



# SHOCKWAVE LITHOTRIPSY FOR STONES

## Procedure Specific Information

### What is the evidence base for this information?

This publication includes advice from consensus panels, the British Association of Urological Surgeons, the Department of Health and evidence-based sources. It is, therefore, a reflection of best urological practice in the UK. It is intended to supplement any advice you may already have been given by your GP or other healthcare professionals. Alternative treatments are outlined below and can be discussed in more detail with your Urologist or Specialist Nurse.



### What does the procedure involve?

This involves the administration of shockwaves through the skin to fragment urinary tract stones into small enough fragments to pass naturally. The procedure involves either x-ray or ultrasound scanning to localise the stone(s)

### What are the alternatives to this procedure?

Telescopic surgery, open surgery, observation to allow spontaneous passage

### What should I expect before the procedure?

You will usually be admitted on the same day as your treatment. It may be useful to bring your own dressing gown to wear over your hospital gown.

You will first be asked to undergo swabbing of your nose & throat to ensure that you are not carrying MRSA.

On arrival, an X-ray may be taken to confirm the presence of your stone(s).

You may have a light meal on the morning of your treatment but you should drink only clear fluid in the 2-4 hours before the treatment. We will give you an injection of a strong pain-killer and an anti-inflammatory suppository once you arrive in the clinic.

Please be sure to inform your surgeon in advance of your surgery if you have any of the following:

- an artificial heart valve
- a coronary artery stent
- a heart pacemaker or defibrillator



- an artificial joint
- an artificial blood vessel graft
- a neurosurgical shunt
- any other implanted foreign body
- a regular prescription for Warfarin, Aspirin or Clopidogrel (Plavix®)
- a previous or current MRSA infection
- a high risk of variant-CJD (if you have received a corneal transplant, a neurosurgical dural transplant or previous injections of human-derived growth hormone)

At some stage during the admission process, you will be asked to sign the second part of the consent form giving permission for your operation to take place, showing you understand what is to be done and confirming that you wish to proceed. Make sure that you are given the opportunity to discuss any concerns and to ask any questions you may still have before signing the form.

### **Fact File 1 • The NHS Constitution** **Same-Sex Accommodation**

As a result of the new NHS constitution, the NHS is committed to providing same-sex accommodation in hospitals by April 2010. This is because feedback from patients has shown that being in mixed-sex accommodation can compromise their privacy. The NHS pledges that:

- sleeping and washing areas for men and women will be provided
- the facilities will be easy to get to and not too far from patients' beds

To help accomplish this, the Department of Health has announced specific measures designed to "all but eliminate mixed-sex accommodation" by 2010. These include:

- more money for improvements in hospital accommodation
- providing help and information to hospital staff, patients and the public
- sending improvement teams to hospitals that need extra support
- introducing measures so that the Department can see how hospitals are progressing

### **What happens during the procedure?**

Normally, no anaesthetic is necessary and you will be awake throughout the procedure. Treatment is normally carried out under sedation but children usually require a general anaesthetic.

The treatment will be monitored by a nurse and a lithotripsy technician. The shock waves can cause deep discomfort in the kidney and a sensation of being flicked with an elastic band on the skin of your back. If this proves excessively painful, additional painkiller and



sedation can be administered during the treatment. Treatment normally lasts between 30 and 60 minutes, depending on the size of your stone(s).

## What happens immediately after the procedure?

In general terms, you should expect to be told how the procedure went and you should:

- ask if what was planned to be done was achieved
- let the medical staff know if you are in any discomfort
- ask what you can and cannot do
- feel free to ask any questions or discuss any concerns with the ward staff and members of the surgical team
- ensure that you are clear about what has been done and what is the next move



Immediately after the treatment, you may feel quite drowsy. You will normally be taken back to a cubicle to recover with a cup of tea or coffee. The Specialist Nurse will also perform routine post-operative checks.

As soon as you have recovered from the treatment, you will be able to go home but you must bring someone with you to escort you home; you should not attempt to drive yourself because of the effects of the sedation.

Antibiotics and painkillers will be given to you before your discharge.

The average hospital stay is less than 1 day.

## Are there any side-effects?

Most procedures have a potential for side-effects. You should be reassured that, although all these complications are well-recognised, the majority of patients do not suffer any problems after a urological procedure.

### Common (greater than 1 in 10)

- Bleeding on passing urine for a short period after the procedure
- Pain in the kidney as small fragments of stone pass after treatment (20%)
- Urinary tract infection due to bacteria released from the stone during fragmentation, requiring antibiotic treatment (10%)
- Bruising or blistering of the skin in the loin or on the front of the abdomen
- Need for repeated ESWL treatments (15-20%)
- Failure to fragment very hard stone(s) requiring an alternative treatment (less than approximately 14%)



### Occasional (between 1 in 10 and 1 in 50)

- Severe infection requiring intravenous antibiotics (less than 1%) and sometimes drainage of the kidney by a small drain placed through the back into the kidney
- Stone fragments occasionally get stuck in the tube between the kidney and the bladder requiring hospital attendance and, occasionally, surgery to remove the stone fragments

### Rare (less than 1 in 50)

- Kidney damage (bruising) or infection needing further treatment
- Recurrence of stones (less than 1%)

### Hospital-acquired infection

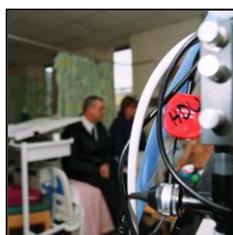
- Colonisation with MRSA (0.9% - 1 in 110)
- Clostridium difficile bowel infection (0.2% - 1 in 500)
- MRSA bloodstream infection (0.08% - 1 in 1250)

The rates for hospital-acquired infection may be greater in high-risk patients e.g. with long-term drainage tubes, after removal of the bladder for cancer, after previous infections, after prolonged hospitalisation or after multiple admissions.

