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# Interim bulletin

## Unplanned delayed removal of ureteric stents

### February 2020

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This interim bulletin contains facts which have been determined up to the time of issue. It is published to inform the NHS and the public of the general circumstances of events and incidents and should be regarded as tentative and subject to alteration and correction if additional evidence becomes available.



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## Notification of Event and Decision to Investigate

HSIB received a Safety Awareness Notification from a large teaching trust regarding the ongoing issue of the retention of ureteric stents. Two example cases highlighted that ureteric stents had been inserted and not removed in a timely way leading to the stent becoming encrusted. Stents can normally be removed easily, either by the patient or a medical professional if the stent is 'tethered', or by a medical professional in a hospital clinic by passing a small telescope under local anaesthetic into the bladder and using some grasping forceps. However, encrusted stents can cause the patient harm and may have to be removed by a urologist under a general anaesthetic using more extensive surgical techniques.

According to Bultitude et al., (2003), "If a ureteric stent is left in for a long time it can become more difficult to remove, leading to a longer hospital stay, extended recovery time, and is associated with increased morbidity. It can affect a patient's long-term kidney function and can lead to iatrogenic loss of a kidney (loss of an organ due to a medical intervention). If bilateral, loss of both kidneys can occur necessitating dialysis or transplant."

Ureteric stent insertion is a very common intervention in urological care for patients with stones in the UK. "A ureteric stent is a small, hollow tube which is put inside your ureter (the tube that drains urine from your kidney to your bladder). It is curled at both ends to keep the upper end fixed inside the kidney, and the lower end in place inside your bladder. Stents are put in for several reasons; the most common are:

- blockage of the ureter - the tube draining urine from the kidney to the bladder can be blocked by stones, stone fragments, scarring, external compression or other factors



HEALTHCARE SAFETY  
INVESTIGATION BRANCH

- to allow the ureter to heal – either after injury to the ureter, major abdominal ... surgery on [or near] the bladder or ureter, or after endoscopic surgery within the ureter itself.”

British Association of Urological Surgeons (BAUS), 2017

The reference event involved a patient with a complex health history who underwent a kidney stone removal procedure, following which a stent was inserted. This stent was kept in situ for over a year, by which time it had become severely encrusted; this encrustation had affected the patient’s kidney function.

The reference event highlighted potential national safety risks. These included the use of stent registries, patient communication, kidney/ureteric stone care in hospitals, waiting times and access to clinic appointments, and provision of non-medical support staff (nursing and healthcare assistants) to support the kidney/ureteric stone care pathway.

Following the preliminary investigation, the Chief Investigator authorised a full investigation as the risk met the following criteria:

**Outcome Impact – what was, or is, the impact of the safety issue on people and services across the healthcare system?**

- Ureteric stents which are left in situ for an unintentionally extended period can cause significant patient morbidity, require additional costly surgery, and may even cause permanent kidney damage and/or lead to the removal of the kidney(s).



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### **Systemic Risk - How widespread and how common a safety issue is this across the healthcare system?**

- A 'Getting It Right First Time' (GIRFT) report on urology services has highlighted significant variation in clinical practice across the 140 hospital trusts who provide urology services.
- Other medical specialists insert ureteric stents, such as interventional radiology, with potentially limited support from and liaison with urology. This includes the use of departmental stents registers (see next bullet point).
- Hospitals may or may not use a stent register; have an electronic patient-record system or rely on manual/paper based medical records. This means that there is systemic variability across the NHS in terms of how stents are recorded, and their retention alerted to clinicians.

### **Learning Potential - What is the potential for an HSIB investigation to lead to positive changes and improvements to patient safety across the healthcare system?**

- Examine communication strategies to ensure that:
  - patients understand the purpose of their stent and the consequence of delayed removed.
  - GPs understand that patients have a stent inserted, and the length of time that this is intended to remain in place
- Seek to understand how ureteric stents are tracked and look for ways to make this more consistent across the NHS.



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## Healthcare Delivery Goal

To minimise or prevent unplanned delayed removal of ureteric stents.

