

## R14 Inserting an Antegrade Ureteric Stent

Expires end of February 2023

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If you would like this information in different languages or formats (e.g. audio, Braille or large print), please ask a member of the healthcare team.

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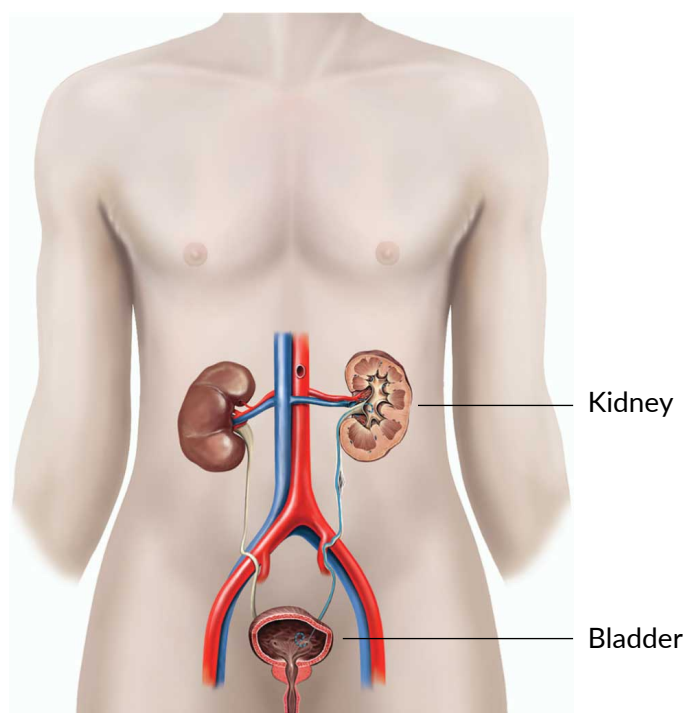
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## What is an antegrade ureteric stent?

Most people have two kidneys, which make urine by filtering waste and excess fluid from your bloodstream. Urine normally drains from your kidneys into your bladder through small muscular tubes (ureters). Tests have shown that one or both of your ureters has become blocked. This can happen because of infection, scar tissue, a kidney stone, a blood clot or a tumour. Sometimes urine can leak from a damaged ureter. An antegrade ureteric stent is a tube inserted down from your kidney into a ureter to keep it open.



A ureteric stent

Your doctor has suggested inserting a ureteric stent. However, it is your decision to go ahead with the procedure or not. This document will give you information about the benefits and risks to help you to make an informed decision.

If you have any questions that this document does not answer, it is important that you ask your doctor or the healthcare team. Once all your questions have been answered and you feel ready to go ahead with the procedure, you will be asked to sign the informed consent form. This is the final step in the decision-making process. However, you can still change your mind at any point.

## What problems can a blocked ureter cause?

Urine will build up in your kidney, increasing the risk of your kidney being damaged. If both of your ureters are blocked, or you have only one kidney that is working, you can develop kidney failure.

Kidney failure causes major life-threatening problems because waste will not be removed from your bloodstream. Vital kidney functions such as regulating your blood pressure will also not be carried out.

A blocked ureter can also lead to infection in your kidney (pyonephrosis). Infection can spread into your bloodstream (sepsis), which is life-threatening.

## What are the benefits of a ureteric stent?

The main benefit is that urine will drain from your kidney into your bladder in the normal way.

## Are there any alternatives to an antegrade ureteric stent?

It is possible to have a stent inserted up from your bladder into a ureter (retrograde ureteric stent).

A nephrostomy is a procedure to drain urine from your kidney using a catheter (tube). The urine drains into a plastic bag. A nephrostomy is usually a temporary solution to give your doctor time to find out why your ureter is blocked and to treat the problem. You may already have had a nephrostomy.

## What will happen if I decide not to have a ureteric stent?

Your kidney can become permanently damaged. The risk is higher if your kidney is already infected. You can live a normal life with only one working kidney. However, if both your kidneys are affected, or you have only one kidney that is working, you will probably get kidney failure. You will need regular dialysis (using a machine to filter your blood) or a kidney transplant.

## What does the procedure involve?

### Before the procedure

If you are female, the healthcare team may ask you to have a pregnancy test as some procedures involve x-rays or medications that can be harmful to unborn babies. Sometimes the test does not show an early-stage pregnancy so let the healthcare team know if you could be pregnant.

If you take warfarin, clopidogrel or other blood-thinning medication, let your doctor know at least 7 days before the procedure.

