the University Hospital Bonn (UKB) has developed this surgical procedure even further: It is the first surgery in the world using the robotic-assisted minimal invasive method - with success, as the analysis of the first ten surgeries shows. The study has now been published in the "International Urogynecology Journal".**

The pelvic floor supports our organs in the abdomen and holds them firmly in place. In women, however, the pelvic floor can be weakened by pregnancy and vaginal births, for example, or due to heredity, age or weight. "Almost every second woman suffers from a pelvic floor disorder in the course of her life," explains Prof. Dr. Dominique Könsgen-Mustea, Head of the Division of Urogynecology at the Department of Gynaecology and Gynaecological Oncology at the UKB. One possible consequence of such disorder is that the uterus descends. A slight prolapse hardly causes any discomfort, but if it is more severe, it can lead to bladder, bowel or sexual dysfunction, pain in the lower abdomen and back and bulge symptoms. Sometimes the uterus descends so far that, the vagina bulges outwards or the uterus prolapses through the vagina - which puts a lot of physical and psychological strain on affected women. Professional pelvic floor training, medication and pessaries, which are positioned in the vagina to support the organs, can help in mild forms of uterine prolapse.

#### Robotic-assisted procedure with the body's own tendon

If the symptoms are more severe, surgery can be recommended. However, the uterus is not necessarily removed: It can be surgically suspended back into its anatomical correct position. Such a surgical procedure is usually performed using a synthetic mesh. Recently, it has also been possible to use a body's own tendon from the thigh - an autologous tissue that has long been used by trauma surgeons as an established procedure for cruciate ligament

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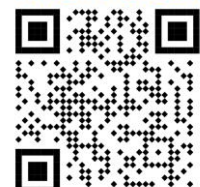
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reconstruction: Using a small incision in the back of the knee, part of the posterior thigh tendon is removed and then fixed to the uterus or cervix. "The advantage of this method is that no foreign material enters the body," says Prof. Könsgen-Mustea, who established the technique at the UKB. "And removing the tendon also has no negative effects on the leg: it remains pain-free and, in the long term, unrestricted in terms of mobility."

Prof. Könsgen-Mustea's team has further developed this surgical technique: In June 2022, it performed the world's first robotic-assisted cervical suspension using a body's own tendon. Since then, the UKB team has been treating women suffering from uterine prolapse with the new procedure. "The first ten robotic-assisted cervical suspension procedures in the period from June 2022 to February 2023 have now been analysed for their safety, feasibility and effectiveness," explains Dr. Carolin Schröder, a gynaecologic specialist from the Department of Gynaecology and Gynaecological Oncology at the UKB. The gynaecological team examined the objective and subjective patients outcome three and twelve months after the procedure.

### **Promising surgical technique**

The results showed that the ten patients who underwent robotic-assisted surgery had a positive clinical outcome after twelve months as a result of the uterine suspension. "After three and twelve months no patient suffered from a prolapse," reports Dr. Schröder. In addition, there were no intraoperative or postoperative complications. "With the DaVinci-robot, we have a highly magnified 3D-image and can therefore perform the surgery very precisely. This makes the procedure tissue sparing and bleedingless, and we can easily reach all deep compartments of the pelvic floor," says Prof. Könsgen-Mustea, explaining the advantages. The patients also reported about the high satisfaction with the surgical outcome.

"This pilot study shows excellent clinical outcomes, with an improved quality of life for the patients," summarizes the Head of Urogynecology at the UKB. The robotic-assisted cervical suspension is therefore considered a promising surgical technique. Meanwhile, an international network led by the UKB has been established, in order to analyse consecutively the outcome of patients treated by this procedure.

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**Image material:**



**Caption:** Robotic-assisted suspension of the cervix: (from left) Dr. Carolin Schröder, Prof. Dr. Dominique Könsgen-Mustea and Prof. Dr. Dr. Alexander Mustea, Director of the Department of Gynaecology and Gynaecological Oncology, successfully perform the robotic-assisted surgery.

**Picture credits:** University Hospital Bonn / Alessandro Winkler

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**About Bonn University Hospital:** The UKB treats around 500,000 patients per year, employs around 9,500 staff and has a balance sheet total of 1.8 billion euros. In addition to the 3,500 medical and dental students, 550 people are trained in numerous healthcare professions each year. The UKB is ranked first among university hospitals (UK) in NRW in the Focus Clinic List, had over 100 million third-party funds in research in 2023 and has the second highest case mix index (case severity) in Germany. The F.A.Z. Institute awarded the UKB first place among university hospitals in the category "Germany's training champions 2024".