Press release

Better quality of life despite ureteral stents: New technology offers potential to reduce pain, infections, and emergency treatments for more than 5,500 patients daily

Baiersdorf, Germany, March 17, 2026 - UroNova GmbH today announced the results from its CLEANUS clinical study. The data impressively demonstrate that the innovative coating for ureteral stents effectively combats side effects previously considered unavoidable. The newly developed, non-pharmacological coating for ureteral stents virtually eliminates severe encrustation while significantly reducing patient pain and infection rates.

- **Growing clinical need:** The increasing number of patients with kidney stones and with hydronephrosis requiring intervention is leading to a growing use of ureteral stents, which have so far often been associated with complications.
- **Innovative coating technology:** A newly developed coating significantly reduces crystalline deposits (encrustations) and infections and addresses key limitations of conventional ureteral stents.
- **Improved quality of life for patients:** The reduction in stent-related side effects leads to a measurable improvement in quality of life.

A significant advance in the treatment of patients with ureteral stents was announced today by UroNova GmbH in Baiersdorf, Germany. The newly developed, bacteria-repellent and encrustation-inhibiting coating for ureteral stents shows significant advantages over conventional, uncoated models in a clinical study.

Ureteral stents, which are inserted between the kidney and the bladder, are indispensable in various medical indications such as kidney stones, kidney transplants, or ureteral strictures in order to ensure urine flow and prevent life-threatening urinary retention. However, during the insertion period of up to 12 months, a biofilm layer of bacteria can form on the stent, often leading to infections. Another problem are encrustations, which are crystalline deposits that can block urine flow and often cause painful irritation and inflammation. These complications necessitate replacement of the ureteral stent, usually in emergency situations.

Results of the clinical study

The CLEANUS study (CLEANUS stands for clean ureteral stent) involving 100 patients investigated the effectiveness of the new coating in clinical use. Patients were randomly assigned to receive either a coated (study group) or uncoated ureteral stent (control group) of the same model. Neither the clinical staff nor the patients were informed about the type of ureteral stent (double-blind study). The results show statistically significant advantages:

- **Severe encrustations:** reduction from 13% to 0% in the study group.
- **Antibiotic treatments:** reduction by 78%.
- **Pain reduction:** 66% less pain with 49% less pain medication intake.

- **Better quality of life:** 75% fewer days in bed, 90% less impairment of general condition.
- **Reduced infection rates:** 86% fewer patients with elevated leukocyte counts (indicator of infection and inflammation).

The clinical results show that the coated ureteral stent significantly improves patients' quality of life while reducing the need for emergency treatment and medication.

Long-term stability and prevention of resistance

The coating technology developed and patented by UroNova is particularly innovative because it does not require the use of pharmacologically active substances, thus avoiding side effects. In contrast to antimicrobial coatings, which become ineffective after a short time and promote the development of resistance, the new coating relies on a long-term stable, negative surface charge. This ensures electrostatic repulsion of bacteria, thus preventing their accumulation and the formation of biofilms and encrustations.

The new coating process is not only suitable for ureteral stents, but can also be applied to other medical implants such as catheters and stents. This means that the technology has the potential to improve patient care not only in urology, but also in other disciplines.

Global application and reduction of treatment costs

According to estimates, around 2 million ureteral stents are currently used worldwide each year, and this number is rising. Reasons for this include the increasing incidence of stone disease, an aging population, and the growing establishment of minimally invasive treatment methods. The complications associated with ureteral stents therefore represent a growing burden for patients and the healthcare system. The use of the newly developed coated ureteral stent can significantly reduce these problems in terms of patient-centered care. At the same time, a reduction in the costs of emergency treatment and medications such as antibiotics and painkillers is to be expected.

“The results of the study are highly relevant for urological practice. This technology not only appears to significantly reduce complications and pain for our patients, but also to optimize resources for emergency treatments. This is a real step forward for patient-centered care” says Professor Sascha Pahernik, Chief Physician of Urology at Klinikum Nuremberg and primary investigator of the now completed clinical study.

Disclaimer: Product commercially not available, future availability cannot be ensured.

Background Information: The Global Market for Ureteral Stents

Ureteral stenting is among the most common urological procedures performed worldwide. Despite its critical role in preserving kidney function, conventional stent therapy is associated with significant clinical challenges.

Metric	Value (Estim. 2026)	Clinical Significance for Patient Care
New Procedures Worldwide	**approx. 5,500 per day**	More than 2 million procedures annually highlight the urgent need for safer solutions.
Pain Burden	**approx. 80% of patients**	The vast majority of stent carriers suffer from stent-associated pain and cramping.
Infection Risk	**up to 25%**	Urinary tract infections (UTIs) are a frequent consequence of bacterial colonization on the stent surface.
Market Growth (CAGR)	**6.1% to 6.9%**	Rising incidences of kidney stones and urological tumors are driving global demand.
Economic Impact	**High follow-up costs**	Unscheduled emergency treatments and premature stent replacements place a heavy burden on healthcare systems.

About UroNova GmbH

UroNova GmbH is an innovative medical technology company based in Baiersdorf in Bavaria, Germany, specializing in advanced coating technologies for medical implants and urological products such as catheters and stents. The company's patented molecular coatings reduce biofilm formation and encrustation without the use of antibiotics, silver, or other biocides, helping to prevent infections, complications, and costly emergency interventions.

With more than 25 years of experience in research, development, regulatory affairs, and manufacturing, UroNova supports international MedTech companies in successfully bringing safe, high-performance, next-generation medical devices to market. In close collaboration with leading medical research institutions, UroNova is committed to improving clinical outcomes through innovative technologies and enable modern, patient-centered care.

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