

Relieving pelviureteric junction obstruction using cutting instruments inserted through the ureter

NICE 'HealthTech guidance' advises the NHS on when and how new procedures can be used in clinical practice.

This leaflet is about when and how this procedure can be used in the NHS to treat patients with pelviureteric junction (PUJ) obstruction. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

This HealthTech guidance makes recommendations on the safety of a procedure and how well it works. An interventional procedure is a test, treatment or surgery that involves a cut or puncture of the skin, or an endoscope to look inside the body, or energy sources such as X-rays, heat or ultrasound. 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.

NICE has produced this guidance because there is not a lot of information yet about how well it works, how safe it is and which people will benefit most from it.

This leaflet is written to help people who have been offered this procedure to decide whether to agree (consent) to it or not. It does not describe PUJ obstruction 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.



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197

What has NICE said?

This procedure can be offered routinely as a treatment option for people with PUJ obstruction provided that doctors are sure of all of the following:

- The patient understands what is involved and that there is a risk the condition could come back.
- The patient agrees to the treatment.
- The results of the procedure are monitored.

The procedure should be carried out only in hospitals with expertise in the procedure and by a specialist team who can offer a range of procedures including keyhole surgery to remove and reconstruct the blocked section of the PUJ (laparoscopic pyeloplasty).

Other comments from NICE

This procedure is used less often nowadays because laparoscopic pyeloplasty is used more often. But the procedure might be useful in managing recurrence of the obstruction.

This procedure may not be the only possible treatment for pelviureteric junction obstruction. Your healthcare team should talk to you about whether it is suitable for you and about any other treatment options available.

Relieving pelviureteric junction obstruction using cutting instruments

The medical name for this procedure is 'endopyelotomy for pelviureteric junction obstruction'. The procedure is not described in detail here – please talk to your surgeon for a full description.

Urine passes from the kidneys to the bladder through a tube called the ureter. If the passageway between the kidney and the ureter (called the pelviureteric junction or PUJ) is blocked (obstructed) because it is narrow, the urine cannot drain away properly. This can cause low back pain and urinary infections.

Treatments include open or keyhole surgery (laparoscopic pyeloplasty) to reduce or remove the blockage. Another surgical procedure uses a device consisting of a thin balloon with a wire attached to it, which conducts heat to cut away tissue (electrocautery cutting balloon treatment).

With the patient under a general anaesthetic, the surgeon inserts instruments (a laser, heat-conducting device or a scalpel) into the ureter, and removes or reduces the blockage. The medical name for all these procedures is 'endopyelotomy'.

A tube called a stent is inserted into the PUJ to keep it open while it heals, and removed after several weeks.

What does this mean for me?

NICE has said that this procedure is safe enough and works well enough for use in the NHS, although there is a risk the condition could return. If your doctor thinks this procedure 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

- 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?

Summary of possible benefits and risks

You might decide to have this procedure, to have a different procedure, or not to have a procedure at all.

Some of the benefits and risks seen in the studies considered by NICE are briefly described below. NICE looked at 8 studies on this procedure.

How well does the procedure work?

In a study of 40 patients, 17 out of 20 who had the laser procedure (laser endopyelotomy) and 13 out of 20 who had a balloon procedure

had improved symptoms and kidney function when their progress was checked on average after 30 months. In a second study (436 patients), 111 patients out of 182 treated with endopyelotomy and 144 out of 175 patients treated with laparoscopic pyeloplasty had successful treatment (defined as patients' symptoms getting better and the obstruction being cleared) when checked after 3.5 years on average.

Another study of 273 patients reported successful treatment in 60% of endopyelotomy-treated patients, 89% of laparoscopic pyeloplasty-treated patients and all patients treated with robotically-assisted pyeloplasty.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that the aims of the procedure are to relieve pain in the short term, clear up the symptoms, clear the obstruction, ensure that the kidney continues to work, and for the obstruction not to return.

Risks and possible problems

In a study of 212 patients, 1 had a damaged ureter and had to have open surgery. Two out of 20 patients who had the laser procedure and 5 out of 20 patients who had the balloon procedure had complications in 1 study, when they were checked after 30 months.

In the study of 436 patients, 25 out of 225 patients treated with endopyelotomy and 17 out of 211 patients treated with pyeloplasty had problems when they were checked after 3.5 years. In the same study, 3 patients treated with endopyelotomy and 2 patients treated with pyeloplasty had bleeding and needed a blood transfusion. Bleeding was also a problem in 2 other studies – 4 out of 320 patients needed further treatment to stop it and 2 out of 212 needed a blood transfusion.

One patient had to have a kidney removed 8 years after an endopyelotomy that was probably complicated by bleeding around the kidney. Another patient had to have surgery when a problem with their ureter was found 3 months after having endopyelotomy. Further surgery was needed in 33 patients in the study of 320 and 23 in the study of 212.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that possible problems include bleeding, problems with the stent, an abnormal connection forming between the ureter and artery, the problem coming back, infection, tearing, and scar tissue.

More information about pelviureteric junction obstruction

Your local patient advice and liaison service (usually known as PALS) may also be able to give you further information and support. For details of all NICE guidance on PUJ obstruction, visit our website at www.nice.org.uk

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. This guidance applies to the whole of the NHS in England, Wales, Scotland and Northern Ireland. 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 is about 'endopyelotomy for pelviureteric junction obstruction'. This leaflet and the full guidance aimed at healthcare professionals are available at www.nice.org.uk/HTG206

You can order printed copies of this leaflet from NICE publications (phone 0845 003 7783 or email publications@nice.org.uk and quote reference N2059). The NICE website has a screen reader service called Browsealoud, which allows you to listen to our guidance. Click on the Browsealoud logo on the NICE website to use this service.

We encourage voluntary organisations, NHS organisations and clinicians to use text from this booklet in their own information about this procedure.

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Information about NICE HealthTech guidance 206

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