

Ureteral stent

A ureteral stent is a soft, plastic tube that is used to prevent blockage of the kidney from, for example, kidney stones, scarring, cancer and swelling after surgery. It may also be used to allow proper healing after an injury to the urinary tract or after urinary tract surgery. A stent has a number of small holes that allow urine to drain from the kidney to the bladder, past any blockage or injury. Placement of a ureteral stent is a minimally-invasive procedure that does not require any incisions. A stent is only temporary and needs to be removed or changed after a period of time.

Preparation for surgery

Medications to avoid prior to surgery

You do **NOT** need to stop any of your medications that affect bleeding including ASA (Aspirin/Entrophen), warfarin (Coumadin), clopidogrel (Plavix), dipyridamole (Aggrenox), ticagrelor (Brilinta), ibuprofen (Advil/Motrin) and other non-steroidal anti-inflammatories (NSAIDs), dabigatran (Pradaxa), rivaroxaban (Xarelto) and apixaban (Eliquis). If you have any questions about your medications prior to surgery, please contact your surgeon.

Diet prior to surgery

You may eat your normal diet up until midnight the night before your surgery. Do not eat any solid food, milk or cream after midnight the night before your surgery. You may drink up to 400 mL (1.5 cups) of water up to 3 hours before surgery. You may not drink any other fluids. You may have sips of water with your morning medications.

The surgery

In the operating room

Placement of a ureteral stent is performed under a general anesthetic, meaning you will be asleep for the operation, or under sedation, meaning you will be very drowsy for the operation. The operation is performed using small telescopes through the urethra (the tube that allows flow of urine from the bladder). X-rays are used to help place the stent in the proper position. The operation typically takes 10-20 minutes.

Potential risks and complications

Although the operation is very safe, a number of potential risks exist. These include the following:

- Bleeding
- Infection
- Inability to properly place the stent, requiring additional procedures in the future
- Injury to the ureter (the tube that drains urine from the kidney to the bladder)

- Scarring of the ureter, requiring additional treatments in the future to treat the scar
- Stent discomfort
- General risks associated with all types of surgery including heart attack, stroke and blood clots in the legs or lungs

What to expect after surgery

During your stay in hospital

- **Length of hospitalization:** You can return home the day of your surgery.
- **Pain:** You may experience some mild discomfort after surgery in the kidney and/or in the bladder. This can be treated with pain medications by mouth.
- **Diet:** You will be able to resume your normal diet after your surgery.
- **Ambulation:** You are encouraged to walk around beginning in the evening after your surgery.

After leaving the hospital

- **Pain:** You may experience some discomfort in kidney and/or bladder after your discharge. This can usually be controlled with acetaminophen (Tylenol). You will be given a prescription for a stronger pain medication in case it is needed.
- **Showering:** You may shower or take a bath the day of your surgery.
- **Activity:** Walking is strongly encouraged after your surgery. Prolonged lying in bed should be avoided to prevent the development of blood clots in your legs. You do NOT have to avoid heavy lifting, sports, vigorous activity or sexual activity; however, these activities may cause some discomfort.
- **Diet:** You may resume your normal diet once you have returned home from hospital.
- **Work:** Most people can return to work 2-3 days after surgery if they perform desk work or jobs with minimal physical activity. If your work requires heavy lifting or strenuous activity, you may have mild discomfort with work while the stent is inside your body.
- **Antibiotics:** You may be given a prescription for antibiotics to take after your surgery to prevent infection.
- **Stent symptoms:** Some patients do not feel the stent when it is inside their body though most are aware of some changes. Some patients experience bladder discomfort, pain with urination, increased frequency and urgency of urination, a small amount of blood in the urine and discomfort in the kidney. You may be prescribed a medication to help manage these symptoms called tamsulosin (Flomax), silodosin (Rapaflo), oxybutynin (Ditropan), tolterodine (Detrol) or solifenacin (Vesicare).
- **Stent removal:** Your stent may have been left attached to a string, which will be taped or secured to the outside of your body. Your surgeon will remove the stent by pulling on this string 5-10 days after your surgery. You may be asked to remove your stent on your own by pulling on this string. If your stent does not have a string, it must be removed in an outpatient clinic by cystoscopy (insertion of a small telescope into

the bladder.) This will typically be done 2-4 weeks after your surgery. In some cases, if your stent was placed to relieve a blockage from cancer, your stent cannot be removed without the blockage returning and your stent will need to be changed every few months.

- **Follow-up appointment:** You will need an appointment to visit your surgeon to have your stent removed. Please call your surgeon to schedule this appointment if it has not been done for you before your discharge from hospital.

When to seek medical care

Contact your surgeon if you experience any of the following after surgery:

- Pain that is not controlled by your prescribed medications
- Unexplained fever over 38.5 degrees Celsius/101 degrees Fahrenheit
- Continuous leakage of urine (urinary incontinence)
- You have not received instructions on when your stent is to be removed or changed and it has been 1 week since your surgery

Proceed immediately to the emergency room if you experience any of the following after surgery:

- Difficulty breathing or shortness of breath
- You have a serious concern and are unable to contact your surgeon