NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Guideline scope

Renal and ureteric stones: assessment and management

The Department of Health in 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 (urolithiasis) are a major clinical and economic burden to the NHS. Hereafter, the term ‘renal stones’ should be taken to include ureteric stones. Epidemiological data suggest that the incidence and prevalence of renal 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 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 stones depends on the site of the stone and size of the stone (<10 mm, 10 to 20 mm, greater than 20 mm; staghorn stones). Options for treatment range from observation with pain relief to surgical intervention. Available interventions include extracorporeal shockwave lithotripsy (ESWL), 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 ESWL, but some use a mobile machine on a sessional basis rather than a fixed site machine with easier access during the work 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 stones (ureteroscopy) is increasing (there has been a 49% increase from 12,062 treatments 2009-2010, to 18,066 in 2014-2015 (HES data) there is trend towards day-case/ambulatory care, increasing by 10% to 31,000 cases per annum between 2010-2015. 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 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

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:

- People with renal 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 [add hyperlink in final version] 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 extra corporeal shockwave lithotripsy (ESWL) treatment. Fixed site lithotriptors are currently limited to a few urology centres requiring some people to travel distances for treatment. Other units may hire mobile ESWL lithotriptors but this may mean longer waiting times for treatment. The guideline will also look at the risk to women of childbearing age of radiation exposure during imaging.

3 What the guideline will cover

3.1 Who is the focus?

Groups that will be covered

- People with renal stones (kidney and ureteric stones)
- Specific subgroups of people identified as needing specific consideration include pregnant women.

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 stones (for example, CT, ultrasound)
2. Pharmacological management of pain in people with symptomatic renal stones (for example, non-steroidal anti-inflammatory drugs, opioids)
3. Surgical interventions for symptomatic renal stones (for example, for upper and lower pole renal stones, upper and lower ureteric stones)
4. Managing asymptomatic renal stones [for example, extracorporeal shockwave lithotripsy (ESWL), ureteroscopy, percutaneous surgery]
5. Follow-up management in people who have had renal stones
   - Imaging
   - Metabolic investigations (for example, stone analysis, urinalysis, blood tests)

- Pharmacological treatment for people without clear metabolic results (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 (kidney and ureteric) stones.

Related NICE guidance

- Laparoscopic nephrolithotomy and pyelolithotomy (2007) NICE interventional procedure guidance 212

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 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 stones

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

2 Pharmacological management of pain in people with symptomatic renal stones

2.1 What are the most clinical and cost-effective drugs for managing pain in people with symptomatic renal stones?

3 Surgical intervention for symptomatic renal stones

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

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

4 Managing asymptomatic renal stones

4.1 What is the most clinically and cost-effective management (for example, ESWL, ureteroscopy) of asymptomatic renal stones?

5 Follow-up management in people who have had renal stones

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

5.2 Which metabolic investigations, if any, should be performed for people who have had renal stones?

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

5.4 What is the clinical and cost-effectiveness of dietary and other lifestyle interventions to reduce the risk of future stones in people who have had renal 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

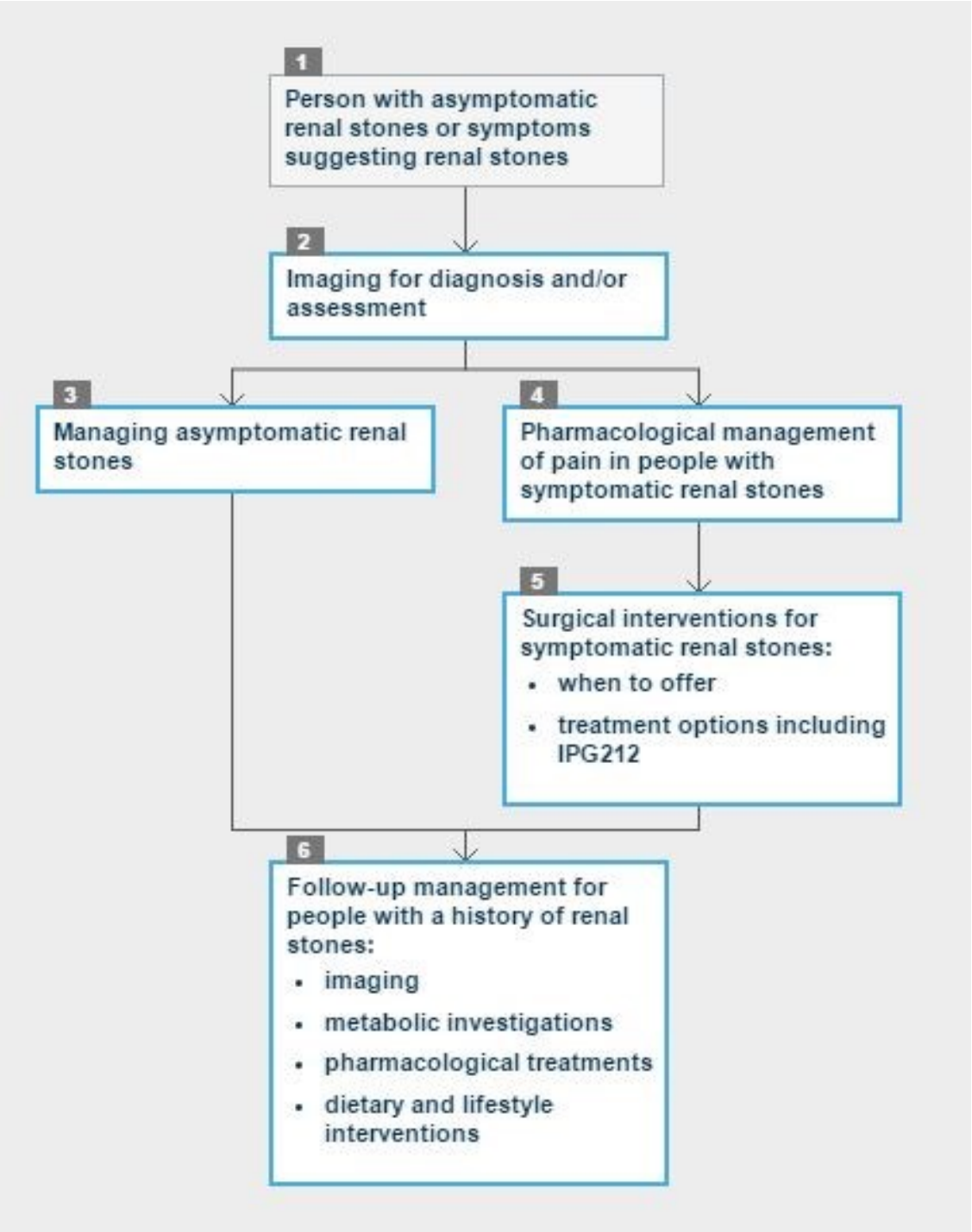
- Renal stones. NICE quality standard. Publication date to be confirmed

4.2 NICE Pathways

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

- Laparoscopic nephrolithotomy and pyelolithotomy (2007) NICE interventional procedures guidance 212

A draft pathway outline on renal 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 draft scope for consultation with registered stakeholders. The consultation dates are 20 January to 17 February 2017.

The guideline is expected to be published in February 2019.

You can follow progress of the guideline.

Our website has information about how NICE guidelines are developed.