

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Guideline scope

Renal and ureteric stones: assessment and management

NHS England has asked NICE to develop a clinical guideline on assessing and managing renal stones.

The guideline will be developed using the methods and processes outlined in [Developing NICE guidelines: the manual](#).

This guideline will also be used to develop the NICE quality standard for renal stones.

1 Why the guideline is needed

Key facts and figures

Renal and ureteric stones (also known as kidney stones and urolithiasis) are a major clinical and economic burden to the NHS. Epidemiological data suggest that the incidence and prevalence of renal and ureteric stones is increasing. The number of hospital episodes increased by 70% over a 15-year period between 2000 and 2015, from 51,035 episodes to 86,742 episodes (Hospital Episode Statistics [HES] data). The lifetime prevalence of renal stone disease is 13%. Consequently, the direct costs of treatment are increasing as well as the indirect socioeconomic burdens of reduced quality of life, sickness leave and medical follow-up.

Current practice

Renal and ureteric stones usually present as an acute episode with severe pain, although some stones are picked up incidentally during imaging or may present as a history of infection. The initial diagnosis is made by taking a

clinical history, conducting a clinical examination and carrying out imaging; initial management is with painkillers and treatment of any infection.

Ongoing treatment of renal and ureteric stones depends on the site of the stone and size of the stone (less than 10 mm, 10 to 20 mm, greater than 20 mm; staghorn stones). Options for treatment range from observation with pain relief to surgical intervention. Open surgery is performed very infrequently; most surgical stone management is minimally invasive. Available interventions include shockwave lithotripsy (SWL), ureteroscopy and percutaneous stone removal (surgery). As well as the site and size of the stone, treatment also depends on local facilities and expertise. Most centres have access to SWL, but some use a mobile machine on a sessional basis rather than a fixed site machine with easier access during the working week. The use of a mobile machine may affect options for emergency treatment, but may also add to waiting times for non-emergency treatment. Although surgery for renal and ureteric stones (ureteroscopy) is increasing (there has been a 49% increase from 12,062 treatments in 2009-2010, to 18,066 in 2014-2015 [HES data]), there is a trend towards day-case/ambulatory care, with this increasing by 10% to 31,000 cases a year between 2010 and 2015. The total number of bed-days used for renal stone disease has fallen by 15% since 2009-2010. However, waiting times for treatment are increasing and this means that patient satisfaction is likely to be lower.

Because the incidence of renal and ureteric stones and the rate of intervention are increasing, there is a need to reduce recurrences through patient education and lifestyle changes. Assessing dietary factors and changing lifestyle have been shown to reduce the number of episodes in people with renal stone disease.

2 Who the guideline is for

Adults, children and young people using services, their families and carers, and the public will be able to use the guideline to find out more about what NICE recommends, and help them make decisions.

This guideline is for:

- Adults, children and young people with renal or ureteric stones, their families and carers
- Healthcare professionals
- Clinical commissioning groups.

NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the [Welsh Government](#), [Scottish Government](#), and [Northern Ireland Executive](#).

Equality considerations

NICE has carried out [an equality impact assessment](#) during scoping. The assessment:

- lists equality issues identified, and how they have been addressed
- explains why any groups are excluded from the scope.

The guideline will look at inequalities relating to the availability of shockwave lithotripsy (SWL). Fixed-site lithotriptors are currently limited to a few urology centres requiring some people to travel distances for treatment. Other units may hire mobile lithotriptors but this may mean longer waiting times for treatment. The guideline will also look at managing renal and ureteric stones in women of child-bearing age and people who are HIV positive and having treatment with protease inhibitors.

3 What the guideline will cover

3.1 *Who is the focus?*

Groups that will be covered

- Adults, children and young people with renal or ureteric stones (kidney and ureteric stones)
- Subgroups of people identified as needing specific consideration include:

- pregnant women
- people who are HIV positive and having treatment with protease inhibitors.

3.2 Settings

Settings that will be covered

- All settings in which NHS-commissioned care is provided.