You will be admitted to hospital. The healthcare team will carry out a number of checks to make sure you have the procedure you came in for and on the correct side. You can help by confirming to your doctor and the healthcare team your name and the procedure you are having. Blood tests will be performed to assess your risk of a bleeding complication. You may be given medication or a transfusion to help reduce the risk of bleeding.

The healthcare team will ask you to sign the consent form once you have read this document and they have answered your questions.

Have only sips of water and do not eat in the 4 hours before the procedure. If you have diabetes, let the healthcare team know as soon as possible. You will need special advice depending on the treatment you receive for your diabetes.

### In the x-ray room

Inserting an antegrade ureteric stent usually takes about 30 minutes but can take up to an hour if the procedure is difficult.

Your doctor will ask you to lie face down. They will give you a sedative or painkiller through a small needle in your arm or the back of your hand. If you have the sedative you will be able to ask and answer questions but you will feel relaxed.

The healthcare team will monitor your oxygen levels and heart rate using a finger or toe clip. If you need oxygen, they will give it to you through a mask or small tube under your nostrils. They will also monitor your blood pressure using a device that is strapped to your arm.

Your doctor will keep everything as clean as possible and will wear a theatre gown and operating gloves. They will use antiseptic to clean

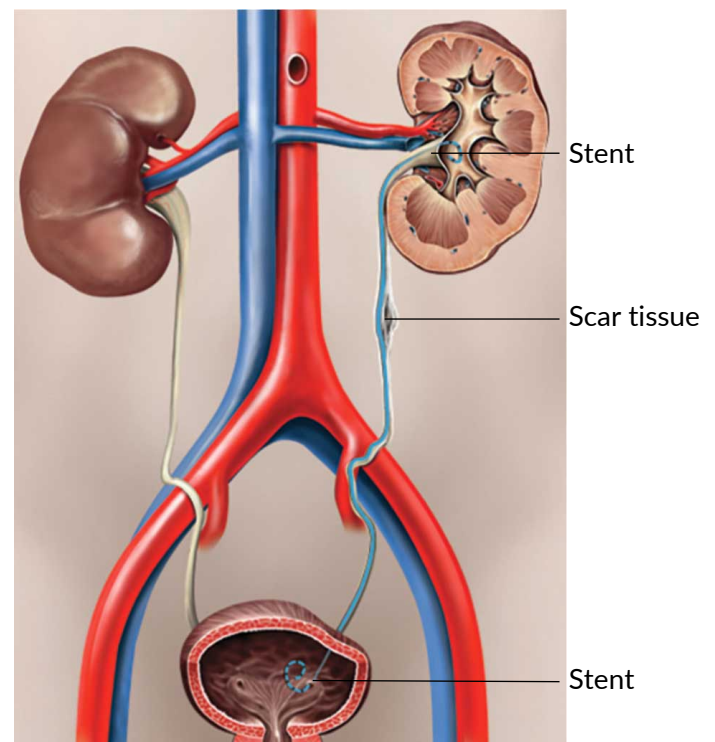
the area where the stent will be inserted and most of your body will be covered with a sterile sheet.

Your doctor will use x-ray equipment or an ultrasound machine to help decide on the best point on your back to insert the stent in your kidney. They will usually insert it to the side of your spine just below your ribs.

If you do not have a nephrostomy tube, your doctor will insert the stent in your ureter using a needle and guidewire (thin flexible wire). They will inject local anaesthetic into the area where the needle will be inserted. This stings for a moment but will make the area numb, allowing your doctor to insert the needle in your kidney without causing too much discomfort.

When your doctor is satisfied that the needle is in the right position, they will pass the guidewire into your kidney, down your ureter and into your bladder.

Your doctor will pass a dilator over the guidewire to make sure there is enough room for the stent. They will then insert the stent in your ureter so that urine can drain into your bladder. Your doctor will check with the x-ray equipment that the stent is in the correct place.



The stent allows urine to drain into the bladder

If you already have a nephrostomy tube, your doctor will not need to use a needle. They may

leave the tube in place for a few days after inserting the stent.

## What complications can happen?

The healthcare team will try to reduce the risk of complications.

Any numbers which relate to risk are from studies of people who have had this procedure. Your doctor may be able to tell you if the risk of a complication is higher or lower for you.

Some complications can be serious and can even cause death.

You should ask your doctor if there is anything you do not understand.

The possible complications of an antegrade ureteric stent are listed below.

