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Understanding NICE guidance

Information for people who use NHS services

National Institute for Health and Clinical Excellence

Treating kidney stones with laparoscopic nephrolithotomy and pyelolithotomy

NICE 'interventional procedures guidance' advises the NHS on when and how new surgical procedures or procedures that use electromagnetic radiation (such as X-rays, lasers and gamma rays) can be used.

This leaflet is about when and how nephrolithotomy and pyelolithotomy can be used to treat people with kidney stones in the NHS in England, Wales, Scotland and Northern Ireland. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

NICE has produced this guidance because the procedures are quite new. This means that there is not a lot of information yet about how well they work, how safe they are and which patients will benefit most from them.

This leaflet is written to help people who have been offered one of these procedures to decide whether to agree (consent) to it or not. It does not describe kidney stones or the procedure in detail – a member of your healthcare team should also give you full information and advice about these. The leaflet includes some questions you may want to ask your doctor to help you reach a decision. Some sources of further information and support are on page 7.

Interventional procedures guidance makes recommendations on the safety of a procedure and how well it works. The guidance does not cover whether or not the NHS should fund a procedure. Decisions about funding are taken by local NHS bodies (primary care trusts and hospital trusts) after considering how well the procedure works and whether it represents value for money for the NHS.

What has NICE said?

These procedures can be offered routinely as a treatment option for people with kidney stones provided that doctors are sure that:

- the patient understands what is involved and agrees to the treatment, and
- the results of the procedures are monitored.

These procedures should only be performed by surgeons trained in advanced laparoscopic surgery. They should be part of a team of specialists experienced in the management of kidney stones.

Other comments from NICE

These procedures are not needed very often because doctors can usually treat kidney stones in other ways.

These procedures may not be the only possible treatments for kidney stones. Your healthcare team should talk to you about whether one of them is suitable for you and about any other treatment options available.

Laparoscopic nephrolithotomy and pyelolithotomy

The procedures are not described in detail here – please talk to your surgeon for a full description.

Kidney stones can form in one or both kidneys. Small stones usually pass out of the kidney in urine without any treatment. Larger stones may need to be broken into smaller pieces so they can be passed out of the body in urine, or they may need to be removed in an operation.

Laparoscopic nephrolithotomy and pyelolithotomy are both carried out under general anaesthesia. The word ‘laparoscopic’ means ‘keyhole’ surgery. The surgeon makes small incisions in the abdomen and uses a fine fibre-optic tube to remove a kidney stone that is too big to pass.

Laparoscopic nephrolithotomy and pyelolithotomy are very similar. In a nephrolithotomy, the surgeon cuts into the kidney to access the kidney stone, and in a pyelolithotomy, the surgeon cuts into the part of the kidney that joins the ureter (the tube that carries urine from the kidney to the bladder).

After the procedure, a tube called a stent may be inserted to help keep the shape of the ureter during healing. The tube may be left in place for several weeks after surgery.

An alternative method of carrying out nephrolithotomy is called ‘percutaneous nephrolithotomy’ or ‘PCNL’. This involves making a small cut in the back through which an instrument is passed directly into the kidney to access the stone. Open abdominal surgery is another method and is sometimes used when PCNL is not available.

What does this mean for me?

NICE has said that these procedures are safe enough and work well enough for use in the NHS. If your doctor thinks that either laparoscopic nephrolithotomy or laparoscopic pyelolithotomy is a suitable treatment option for you, he or she should still make sure you understand the benefits and risks before asking you to agree to it.

You may want to ask the questions below

- Which is the best procedure for me?
- What does the procedure involve?
- What are the benefits I might get?
- How good are my chances of getting those benefits? Could having the procedure make me feel worse?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What care will I need after the operation?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

You might decide to have one of these procedures, to have a different procedure, or not to have a procedure at all.

Summary of possible benefits and risks

Some of the benefits and risks seen in the studies considered by NICE are briefly described below. NICE looked at seven studies on these procedures.

How well do the procedures work?

Both laparoscopic procedures have a high success rate, with 88–100% of patients being stone-free for up to 1 year after surgery. The studies that NICE looked at compared laparoscopic pyelolithotomy or laparoscopic nephrolithotomy with percutaneous nephrolithotomy (PCNL). In these studies, laparoscopic procedures had a success rate similar to or better than that of PCNL. In two studies, laparoscopic pyelolithotomy had a 100% success rate.

In three studies comparing laparoscopic pyelolithotomy with PCNL, the average length of time spent in hospital after laparoscopic pyelolithotomy ranged from 4 to 6.5 days. In two of these studies, the average length of time it took for patients to return to normal activities was 13 days after laparoscopic pyelolithotomy. The time spent in hospital was similar for patients who had PCNL, as was the recovery time: neither procedure had a clear advantage over the other in reducing hospital stays.

The expert advisers noted that laparoscopic procedures will be suitable for only a small proportion of patients with kidney stones. They also noted that surgeons need both experience in treating kidney stones and specialist training in laparoscopic surgery in order to carry out these procedures.

Risks and possible problems

In two studies, tears in the lining of the abdomen happened in 5 out of 43 and 3 out of 16 patients treated with laparoscopic pyelolithotomy, compared with none of the patients treated with PCNL. If a tear happens, the surgeon may need to perform open abdominal surgery. In three studies, 13–16% of laparoscopic pyelolithotomy procedures were changed to open surgery, compared with 0–2% of percutaneous procedures. In two other studies, 0 out of 8 and 4 out of 20 laparoscopic procedures were changed to open surgery.

Leaking of urine was reported in 7–13% of patients treated laparoscopically.

The expert advisers listed other possible problems as the kidney having to be removed, an abnormal opening forming in the urinary tract, bleeding and infection.

More information about kidney stones

NHS Direct online (www.nhsdirect.nhs.uk) may be a good starting point for finding out more. Your local Patient Advice and Liaison Service (PALS) may also be able to give you further advice and support.

About NICE

NICE produces guidance (advice) for the NHS about preventing, diagnosing and treating different medical conditions. The guidance is written by independent experts including healthcare professionals and people representing patients and carers. They consider how well an interventional procedure works and how safe it is, and ask the opinions of expert advisers. Staff working in the NHS are expected to follow this guidance.

To find out more about NICE, its work and how it reaches decisions, see www.nice.org.uk/aboutguidance

This leaflet and the full guidance aimed at healthcare professionals are available at www.nice.org.uk/IPG212

You can order printed copies of this leaflet from the NHS Response Line (phone 0870 1555 455 and quote reference N1221).

National Institute for Health and Clinical Excellence
MidCity Place, 71 High Holborn, London, WC1V 6NA; www.nice.org.uk
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