

Docket #: S21-133

Methods and systems for treatment of renal colic due to the presence of ureteral calculi in the human urinary system

Stanford scientists have developed a safe, minimally invasive catheter system that delivers acoustic energy to urethral stones and disintegrates them to treat renal colic.

Stones in the urinary system are painful and, in some cases, cause systemic infections. Additionally, renal stones can travel down the ureter towards the bladder and obstruct the path for urine. Renal obstruction can result in renal colic, ureteral stricture, and tissue damage. Renal stones are a common reason for hospital visits. Patients are often not treated immediately since doctors advise that they wait three to four weeks to allow the stone to pass naturally. During this time, patients rely on over-the-counter or opioid pain medication. If stones don't pass naturally or patients develop severe pain, infection, or hydronephrosis, they undergo relatively invasive procedures that cause ureteral trauma, requiring further medical procedures.

Stanford scientists developed the current technology to solve the drawbacks of the current gold standards of treatment. Their invention provides safe, minimally invasive, and effective catheter systems that utilize acoustic energy to dust renal stones without causing further trauma to the renal system.

Stage of Development

Proof of concept

Applications

- Removal of kidney stones in renal colic patients.

Advantages

- Minimally invasive intracorporeal approach
- Can be used outside of the hospital
- Does not require anesthesia
- Efficiently removes kidney stones. So far, treatment with the device leaves the patient for 30 days.
- Equivalent to or greater than the current gold standard.
- Prevents damage to the inner lining of the ureter and removes the need for post-procedural ureteral stent placement.

Publications

- No publication planned

Patents

- Published Application: [WO2022212416](#)

Innovators

- Victoria Wu
- Nishant Doctor
- Keith Hansen
- Alex Sackeim
- George Korir

Licensing Contact

Seth Rodgers

Licensing Manager, Life Sciences

[Email](#)