3.3 Activities, services or aspects of care

Key areas that will be covered

We will look at evidence in the areas below when developing the guideline, but it may not be possible to make recommendations in all the areas.

- 1 Imaging for diagnosing and assessing renal and ureteric stones (for example, CT, ultrasound).
- 2 Pharmacological management of symptomatic renal and ureteric stones (for example, non-steroidal anti-inflammatory drugs, opioids and alpha-blockers).
- 3 Surgical interventions for symptomatic renal and ureteric stones (for example, for upper and lower pole renal stones, upper and lower ureteric stones).
- 4 Managing asymptomatic renal and ureteric stones.
- 5 Metabolic investigation (for example, blood tests, urinalysis and stone analysis).
- 6 Follow-up management in people who have or have had renal or ureteric stones, including:
 - imaging
 - pharmacological treatment (for example, thiazide diuretics)
 - dietary interventions
 - lifestyle interventions (for example, weight loss and exercise).

Areas that will not be covered

- 1 Bladder stones.
- 2 Open surgery for renal and ureteric stones.

Related NICE guidance

- [Laparoscopic nephrolithotomy and pyelolithotomy](#) (2007) NICE interventional procedure guidance IPG212

NICE guidance about the experience of people using NHS services

NICE has produced the following guidance on the experience of people using the NHS. This guideline will not include additional recommendations on these topics unless there are specific issues related to renal and ureteric stones:

- [Medicines optimisation](#) (2015) NICE guideline NG5
- [Patient experience in adult NHS services](#) (2012) NICE guideline CG138
- [Service user experience in adult mental health](#) (2011) NICE guideline CG136
- [Medicines adherence](#) (2009) NICE guideline CG76

3.4 Economic aspects

We will take economic aspects into account when making recommendations. We will develop an economic plan that states for each review question (or key area in the scope) whether economic considerations are relevant, and if so whether this is an area that should be prioritised for economic modelling and analysis. We will review the economic evidence and carry out economic analyses, using an NHS and personal social services (PSS) perspective.

3.5 Key issues and questions

While writing this scope, we have identified the following key issues, and key questions related to them:

1 Imaging for diagnosing and assessing renal and ureteric stones

1.1 What is the most clinically and cost-effective diagnostic imaging technique for people with suspected renal or ureteric stones?

2 Pharmacological management of symptomatic renal and ureteric stones

2.1 What are the most clinical and cost-effective drugs for managing symptomatic renal or ureteric stones?

3 Surgical intervention for symptomatic renal and ureteric stones

3.1 What is the most clinically and cost-effective length of time to manage symptomatic renal or ureteric stones conservatively before active intervention?

3.2 What are the most clinically and cost-effective options for surgical treatment of symptomatic renal or ureteric stones?

4 Managing asymptomatic renal and ureteric stones

4.1 What is the most clinically and cost-effective management (surgical and non-surgical) of asymptomatic renal and ureteric stones?

5 Metabolic investigation

5.1 Which metabolic investigations, if any, should be performed for people who have or have had renal or ureteric stones (including blood, urine and stone analysis)?

6 Follow-up management in people who have or have had renal or ureteric stones

6.1 What is the clinical and cost effectiveness of performing imaging for follow-up in people who have or have had renal or ureteric stones?

6.2 What are the most clinically and cost-effective pharmacological treatments to reduce the risk of future stones in people who have or have had renal or ureteric stones?

6.3 What is the clinical and cost effectiveness of dietary and other lifestyle interventions to reduce the risk of future stones in people who have or have had renal or ureteric stones?

The key questions may be used to develop more detailed review questions, which guide the systematic review of the literature.