## History of the Event

The patient, a 77-year-old lady, had an extensive and complex health history, including Crohn's Disease<sup>1</sup> and a haematological (blood) disorder. In April 2017, she presented to the emergency department with renal colic<sup>2</sup>. She was quickly diagnosed as having kidney stones and was referred to urology team. Following her initial period of ongoing care (referral for lithotripsy and an outpatient review), the patient was admitted in November 2017 to have her stone removed from her renal tract, after which a ureteric stent was inserted. A few weeks later she attended an outpatient clinic where her renal function was reviewed, and a decision was made for the stents to remain in situ and to review again in 3 months. Later in December, the patient attended her GP with bleeding from her bladder and was sent to the emergency department. Following this, she was discharged home with a plan to follow up as an outpatient.

In February 2018, the patient received a letter inviting her to attend for a further renogram (a scan using a nuclear radioisotope which measure how well a kidney is working) in March which she attended. The next contact with the hospital relating to her urological health was an outpatient appointment in August 2018. By this time, the stent in situ for 9 months. In the intervening period (July/August 2018), the patient went to see her GP on two occasions with dysuria (painful and difficult urination) and was diagnosed with a urinary tract infection. This was treated by the GP with antibiotics on both occasions.

<sup>1</sup> Crohn's Disease is an inflammatory bowel disease which causes inflammation in the intestines and can cause abdominal pain, weight loss and diarrhoea.

<sup>2</sup> Renal colic is the term used to describe the pain caused by blockages of the urinary tract between the kidney and the bladder, usually caused by stone.



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Between August and December, the patient suffered further episodes of urinary tract infections and did not attend any hospital appointments for her stone care. The next outpatient appointment was booked at the hospital to where her care was transferred. Following this appointment, her consultant urologist began planning to admit her to surgically remove the now encrusted stent. She attended a pre-operative assessment clinic and went on to have the planned procedure on the 26th July 2019. The investigation team spoke to the patient several weeks after the operation to update on progress and to enquire as to her health. The patient reported feeling much better and told the investigation that she remains under the care of the hospital she was transferred to for follow up, rather than returning to her local trust for ongoing care.

## National context

All acute hospital trusts offer care for patients with kidney/ureteric stones. There are differences between the urological cancer pathway and the pathway for patients with stones. Patients with suspected cancer are referred under the **'two-week rule'** which is a performance target aimed at reducing the time to give a cancer diagnosis, speeding up access to services. Once diagnosed with a kidney/ureteric stone, there are no performance targets and waiting times for definitive treatment may be extended, meaning that if a ureteric stent has been inserted as an emergency or after a planned stone operation, there are no targets guiding timing for further surgery or stent removal.

At a population level, the volume of patients within a district general hospital catchment area presenting with stones has an effect on exposure for general urology teams. Some district general hospitals have successfully established a sub-specialist stone service but, pending further national investigation, this appears not to be



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common. The Getting it Right First Time (GIRFT) report highlighted unwarranted variation in trusts which offer urology services.

## Identified Safety Issues

The HSIB has analysed the reference event and has identified potential safety risks that will be explored within the national investigation including:

- strategies for ensuring patients and their GPs are effectively communicated with regarding a patient's stent
- non-medical support services (nursing and admin/clerical)
- insertion of ureteric stents by other medical specialities (such as interventional radiology)
- use of stent registries to track the insertion and removal of stents

### The investigation will focus on:

- The pathways of care for patients:
  - With acute presentations of kidney stones,
  - Undergoing planned surgery for kidney or ureteric stones, including how ureteric stents are used, registered, monitored and removed.
- The arrangements for patients being followed up as an outpatient. This will be limited to the factors relevant to stones and stents as HSIB are currently undertaking an investigation which will be looking in detail at outpatient booking arrangements and follow-up.



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## Next steps

The HSIB investigation will continue to explore the identified safety issues and welcomes further information that may be relevant, regardless of source.

The HSIB will report any significant developments as the investigation progresses.

## References

Bultitude, Matthew F.; Tiptaft, Richard C.; Glass, Jonathan M.; Dasgupta, Prokar (2003): Management of encrusted ureteral stents impacted in upper tract. In *Urology* 62 (4), pp. 622–626.

British Association of Urological Surgeons (BAUS) (2017). *Living with a Ureteric Stents: Frequently Asked Questions*. London, BAUS.