What is a ureteroscopy?
A ureteroscopy is an operation to treat stones in the kidneys and ureters (tubes that carry urine from the kidneys to the bladder).
A ureteroscopy can also be performed to check for any problems in your kidneys and ureters such as a blockage or a tumour.
Your doctor has recommended a ureteroscopy. However, it is your decision to go ahead with the operation or not. This document will give you information about the benefits and risks to help you make an informed decision.
If you have any questions that this document does not answer, you should ask your doctor or any member of the healthcare team.

What problems can a stone cause?
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 called ureters.

Stones in the kidneys are common and usually do not cause any problems. Most kidney stones are small and stay in the kidneys without blocking the flow of urine. If a stone dislodges and passes down a ureter it can cause severe pain.

Sometimes a stone blocks the ureter causing urine to build up in your kidney, increasing the risk of your kidney being damaged. A blocked ureter can cause a serious kidney infection. If both 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. Your kidneys will not be able to carry out vital functions such as regulating your blood pressure.

What are the benefits of surgery?
The main benefit is to reduce the risk of infection or your kidney being damaged.
If your doctor finds a problem with your ureter or kidney, they may perform a biopsy (removing a small piece of tissue), or they may be able to treat the problem using the ureteroscope.

Are there any alternatives to a ureteroscopy?
Sometimes it is possible to pass a stone naturally. This involves drinking around 3 litres (5 pints) of water a day and taking painkillers. Treatment is usually recommended only if the stone is too big, or there is a risk of infection or your kidney being damaged.

An extracorporeal lithotripsy uses a device to pass energy through the skin to divide the stones into fragments. However, a lithotripsy may not be suitable for treating your stones.

It is possible to have open surgery which involves a cut in your side. However, there is a higher risk of complications.

What will happen if I decide not to have a ureteroscopy?
If you have a stone that is blocking a ureter, it is likely that the ureter will stay blocked and your kidney will become permanently damaged. The risk is higher if your kidney is already infected.
If your doctor is concerned that you may have a problem in your ureters or kidneys, they may not be able to confirm what the problem is.

If you decide not to have a ureteroscopy, you should discuss this carefully with your doctor.

**What does the operation involve?**
The healthcare team will carry out a number of checks to make sure you have the operation you came in for. You can help by confirming to your surgeon and the healthcare team your name and the operation you are having.

A ureteroscopy is performed under a general or spinal anaesthetic. Your anaesthetist will discuss the options with you and recommend the best form of anaesthesia for you. You may be given antibiotics during the operation to reduce the risk of infection. The operation usually takes about an hour.

Your surgeon will use an x-ray machine to guide them while they perform the ureteroscopy.

Your surgeon will pass a rigid or flexible fibre-optic telescope (cystoscope) into your urethra (tube that carries urine from the bladder). They will use the cystoscope to check for any problems in your bladder.

Your surgeon will pass a guidewire down the cystoscope, into your bladder and then into the opening of the ureter. They will remove the cystoscope and, using the guidewire, will place the ureteroscope into your ureter (see figure 1).

**Figure 1**
Ureteroscopy

Your surgeon will use the ureteroscope to find the stone. They will often use a special laser to break the stone into smaller pieces. Your surgeon will either leave the pieces to pass naturally or remove the stones using the ureteroscope. Sometimes they will place a plastic stent (hollow tube) in the ureter to keep it open.

At the end of the operation, your surgeon may place a catheter (tube) in your bladder.

**What should I do about my medication?**
You should make sure your surgeon knows the medication you are on and follow their advice.

You may need to stop taking warfarin or clopidogrel before your operation.

If you are a diabetic, it is important that your diabetes is controlled around the time of your operation. Follow your surgeon’s advice about when to take your medication.

If you are on beta-blockers to control your blood pressure, you should continue to take your medication as normal.
What can I do to help make the operation a success?
If you smoke, stopping smoking several weeks or more before an operation may reduce your chances of getting complications and will improve your long-term health.
Try to maintain a healthy weight. You have a higher chance of developing complications if you are overweight.
Regular exercise should help prepare you for the operation, help with your recovery and improve your long-term health. Before you start exercising, ask a member of the healthcare team or your GP for advice.

