Wrightington, Wigan and Leigh Teaching Hospitals
NHS Foundation Trust

Undergoing an Antegrade Ureteric Stent Insertion

Version number: **1**
Last modified date: **12th November 2026**

Undergoing an Antegrade Ureteric Stent Insertion

Patient Information

Interventional Radiology Suite - Royal Albert Edward Infirmary

- Author ID: CO
- Leaflet Ref: X-Ray 013
- Version: 1
- Leaflet title: Undergoing an Antegrade Ureteric Stent insertion
- Date Produced: January 2026
- Expiry Date: January 2028

Introduction

This leaflet tells you about the procedure known as an antegrade ureteric (or ureteral) stent insertion. It explains what is involved and what the possible risks are. It is not meant to be a substitute for an informed discussion between you and your doctor but can act as a starting point for such a discussion.

This procedure will be performed in the X-ray Department.

The X-ray Department is also known as the Radiology or Imaging Department. It is the facility in the hospital where radiological examinations of patients are carried out. These examinations use a range of imaging equipment, such as a Computed Tomography (CT) scanner, an Ultrasound machine, or a Magnetic Resonance (MR) Imaging scanner.

Radiologists are doctors specially trained to interpret images; they can also carry out more complex examinations. Radiologists are supported by Radiographers, who are trained to take X-rays and perform other imaging procedures, and by Radiology Nurses, who are trained to care for patients having radiological procedures.

What is an Antegrade Ureteric Stent insertion?

Urine from a normal kidney drains through a narrow muscular tube (the ureter) into the bladder. When, for example, a stone blocks the ureter, the kidney can rapidly become affected, especially if there is infection present as well.

While an operation may be necessary, it is also possible to relieve the blockage initially, by inserting a nephrostomy (PCN) tube; then at a later date inserting a plastic tube called a stent, through the skin and into the bladder through the ureter.

An Antegrade stent insertion is when the stent is put in through the kidney and down the ureter in the same direction that the urine would normally flow, as opposed to placing a stent up the ureter through the bladder, which is a retrograde procedure (that is, usually done in theatre).

This stent allows urine to drain in the normal fashion from the kidney into the bladder; this means that there is no need for a PCN tube to remain in place.

Why do I need an Antegrade Ureteric Stent insertion?

Imaging tests have shown that your ureter has become blocked.

You will probably have already had a PCN tube placed to relieve the pressure on the kidney caused by the blockage.

While a PCN tube can be a permanent solution for some patients, a ureteric stent allows an internal solution without the need for a tube and drainage bag on the outside.

As mentioned earlier, ureteric stents can be placed either by an antegrade or a retrograde technique; in your case the decision has been made to place the stent via an antegrade approach.

Who has made the decision?

Your Urology Consultant and the Radiologist will have discussed your situation and feel that this is the best treatment option. However, you will also have the opportunity for your

opinion to be considered and if, after discussion with your doctors, you do not want the procedure conducted, you can decide against it.

Where will the procedure take place?

It will take place in the X-ray Department, in a room that is adapted for these specialist procedures. If you had your PCN tube insertion at RAEI, you will have already attended this room.

Who will be performing the Antegrade Ureteric Stent insertion?

An Interventional Radiologist will do the procedure. These Radiologists have special expertise in using specialist equipment and performing these types of procedure. The Radiologist will use the images to conduct the procedure. Again, if you had your PCN tube inserted at RAEI, it is probable that you have already met the Radiologist.

How can I prepare for the procedure?

You will have been advised of the date and time of the procedure, and also the location (usually the Surgical Assessment Lounge) of where to report to.

You will be a patient in the hospital for at least one night, so please bring an overnight bag and all your medications with you to the hospital.

You will be asked not to eat for four hours beforehand, but you are able to take sips of water.

You will be advised to continue taking your normal medication even on the morning of your admission, that is unless they belong to one of the groups of medication listed below:

1. Antiplatelets (Aspirin / Clopidogrel).
2. Anticoagulants (Warfarin / Apixaban / Rivaroxaban / Edoxaban).
3. Diabetic medication (Insulin injections or Diabetic tablets such as Metformin).

You will be given advice about these medications when your appointment is arranged, so it is important to let staff know if you are taking any of them when they ask. If you are unsure, ask to speak to the Radiology Nurses.

Once you arrive on the Surgical Assessment Lounge:

- You will be asked to put on a hospital gown.
- You will be given a single dose of antibiotics; this will be administered through a cannula (a thin plastic tube that is inserted into your vein), or in tablet form, so as to protect you from infection.

If you have any allergies, you MUST let the doctor / nurse know.

If you have previously reacted to intravenous contrast medium (dye used for kidney X-rays and CT scans), you MUST also tell the doctor / nurse about this.

