York and Scarborough Teaching Hospitals
NHS Foundation Trust

Antegrade Ureteric Stent

Information for patients, relatives and carers

ⓘ For more information, please contact:

The Vascular Imaging Unit

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The York Hospital, Wigginton Road, York, YO31 8HE

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About this leaflet

This leaflet tells you about the procedure known as an antegrade ureteric stent. It explains what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor but we hope you find the information useful.

If the antegrade ureteric stenting is being done as a pre-planned procedure, then you should have plenty of time to discuss the situation with your consultant. If you need the stent as an emergency, then there may be less time for discussion, but none the less you should have had sufficient explanation before you sign the consent form.

What is an antegrade ureteric stent and what are its benefits?

Urine normally drains from each kidney down a narrow muscular tube called the ureter to the bladder. The most common reason to perform an antegrade ureteric stent is that the ureter has become blocked (obstructed), for example by a stone, leading to back pressure on the kidney. Over time this can cause irreversible damage to the kidney, especially if there is infection present as well. While an operation may become necessary to provide a permanent solution, it is often possible to relieve the blockage by placing a flexible plastic tube, called a stent, into the ureter. One end of the stent is positioned in the kidney and the other end in the bladder, allowing urine to drain in the normal fashion.

The stent is introduced through the skin and via the kidney to the bladder under local anaesthetic.

Who has made the decision?

The doctors in charge of your case and the interventional radiologist, a specially trained doctor who will be doing the procedure and has expertise in using X-rays and scan pictures of the inside of the body, will have discussed the situation, and feel that this is the best treatment option. If however, after discussion with your doctors, you do not want the procedure carried out then you can decide against it.

Are there any alternatives?

The alternative to an antegrade ureteric stent is to introduce the stent from below (via the bladder back up into the kidney – called a retrograde ureteric stent) or to allow external drainage of urine from the kidney through a percutaneous nephrostomy catheter, (which you may already have in place, see later section “what happens during the antegrade ureteric stent procedure?”).

What happens before the antegrade ureteric stent?

- You will be admitted on to a ward for this procedure if you are not already an inpatient.

- To have the option of being given a sedative to relieve anxiety, you should not eat for four hours prior to the procedure but may be allowed to drink water until two hours before.

- You will be asked to change into a hospital gown.

- If you have any allergies or if you have previously reacted to intravenous contrast medium, the dye used for kidney X-rays and CT scanning, then **you must tell the doctor looking after you.**

- You will have the procedure explained to you and will be given the opportunity to ask questions. You will then be required to sign a consent form to confirm that you agree to the procedure and understand the information given to you. This form will be kept in your Patient Notes and you will also be offered a copy for your own records.

What happens during the antegrade ureteric stent?

It is quite likely that you have already had a percutaneous nephrostomy performed, (a fine plastic tube put into the kidney through the skin). In this case the first part of the procedure has already been done and you should be familiar with the situation.
(If you have not, you might like to read leaflet PI237 “Percutaneous Nephrostomy: Information for Patients”).

You will lie on the x-ray table, generally flat on your stomach, or turned on one side. You may have a cannula and drip put into a vein in your arm, so that we can give you a mild sedative, painkillers or antibiotics as required. You will also have monitoring devices attached to your chest and finger, and may receive oxygen through small tubes in your nose.

The radiologist will wear a theatre gown and operating gloves. Your skin will be cleaned with antiseptic, and then most of the rest of your body covered with a theatre towel.

The radiologist will use x-ray equipment or an ultrasound scanner to decide on the most suitable point for inserting the stent into the kidney, usually from the back, just below your ribs. Then you will be given local anaesthetic. Some discomfort may be felt in the skin and deeper tissues as this is injected. A needle will then be inserted into the kidney, then replaced with a flexible plastic tube and the stent advanced down from the kidney to the bladder.

As a temporary measure it may be necessary to leave an external drainage tube, called a nephrostomy, in the kidney to let urine drain. This nephrostomy catheter will be attached to a urine collection bag.

Will it hurt?

Some people find lying on their front or side awkward, and finding a comfortable position can be more of a problem than the actual stent insertion procedure.

There will be a nurse on hand to look after you. If the procedure does become painful for you, then they will be able to give you painkillers or sedation through the cannula in your arm. When the stent first enters the bladder it can cause a sensation similar to an urgent need to pass urine. Generally, placing the stent in the ureter only takes a short time and once over does not hurt at all though a few people remain aware that the stent is in place.

What happens after the antegrade ureteric stent?

You will be taken back to your ward on a trolley. Nurses on the ward will carry out routine observations such as pulse and blood pressure. You will need to stay in bed for a few hours until you have recovered from the procedure.

If you have an external nephrostomy drainage catheter this may only need to stay in for a short time and removal should be straightforward. The stent itself may stay in position for a much longer period of time, depending on the nature of the blockage and whether any operation is being considered.

Are there any risks or complications?

Antegrade ureteric stenting is a very safe procedure, but as with all medical treatment complications can arise.

- If the radiologist is unable to position the stent satisfactorily in the ureter, then an alternative drainage method may be needed. This could involve surgery.
  Less than 4 in 100 cases.
- Sometimes urine may leak from the kidney into the surrounding tissues. If this occurs and forms a large urine collection then it may require draining.
  Less than 2 in 100 cases.
- Slight bleeding from the kidney is usual following ureteric stenting, which will discolour the urine. On rare occasions this becomes severe and may require a further radiological procedure or surgical operation to stop it.
  2 in 100 cases.
- If the kidney or the space around it is infected the stent will help antibiotics to work but rarely an additional drain will be needed for an abscess.
  Less than 2 in 100 cases.

- X-rays are used to take the pictures so the procedure also carries small risks associated with ionising radiation. If you are female and you might be pregnant, it is essential that you inform a member of staff beforehand. The amount of radiation varies depending on the complexity of the procedure but is typically similar to what you would receive from the environment, as something called background radiation, in one to twelve months.

All of the above risks listed have been considered by the radiologist and your doctors who feel that the risks are outweighed by the potential benefits to you of having the procedure. Please ask if you have concerns or would like to discuss further.

Finally

Some of your questions should have been answered by this leaflet, but remember this is not designed to replace discussion with the doctors looking after you. Please make sure you are satisfied with the information you have received and that all your questions have been answered before you sign the consent form.

Tell us what you think of this leaflet

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact: Vascular Imaging Unit, The York Hospital, Wigginton Road, York, YO31 8HE or telephone 01904 726065.

Teaching, training and research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

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PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email pals@york.nhs.uk.

An answer phone is available out of hours.

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