Lithotripsy – treatment for your kidney stones

This information sheet has been given to you to help answer some of the questions you might have about having lithotripsy to treat your kidney stones. If you have any questions or concerns, please do not hesitate to speak with your doctor or nurse.

What is lithotripsy?
Lithotripsy comes from the Greek words ‘lithos’ and ‘tripsis’ and literally means ‘stone breaking’. The procedure uses shock waves to break your kidney stones into small sand-like particles that can then pass out of your body through your urine.

Why do I need this procedure?
Your doctor has found that you have a stone or group of stones in your kidney or ureter (tube that links the kidney with the bladder). Kidney stones can be painful and can cause infection or blood in your urine. If nothing is done to remove them, they may continue to grow and could damage your kidney or block your ureter.

What are the benefits?
Lithotripsy is performed in the Day Surgery Unit (DSU), meaning that you can come into hospital, have the procedure, and return home the same day. It avoids the need for surgery and anaesthetic, reducing your hospital stay and the amount of time you will need to recover from the procedure.

What are the risks?
As with any procedure, there are risks when having lithotripsy. The majority of patients do not have serious problems, but it is important to be aware of them. The doctor will explain all the risks and benefits and you will be asked to sign a consent form (usually at the time of your clinic appointment). It is likely that you will be consented for several sessions of lithotripsy on the consent form.

There are several risks that you should be aware of:

- The procedure bruises the kidney slightly, so you may see blood in your urine after the lithotripsy. This should fade and clear within a couple of days, but if it does not, please contact the stone department (number given at the end of this leaflet) or your GP. Rarely a haematoma (blood clot) may form around the kidney – this affects less than one in a hundred patients. **Please contact your consultant or the stone nurse at least two weeks before your procedure for advice on whether you need to stop taking your aspirin or if you are taking other anticoagulants (blood thinners).**
- A stone or stone fragment may be left in your body after the treatment. If the stone or stone fragment drops into your ureter it may get stuck and cause you pain. If this does not pass, you may require further treatment to remove it.
• You may develop a urine infection. Symptoms of this can include:
  o cloudy and offensive smelling urine
  o feeling shivery
  o a raised temperature.

If you have any of these symptoms and think you may have a urine infection, consult your GP as soon as possible, as it is important that the infection is treated.

Are there any alternatives?
Kidney stones in the ureter can be removed with a fibre-optic telescope, in a procedure called a ureteroscopy. Larger stones can be removed surgically, although this involves a longer stay in hospital and a longer recovery time.

Please talk to your doctor or stone nurse if you would like more information on these alternative treatments.

Before the procedure
Please note that while you are attending hospital for treatment, a stone consultant is always available to provide advice and support.

The radiographer (the person who delivers the treatment) will check the consent form with you and remind you of the risks and benefits. Please do not hesitate to ask any questions. If you wish to speak to the doctor again, please ask. You will then be marked with an arrow to identify the side that is to be treated.

If there is a possibility that you could be pregnant, you must tell the nurse and radiographer as soon as possible, as the x-rays and treatment could damage your baby.

You must stop eating and drinking six hours before your procedure but can drink water up to two hours beforehand. This is because you may feel sick and/or experience pain during the lithotripsy, and you are less likely to vomit on an empty stomach.

If you take tablets for high blood pressure, you should continue to take these as prescribed with a small sip of water up to two hours before the procedure.

Please bring a dressing gown and slippers with you. If you are going to have sedation during the procedure, you will also need to arrange for someone to escort you home and stay with you for 24 hours after the test.

Arriving at the Day Surgery Unit
When you arrive at the Day Surgery Unit, please give your name to the receptionist or nurse, who will ask you to wait in the waiting area until the nurse comes to prepare you for the procedure.

Please do not wear any jewellery, as we cannot be responsible for any valuables lost while you are in the department. You will be asked to remove all of your clothing and change into the gown and disposable underwear provided.
A nurse will ask you some questions about your medical history and will take your blood pressure to make sure you are properly prepared for your treatment. You will also be asked to give a urine sample.

