Lithotripsy for stones  
(ESWL)

What is lithotripsy?
Lithotripsy is the destruction of kidney stones by high energy sound (shock) waves. These waves are directed at the stone using ultrasound or X-ray guidance. The sound waves travel through the body tissues without damaging them and reduce the stone to fine gravel. This can be passed naturally over a period of time, usually with no pain.

Why do I need this procedure?
The purpose of this non-invasive procedure is to remove kidney stones. The stones may be causing symptoms such as pain, recurrent infections and/or obstruction or a risk of causing these problems in the future.

Are there any alternatives?
A flexible telescope can be passed through the bladder to capture the stone and remove it (flexible uretero-renoscopy). The stone can also be removed through a small surgical wound in your side (PCNL). Both of these procedures need a general anaesthetic. Sometimes the stone can be allowed to pass out naturally. You should feel free to discuss alternatives with your urologist.

How do I prepare for it?
You will be given a time to attend the Urology Investigation Unit at the Royal Cornwall Hospital, Truro. A simple checklist will be completed, the procedure will be explained by the doctor or specialist nurse and you will be asked to sign this consent form. Any questions you have will be answered. You may be sent for an abdominal X-ray prior to treatment. After changing into a hospital gown you may be given painkillers and a sedative to make the treatment as comfortable as possible.

What does it involve?
You will be shown to the treatment area to meet the senior radiographer who will help you into position. This may be on your back, side or front depending on where the stones are sitting. Gel or water will be applied to your skin and you will be asked to keep as still as possible and breathe gently. Focusing the sound waves on the stone can take a few minutes before treatment begins. The treatment normally lasts about 30-40 minutes. Each sound wave is accompanied by a clicking noise and you will feel the sensation of being flicked with an elastic band on your skin. This may be uncomfortable but if it feels painful please tell the radiographer as extra pain relief is available.

What happens afterwards?
After your treatment you will be taken to the recovery area to rest. You will be encouraged to drink plenty of fluids. The nursing staff will inform you when it is safe to be discharged and give you the details of your follow-up clinic. You will need someone to take you home as it is not safe to drive home alone. Please feel free to ask any questions before you leave. You may be offered some painkillers to take home with you.

What happens when I go home?
• You may experience bruising over the treatment area. This is normal.
• There may also be some blood and small particles passed in your urine over the next couple of days. Please ensure that you drink plenty of fluids (about 2 litres per day) over this period to help you pass them safely. Do not use aspirin as pain relief unless specifically prescribed.
What should I look out for?
If you feel feverish or unwell after the procedure please contact your GP immediately. This can be a sign of an infection.

Will I have a follow-up appointment?
The radiographer will explain how well the procedure has gone and any follow-up you may need. Sometimes up to 3 sessions of lithotripsy are required. Occasionally, large or dense stones do not fragment (break up) and other treatment may be needed. A clinic appointment will normally be arranged with the consultant and further ultrasound or X-ray to check your progress. If you have a stent in place you will be given an appointment to have this removed, usually under local anaesthetic.

Are there any risks or complications?

**Common (Happens in more than 1 in every 10 patients)**

- **Bleeding on passing urine:** This is common for a day or two after the procedure.

- **Pain in the kidney after treatment (20%):** This is temporary as small fragments (pieces) of stone pass along your urinary tract.

- **Urinary tract infection (UTI) (10%):** This is due to bacteria released from the stone as they fragment (break up). It is normally treated with tablet antibiotics.

- **Bruising or blistering of the skin in the loin or front of the abdomen:** This is due to the pressure of the sound waves passing through the body. It should disappear over a short period.

- **Need for repeated ESWL treatments (15-20%):** This is dependent on the size and the density of the stone.

- **Failure to fragment (break up) very hard stone(s):** If a course of 3 lithotripsy sessions fails to fragment (break up) the stone, alternative treatments will be discussed with you (as described previously).

**Occasional (Happens to fewer than 1 in 10 patients)**

- **Stone fragments (pieces) becoming stuck in the tube draining the kidney (ureter):** If you develop severe or persistent pain after lithotripsy a fragment (piece) of stone may be stuck in your ureter. Please contact your GP immediately as you may require admission to hospital for further management.

- **Further kidney stones developing:** Up to half of all people who have a kidney stone will develop more stones in the future. Your urologist will discuss various measures including changes to your diet to help reduce this risk.

**Rare (Happens to fewer than 1 in 50 patients)**

- **Severe infection (< 1%):** If you become feverish after the procedure, please consult your GP immediately, as you may require hospitalisation for IV (intravenous) antibiotics.

- **Kidney damage / bruising:** This carries a small risk of causing hypertension (high blood pressure) in the future. It can normally be managed by your GP.

- **Development of a blood clot around the kidney:** This is generally managed with pain relief and a short period of bed rest.