## What should I expect when I get home?

By the time of your discharge from hospital, you should:

- be given advice about your recovery at home
- ask when to resume normal activities such as work, exercise, driving, housework and sexual intimacy
- ask for a contact number if you have any concerns once you return home
- ask when your follow-up will be and who will do this (the hospital or your GP)
- ensure that you know when you will be told the results of any tests done on tissues or organs which have been removed



When you get home, you should drink twice as much fluid as you would normally to flush your system through and minimise any bleeding or infection. Painkillers should be taken as necessary and you must complete the course of antibiotics.

Some blood in the urine is normal for 48-72 hours. If you develop bruising/blistering in your loin or on your abdomen, simple skin creams will usually ease any discomfort and the bruising normally resolves within 7 days.

## What else should I look out for?

If you develop a fever, severe pain on passing urine, inability to pass urine or worsening bleeding, you should contact your GP immediately. Small blood clots or stone fragments

may also pass down the ureter from the kidney, resulting in renal colic; in this event, you should contact your GP immediately.

## Are there any other important points?

You will be informed before your discharge of any follow-up arrangements. This will usually involve either further lithotripsy, operative surgery or a simple follow-up outpatient appointment when a further X-ray will be taken.

If you have a stent in place, you may be given an appointment for removal of the stent in the Day Surgery Unit under local anaesthetic. If this is appropriate.

You can prevent further stone recurrence by implementing changes to your diet and fluid intake. If you have not already received a written leaflet about this, contact your named nurse, the Specialist Nurse in outpatients or your Consultant.

### Driving after surgery

It is your responsibility to ensure that you are fit to drive following your surgery. You do not normally need to notify the DVLA unless you have a medical condition that will last for longer than 3 months after your surgery and may affect your ability to drive. You should, however, check with your insurance company before returning to driving. Your doctors will be happy to provide you with advice on request.

## Is there any research being carried out in this area?



Before your operation, your surgeon or Specialist Nurse will inform you about any relevant research studies taking place, and, in particular, if any surgically-removed tissue may be stored for future study. If this is the case, you will be asked if you wish to participate and, if you agree, to sign a special form to consent to this.

All surgical procedures, even those not currently the subject of active research, are subjected to rigorous clinical audit so that we can analyse our results and compare them with those of other surgeons. In this way, we can learn how to improve our techniques and our results; this means that our patients will get the best treatment available.

## Who can I contact for more help or information?

For further information on the internet, here are some useful sites to explore:

[Best Health](#) (prepared by the British Medical Association)

[NHS Clinical Knowledge Summaries](#) (formerly known as Prodigy)

[NHS Direct](#)

[Patient UK](#)

[Royal College of Anaesthetists](#) (for information about anaesthetics)

[Royal College of Surgeons](#) (patient information section)



## What should I do with this information?

Thank you for taking the trouble to read this publication. If you wish to sign it and retain a copy for your own records, please do so below.

If you would like a copy of this publication to be filed in your hospital records for future reference, please let your Urologist or Specialist Nurse know. However, if you do agree to proceed with the scheduled procedure, you will be asked to sign a separate consent form which will be filed in your hospital record. You will, if you wish, be provided with a copy of this consent form.

I have read this publication and I accept the information it provides.

Signature..... Date.....



## How can I get information in alternative formats?

Please ask your local NHS Trust or PALS network if you require this information in other languages, large print, Braille or audio format.



Most hospitals are smoke-free. Smoking increases the severity of some urological conditions and increases the risk of post-operative complications. For advice on quitting, contact your GP or the **NHS Smoking Helpline** free on **0800 169 0 169**

## Disclaimer

While every effort has been made to ensure the accuracy of the information contained in this publication, no guarantee can be given that all errors and omissions have been excluded. No responsibility for loss occasioned by any person acting or refraining from action as a result of the material in this publication can be accepted by the British Association of Urological Surgeons Limited.

## Fact File 2 • The NHS Constitution Patients' Rights & Responsibilities

The constitution, as a result of extensive discussions with staff and the public, sets out new rights for patients which will help improve their experience within the NHS. These new rights include:

- a right to choice and a right to information that will help them make that choice
- a right to drugs and treatments approved by NICE when it is considered clinically appropriate
- a right to certain services such as an NHS dentist and access to recommended vaccinations
- the right that any official complaint will be properly and efficiently investigated, and that they be told the outcome of the investigations
- the right to compensation and an apology if they have been harmed by poor treatment

The constitution also lists patient responsibilities, including:

- providing accurate information about their health
- taking positive action to keep themselves and their family healthy
- trying to keep appointments
- treating NHS staff and other patients with respect
- following the course of treatment that they are given
- giving feedback, both positive and negative, after treatment