The nurses will give you some painkillers. These usually come in the form of tablets and a small suppository.

**During the procedure**
You will be asked to lie either on your back or on your front on the machine. The radiographer will introduce him/herself to you and will put some warmed water on a plastic sheet underneath you. Small plastic stickers (ECG stickers, or ‘electrodes’) will be placed on your chest to monitor your heart rate during the procedure. X-rays will be used to locate and target the stone(s). Then the lithotripsy machine’s probe will be placed beneath you on your skin.

When the lithotripsy begins, you will be aware of shock waves entering your body. Some people have described this as similar to having a finger flicking against their skin. While some people find this painful, others are pain-free during the treatment. Please tell us if you find this uncomfortable, and we can give you painkillers to help (providing you have an escort to take you home).

During the procedure, shocks are delivered to the stone at the rate of approximately two per second. The treatment lasts about 40 minutes and delivers around 3,000 shock waves, which pass through your body to break the stone into fragments. These fragments then have to pass out of your body in your urine.

If you need sedation, you will be given this through a small needle into the back of your hand. This is not an anaesthetic and will not put you to sleep, but it will make you feel drowsy and relaxed. This should help to make you more comfortable during the procedure.

**After the procedure**
If you were not sedated during the procedure, you will be able to go home as soon as you feel able. If you did have sedation, you will have to spend a couple of hours in the unit to recover, as you may feel weak and drowsy.

If you had sedation, you must have someone to escort you home and stay with you for 24 hours after the test. He/ she should come with you for the appointment or be contactable by phone when you are ready to leave. If you do not have an escort, or have not arranged to be collected by someone, you cannot receive sedation. If you cannot arrange this, then please call us and we will help to make alternative arrangements. The sedation lasts longer than you may think, so in the first 24 hours after your treatment, you should not:

- drive or ride a bicycle
- operate machinery or do anything requiring skill or judgement
- drink alcohol
- take sleeping tablets
- go to work
- make any important decisions, sign contracts or legal documents.
You should rest at home following your procedure and should be able to carry out your normal activities 24 hours after the procedure.

To flush out stone fragments, make sure you drink plenty of fluid – mainly water. Try to drink over three litres (five pints) of fluid per day. You should continue drinking this amount in the long term, as this can help to prevent the development of future stones.

**What to look out for when you are home**

You may see blood in your urine for one or two days after the procedure. This is normal and will fade and clear.

You may feel a bit sore after the procedure. You can take simple painkillers such as paracetamol to help with this. If the pain becomes severe or if you develop a temperature (above 38°C or 100.4 F), call the Day Surgery Unit or your GP. Alternatively, go to your nearest Accident and Emergency (A&E) Department.

**Your follow-up appointment**

If your kidney stones are large, you may need more than one session to break them up entirely. You will have a follow-up appointment a few weeks after your completed course of lithotripsy to check the success of the treatment.

If you do not receive your appointment before you go home or if you need to change the date, please call the stone unit or bleep one of the nurses using the contact details listed below.

**Contact us**

For further information or if you have any questions about this procedure, please contact the stone unit on 020 7188 9099 / 3220 / 7638. The unit is open Monday to Friday, 9am to 5pm.

Alternatively, you can contact the stone nurses by calling the hospital switchboard on 020 7188 7188 and asking for bleep number 2380 or 0384.

Outside of office hours call the switchboard on 020 7188 3026 and ask for the on call urology SHO.

**Further information**

**Pharmacy Medicines Helpline**

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

*t*: 020 7188 8748 9am to 5pm, Monday to Friday

**Patient Advice and Liaison Service (PALS)**

To make comments or raise concerns about the Trust’s services, please contact PALS. Ask a member of staff to direct you to the PALS office or:

*e*: 020 7188 8801 at St Thomas’

*t*: 020 7188 8803 at Guy’s

*e*: pals@gstt.nhs.uk