If you would like this leaflet in large print, Braille, audio version or in another language, please contact the Patient Advice and Liaison Service (PALS) on 01872 252793
Lithotripsy for stones (ESWL)

The destruction of kidney stones by high energy sound (shock) waves using ultrasound and X-ray guidance.

I have explained the procedure to the patient. In particular, I have explained the intended benefits and summarised the risks, as below:

- To destroy stones using high energy sound (shock) waves.

Significant, unavoidable or frequently occurring risks:
- Bleeding on passing urine, pain in the kidney, urine infection, bruising or blistering of the skin in the loin.

Uncommon but more serious risks:
- Stone fragments (pieces) becoming stuck in the ureter possibly requiring surgery, recurrence of kidney stones.

Rare but serious risks:
- Severe infection, kidney damage/bruising, development of a blood clot around the kidney.

Any extra procedures which may become necessary during the procedure:
- Blood transfusion (required very infrequently).
- Other (please specify):

I have also discussed what the procedure is likely to involve, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this patient.

I have given and discussed the Trust’s approved patient information leaflet for this procedure: Lithotripsy for stones (ESWL) CHA3243 which forms part of this document.

I am satisfied that this patient has the capacity to consent to the procedure.

This procedure will involve:  □ General and/or regional anaesthesia  □ Local anaesthesia  □ Sedation

Health Professional signature: ___________________________ Date: ___________________________

Name (PRINT): ___________________________________________ Job title: _______________________

STATEMENT OF INTERPRETER (where appropriate)

I have interpreted the information above to the patient to the best of my ability and in a way in which I believe he/she can understand.

Interpreter signature: ___________________________ Name (PRINT): ___________________________ Date: ___________________________
STATEMENT OF PATIENT

Please read this form carefully. If your treatment has been planned in advance, you should already have a copy of the patient information leaflet which describes the benefits and risks of the proposed treatment. If not, you will be given a copy now. If you have any further questions, do ask - we are here to help you. You have the right to change your mind at any time, including after you have signed this form.

I agree to the procedure or course of treatment described on this form.

I understand that you cannot give me a guarantee that a particular person will perform the procedure. The person will, however, have appropriate experience.

I understand that I will have the opportunity to discuss the details of anaesthesia with an anaesthetist before the procedure, unless the urgency of my situation prevents this. (This only applies to patients having general or regional anaesthesia).

I understand that any procedure in addition to those described on this form will only be carried out if it is necessary to save my life or to prevent serious harm to my health.

I understand that tissue samples will only be taken in relation to the procedure explained to me. No samples will be taken for quality control, clinical education or research purposes.

I have been told about additional procedures which may become necessary during my treatment. I have listed below any procedures which I do not wish to be carried out without further discussion.

I have received a copy of the Consent Form and Patient Information leaflet: Lithotripsy for stones (ESWL) CHA3243 which forms part of this document.

Patient signature: __________________________ Name (PRINT): __________________________ Date: __________

A witness should sign below if this patient is unable to sign but has indicated his or her consent.

Witness signature: __________________________ Name (PRINT): __________________________ Date: __________

CONFIRMATION OF CONSENT (to be completed by health professional when the patient is admitted for the procedure, if the patient has signed the form in advance).

On behalf of the team treating the patient, I have confirmed with the patient that they have no further questions and wish the procedure to go ahead.

Health Professional signature: __________________________ Date: __________

Name (PRINT): __________________________ Job title: __________________________

Important notes (tick if applicable):

☐ See advance decision to refuse treatment ☐ Patient has withdrawn consent (ask patient to sign/date here)

Patient signature: __________________________ Name (PRINT): __________________________ Date: __________
STATEMENT OF HEALTH PROFESSIONAL (to be filled in by health professional with appropriate knowledge of proposed procedure, as specified in consent policy)

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Rare but serious risks:

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I am satisfied that this patient has the capacity to consent to the procedure.

This procedure will involve: ☐ General and/or regional anaesthesia ☐ Local anaesthesia ☐ Sedation

Health Professional signature: ___________________________ Date: _______________________

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Patient signature: ___________________________ Name (PRINT): ___________________________ Date: ________________

A witness should sign below if this patient is unable to sign but has indicated his or her consent. Young people / children may also like a parent to sign here (see guidance notes).

Witness signature: ___________________________ Name (PRINT): ___________________________ Date: ________________

CONFIRMATION OF CONSENT (to be completed by health professional when the patient is admitted for the procedure, if the patient has signed the form in advance).

On behalf of the team treating the patient, I have confirmed with the patient that they have no further questions and wish the procedure to go ahead.

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Name (PRINT): ___________________________ Job title: ___________________________

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Patient signature: ___________________________ Name (PRINT): ___________________________ Date: ________________