What complications can happen?
The healthcare team will try to make your operation as safe as possible. However, complications can happen. Some of these can be serious and can even cause death.
You should ask your doctor if there is anything you do not understand. Any numbers which relate to risk are from studies of people who have had this operation. Your doctor may be able to tell you if the risk of a complication is higher or lower for you.

1 Complications of anaesthesia
Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

2 General complications of any operation
• Pain, which is usually only mild after a ureteroscopy and can normally be treated with simple painkillers such as paracetamol. However, you can sometimes get severe pain which is usually treated with strong painkillers. You may get kidney pain if a stone was treated but this should settle after a few days. If you have a stent, you may get some soreness and bladder irritation until the stent is removed.
• Bleeding after surgery. Any bleeding is usually very little. However, you may notice traces of blood in your urine for a few weeks. If you continue to pass blood clots and blood in your urine, you should let your GP know.

• Infection. If you need to pass urine often and only pass small amounts with a great deal of discomfort, you may have an infection. If your symptoms continue to get worse, let your GP know. You may need treatment with antibiotics.

3 Specific complications of this operation
• Failure of the procedure. This can happen if there are technical difficulties placing the ureteroscope into your ureter or if your surgeon cannot find a stone. If this happens, your surgeon will use the cystoscope to place a stent in your ureter to help prevent your kidney being damaged.
• Damage to the ureter (risk: 2 in 100). Sometimes small holes can be made. Your surgeon will place a stent in the ureter and the holes usually heal over time. If the damage is severe, your surgeon will need to reconstruct the ureter.
• Narrowing of the ureter (risk: 1 in 100). This can happen due to scar tissue caused by the stone or damage caused by the ureteroscope. If the narrowing is severe or the ureter blocks, you may need another operation to treat the narrowing.
• Blocking of the ureter caused by a piece from a stone that was shattered (risk: 3 in 100). If this happens, you may need another operation to treat the stone or a procedure to drain urine from your kidney.

How soon will I recover?
• In hospital
After the procedure you will be transferred to the recovery area where you can rest. You should be able to go home the same day, after you have recovered from the anaesthetic and passed urine. However, your doctor may recommend that you stay a little longer. If 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.

- **Returning to normal activities**
  You should not drive, operate machinery (this includes cooking) or do any potentially dangerous activities for at least 24 hours and not until you have fully recovered feeling, movement and co-ordination. If you had a general anaesthetic or sedation, you should also not sign legal documents or drink alcohol for at least 24 hours.
  You may experience a little stinging the first few times you pass urine. Drink up to 3 litres (5 pints) of water a day to help you pass urine and any pieces of shattered stones more easily. You should be able to go back to work after about a week and you should avoid strenuous activity for at least the first two days.
  Regular exercise should help you to return to normal activities as soon as possible.
  Before you start exercising, you should ask a member of the healthcare team or your GP for advice.
  Do not drive until you are confident about controlling your vehicle and always check with your doctor and insurance company first.

- **The future**
  If you have a stent, your surgeon will usually be able to remove it after a few days. However, it may need to stay in place for a few weeks. The procedure is performed under a local anaesthetic using a flexible cystoscope. You will usually have another x-ray to confirm that the stone has been successfully treated and that your kidneys are working normally. If the stent is not removed within six months, contact a member of the healthcare team.
  A member of the team will tell you what was found during the ureteroscopy and will discuss with you any treatment or follow-up you need. Results from biopsies will not be available for a few days so they may ask you to come back to the clinic for these results.

**Summary**
A stone in a kidney or ureter can cause severe pain, infection and kidney damage. A ureteroscopy should treat a stone and help to find out if you have any problems in your kidneys and ureters.

Surgery is usually safe and effective. However, complications can happen. You need to know about them to help you make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.

**A ‘JJ STENT MAY BE LEFT IN PLACE FOR A FEW WEEKS. THIS CAUSES IT’S OWN SIDE EFFECTS. PLEASE REFER TO THE LEAFLET ON JJ STENT. THE STENT REQUIRES REMOVAL IN A FEW WEEKS< UNDER A LOCAL (jelly though the penis) OR GENERAL ANAESTHETIC.**

**SOME FRAGMENTS OF THE STONE, or A INITIAL FAILURE TO URETEROSCOPY MAY REQUIRE REPEATING THE PROCEDURE IN A FEW WEEKS TIME.**

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