

Lithotripsy – treatment for your kidney stones

This leaflet explains more about having lithotripsy to treat your kidney stones. It describes the benefits, risks, alternatives and what you can expect when you come to hospital. If you have any further questions, please speak to a doctor or nurse caring for you.

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 should I have lithotripsy?

Your doctor has found that you have a stone or group of stones in your kidney or ureter (narrow, muscular tube that connects your kidney to your 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:
 - cloudy and offensive smelling urine
 - feeling shivery
 - 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 with a small incision (cut) in your back, 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.

Giving my consent (permission)

We want to involve you in decisions about your care and treatment. If you decide to go ahead, you will be asked to sign a consent form. This states that you agree to have the treatment and you understand what it involves. If you would like more information about our consent process, please speak to a member of staff caring for you.

How can I prepare for the procedure?

If you smoke, you will be asked to stop smoking, as this increases the risk of developing a chest infection or deep vein thrombosis (DVT). Smoking can also delay wound healing because it reduces the amount of oxygen that reaches the tissues in your body. If you would like to give up smoking, please speak to your nurse or call the Trust stop smoking service on **020 7188 0995**, or call the NHS Smoking Helpline on **0300 123 1044**.

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.

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.**

Medicines

If you are taking any medication, these may need to be temporarily stopped or adjusted around the time of your surgery or treatment, you will be given information on how to do this at your pre-assessment appointment. **Do not make any changes to your usual medicines and continue to take them unless you have been advised to do so.** Please remember to bring them into hospital with you.

If you are taking any medicines that thin your blood, such as antiplatelet medicines (for example aspirin or clopidogrel) or anticoagulant medicines (for examples warfarin or rivaroxaban), please tell your doctor or the nurse as you may need to stop them temporarily before your procedure. Also tell your doctor or nurse if you have diabetes as you may need to alter the dose of your diabetes medicines, as you will need to fast before the procedure.

Please let us know if you are taking any regular medicines (including anything you buy yourself over the counter or any herbal or homeopathic medicines) and if you have any allergies to any medicines.

Further information on stopping any medicines will be given to you when you come for pre-assessment. Please ask us if you have any questions.

Fasting instructions

Please do not eat or drink anything (except non-fizzy water) for six hours before your procedure. This means that you cannot suck on sweets or chew gum. You are allowed to drink water up to two hours before your procedure. **If you continue to eat or drink after this, your surgery will be cancelled.**

Arriving at the Day Surgery Unit

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

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 or ask you to go for an x-ray to check on the stone. You will then sit 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 (to check for infection and also to make sure you are not pregnant).

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

What happens during the procedure?

The radiographer (the person who delivers the treatment) will introduce him/herself to you, 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.

You will be asked to lie either on your back or on your front on the machine. The radiographer 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 further pain relief 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 one to 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.

What happens 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 should I look out for when I am at 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.

Will I have a 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 (contact details listed below).

Contact us

If you have any questions or concerns about having a lithotripsy, please contact the stone unit on **020 7188 3220** (Monday to Friday, 9am to 4.30pm).

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

Out of hours, call the switchboard on **020 7188 3026** and ask for the on call urology doctor (emergencies only).

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.guysandstthomas.nhs.uk/leaflets

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

Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

t: 020 7188 8801 (PALS) **e:** pals@gstt.nhs.uk

t: 020 7188 3514 (complaints) **e:** complaints2@gstt.nhs.uk

Language and Accessible Support Services

If you need an interpreter or information about your care in a different language or format, please get in touch:

t: 020 7188 8815 **e:** languagesupport@gstt.nhs.uk

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

Get involved and have your say: become a member of the Trust

Members of Guy's and St Thomas' NHS Foundation Trust contribute to the organisation on a voluntary basis. We count on them for feedback, local knowledge and support. Membership is free and it is up to you how much you get involved. To find out more, and to become a member:

t: 0800 731 0319 **e:** members@gstt.nhs.uk **w:** www.guysandstthomas.nhs.uk/membership

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