- **Bleeding.** There is usually some bleeding from your kidney and you may notice a small amount of blood the first few times you pass urine. If the bleeding is heavy, you may need another radiology procedure, a blood transfusion or even surgery (risk: less than 4 in 100).
- **Bladder irritation and soreness,** as the lower end of the stent is in your bladder. You may need to pass urine more often and only pass small amounts of urine. Sometimes medication can help.
- **Failed stent.** Sometimes your doctor is not able to insert the needle in a good enough position in your kidney (risk: 5 in 100 if your kidney is dilated, 20 in 100 if your kidney is not dilated) or to insert the stent in your ureter. Your doctor may not be able to bypass the blockage. If this happens the stent will not be inserted and you may need surgery.
- **Making a hole in your ureter (perforation).** This is rare.
- **Making a hole in nearby structures with the needle** (risk: less than 1 in 100). This does not usually cause any long-term problems but you may need to stay in hospital longer than planned.
- **Leaking urine.** Sometimes urine can leak from your kidney and collect in your abdomen. If the collection is large, it may need to be drained.
- **Infection in your kidney or in the space around your kidney** (risk: less than 4 in 100). The risk is higher if there was already an infection in your kidney (risk: 1 in 10). Infection can usually be easily

treated with antibiotics. To reduce the risk of infection, your doctor may give you antibiotics before the procedure.

- **Urine infection.** If you need to pass urine often and pass only small amounts with a great deal of discomfort, you may have an infection. If your symptoms continue to get worse, contact your GP. You may need treatment with antibiotics.
- **Allergic reaction to the equipment, materials or medication.** The healthcare team is trained to detect and treat any reactions that might happen. Let your doctor know if you have any allergies or if you have reacted to any medication or tests in the past.
- **Blocked stent,** caused by small crystals building up over time. Your doctor will arrange for the stent to be removed or replaced.
- **Radiation exposure** (the extra risk of developing cancer over a lifetime). This risk is small. The risk increases the younger you are. Your doctor will keep the number of x-rays as low as possible.

## Covid-19

Coming into hospital increases your risk of catching or passing on Covid-19 (coronavirus) as you will be around more people than usual. This risk increases further if the procedure involves your nose or throat. Practise social distancing, hand washing and wear a face covering when required.

## Consequences of this procedure

- **Pain** is usually only mild and easily controlled with simple painkillers such as paracetamol. However, you can sometimes get severe pain which is usually controlled with strong painkillers.

## How soon will I recover?

After the procedure you will be transferred to the recovery area and then to the ward. You will need to stay in bed for at least a few hours to recover and rest.

The healthcare team will monitor your heart rate and blood pressure to check for any problems.

You will usually be a little sore for a short while but any pain can be controlled using painkillers.

The stent will need to stay in place until the cause of the blocked ureter has been treated. You may only need it for a short time if, for example, you

have a stone that can be passed naturally. However, if you need further treatment such as surgery or a course of antibiotics, you may need the stent for longer.

Usually you will need to stay in hospital overnight. Sometimes you can go home the same day. However, your doctor may recommend that you stay a little longer.

If you had sedation and you do go home the same day:

- a responsible adult should take you home in a car or taxi and stay with you for at least 24 hours;
- you should be near a telephone in case of an emergency;
- do not drive, operate machinery or do any potentially dangerous activities (this includes cooking) for at least 24 hours and not until you have fully recovered feeling, movement and co-ordination; and
- do not sign legal documents or drink alcohol for at least 24 hours.

Ask your healthcare team if you need to do a Covid-19 test when you get home.

Most stents can stay in place for up to 6 months and some up to a year. If the stent is not removed or replaced within 6 months, contact the healthcare team. Any longer than planned and the stent will be more difficult to remove.

## Summary

A blocked ureter is a serious condition. A ureteric stent is usually a safe and effective way of draining urine from your kidney to give your doctor time to find out why your ureter is blocked and to treat the problem. However, complications can happen. You need to know about them to help you to make an informed decision about the procedure. Knowing about them will also help to detect and treat any problems early.

Keep this information document. Use it to help you if you need to talk to the healthcare team.

Some information, such as risk and complication statistics, is taken from global studies and/or databases. Please ask your surgeon or doctor for more information about the risks that are specific to you, and they may be able to tell you about any other suitable treatments options.

This document is intended for information purposes only and should not replace advice that your relevant healthcare team would give you.

### Acknowledgements

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