What happens during the procedure?

You will be taken to the X-ray Department and into the Interventional Radiology Suite. You will be asked various questions by a team member, then the Radiologist will discuss the procedure with you in full; they will explain the associated risks and complications.

This is an opportunity for you to ask any questions you may have. Please ensure you are satisfied with everything that has been explained to you about the procedure before you sign the consent form.

Similarly to your PCN tube insertion, you will be asked to get onto the X-ray table and lie on your stomach. However, if you are unable to lie on your stomach, the procedure can be performed with you on your side, but this is not ideal.

A Radiology Nurse will place stickers on your back and connect you to a heart monitor. Your blood pressure will be checked every ten minutes, and your pulse and oxygen levels will be continuously monitored throughout the procedure.

An antegrade ureteric stent insertion is performed under sterile conditions, and the Interventional Radiologist will wear sterile gowns and gloves to carry out the procedure.

The bag covering your PCN tube will be removed and the skin near the PCN tube will be swabbed with antiseptic; you will then be covered with sterile drapes.

The PCN tube will be removed over a guide wire to allow the introduction of a special plastic tube (catheter). The blockage will be identified using X-ray guidance, and a guide wire will be used to cross the blockage into the bladder.

Once the guide wire has been placed through the blockage and into the bladder, the plastic stent can be placed over the wire. Urine should now be able to pass down the stent and into the bladder.

As a safety measure, a new PCN tube may be left in the kidney. This will be removed if the stent is working as intended.

Will it hurt?

During the procedure, you may be aware of some pushing as the ureteric stent is manoeuvred into the correct position.

You may also feel some discomfort when the wire enters the bladder. Although this is uncomfortable for a short while, it means that the procedure is likely to be successful.

There will be a member of staff standing next to you and looking after you.

You will be awake during the procedure and will be able to tell the staff if you feel any pain, or if you become uncomfortable in any other way.

How long will the procedure take?

Every patient’s situation is different, and it is not always easy to predict how complex or how straightforward the procedure will be. Generally, the procedure will be over in about an hour, but you may be in the X-ray department for longer.

What happens afterwards?

You will be taken back to the ward. Nursing staff will carry out routine observations, including pulse and blood pressure, and will also check the treatment site.

You will generally stay in bed for a few hours until you have recovered and then will be able to mobilise.

You will be an inpatient at least overnight, sometimes for a few days.

Once you are at home, it is important to ensure you drink at least 3 litres of fluid (preferably water, but any non-alcoholic fluid is acceptable) on a daily basis; this will help to stop the urine becoming too concentrated and blocking the tube.

Are there any risks or complications of the procedure?

Antegrade ureteric stent insertion is a very safe procedure, but as with any medical procedure, there are some risks and complications that can arise. The main risk is probably the failure to place the stent. This is more common if the ureter is completely blocked.

If this happens, a PCN tube will be reinserted, and the Radiologist may arrange a second visit. Antegrade stent insertion may be successful on a second visit, but occasionally, surgery is necessary for a combined approach to place the stent.

The insertion of the ureteric stent may be painful for a short while until your body gets used to the stent; any pain can be controlled with routine painkillers.

There may also be bleeding from the kidney. On very rare occasions, this may require surgery, or another Radiological procedure called an embolisation to stop the bleeding.

Despite these possible complications, the procedure is normally very safe and will almost certainly result in a great improvement in your medical condition.

How long will the ureteric stent need to stay in for?

Your Urology consultant will decide how long the stent needs to stay in place; this differs from patient to patient.

If the stent is still needed after 4 months, the Urology department will send you an appointment for you to attend hospital as a day case patient to have your stent changed.

Safety

X-rays are a type of radiation. We are all exposed to natural background radiation every day; this comes from the sun, the food we eat, and the ground. Being exposed to X-rays carries a small risk, but your consultant feels that this risk is outweighed by the benefits of having this procedure. We take all safeguards to minimise the amount of X?rays you receive.

Information for patients between the ages of 12 and 55

The risks of radiation are slightly higher for an unborn child, so you will be asked to confirm that you are not pregnant before the examination can proceed. This applies to all patients whether you are male or female.

If there is a chance you may be pregnant, please let a member of staff know at the earliest opportunity or contact the Interventional Radiology team on 01942 778713 (this is the direct phone number for Interventional Radiology where your procedure will be performed). Interventional Radiology is open Monday to Friday 8.30am to 5pm except Bank Holidays.

Finally

Some of your questions should have been answered by this leaflet but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure before you sign the consent form.

Acknowledgement

This leaflet has been adapted from the British Society of Interventional Radiology (BSIR) 2025.



Version number: **1**
Last modified date: **12th November 2026**

All rights reserved © 2026
WWL Teaching Hospitals NHS Foundation Trust