3.6 Main outcomes

The main outcomes that will be considered when searching for and assessing the evidence are:

- 1 Quality of life
- 2 Stone-free rate
- 3 Recurrence rate
- 4 Mortality
- 5 Pain intensity
- 6 Adverse events
- 7 Use of healthcare services (including re-admission rates following interventions)
- 8 Kidney function

4 NICE quality standards and NICE Pathways

4.1 NICE quality standards

NICE quality standards that may use this guideline as an evidence source when they are being developed:

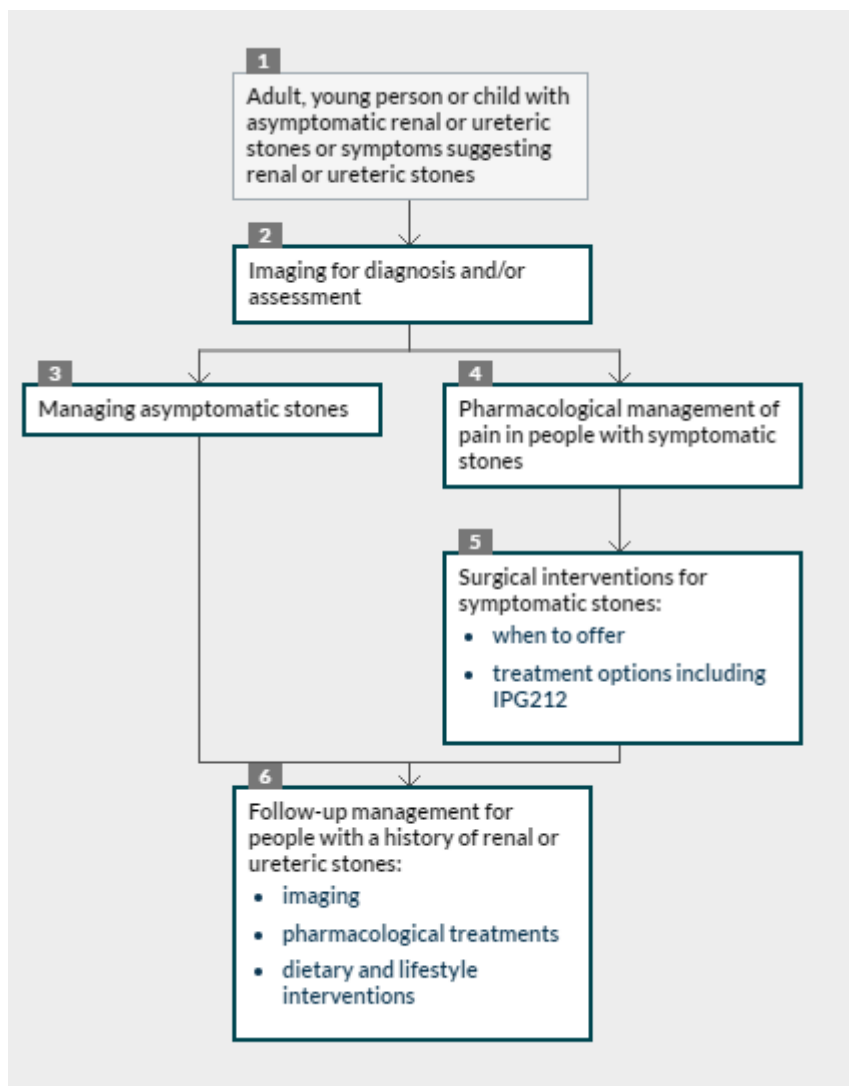
- Renal stones. NICE quality standard. Publication date to be confirmed

4.2 NICE Pathways

NICE Pathways bring together all related NICE guidance and associated products on a topic in an interactive flowchart. When this guideline is published, the recommendations will be added to NICE Pathways. Other relevant NICE guidance will also be added, including:

- [Laparoscopic nephrolithotomy and pyelolithotomy](#) (2007) NICE interventional procedures guidance IPG212

A draft flowchart outline on renal and ureteric stones, based on the draft scope, is included below. It will be adapted and more detail added as the recommendations are written during guideline development.



5 Further information

This is the final scope.

The guideline is expected to be published in February 2019.

You can follow the progress of the [guideline](#).

Our website has information about how [NICE guidelines](#) are developed.