

## Procedure Specific Information Sheet

# Urinary System & Ureteric Stents

### The Urinary System and the Ureter

The kidneys produce urine. Normally there are two kidneys situated in the upper part of the abdomen, towards the back. The urine formed in the kidney is carried to the bladder by a fine muscular tube called a ureter. The urinary bladder acts as a reservoir for the urine and when it is full it is emptied via the urethra (water passage).

### How does a kidney become obstructed?

Common causes of obstruction of the kidneys and ureter are:

- A kidney stone or its fragment moving into the ureter.
- Narrowing (stricture) of the ureter anywhere along its path. This can be due to various causes e.g. scarring of wall of the ureter, narrowing of the area where ureter leaves from the kidney (pelvi-ureteric junction).
- Temporarily, following an operation or after an instrument has been inserted into the ureter and kidneys.
- Occasionally, obstruction can occur because of diseases of the prostate or tumours of the urinary system.

Dr Vasudevan will provide further details applicable to you.

### What are the effects of obstruction?

Whenever there is an obstruction, pressure builds up behind the kidney. Due to high pressure, the function of the kidneys starts to suffer over a period of weeks.

The obstruction can also cause stagnation of the urine, which can lead to infection and further damage to the kidneys. It is, therefore, important to relieve or prevent obstruction of the kidneys.

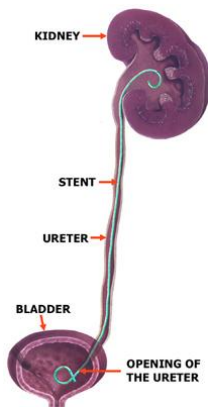
### Temporary relief of the obstruction

It is not always possible to identify what has caused an obstruction and to treat this immediately. It is therefore essential to relieve the obstruction on a temporary basis before treatment is carried out.

Also, following an operation on the ureters, it takes time for the ureters to heal and a temporary measure to prevent obstruction becomes essential. This is commonly achieved by inserting a ureteric stent to make a channel for the urine to pass and allow the kidneys to drain.

### What is a Ureteric Stent?

A ureteric stent is a specially designed hollow tube, made of a flexible plastic material that is placed in the ureter. The length of the stents used in adult patients varies between 24 and 30cm. Although there are different types of stents, all of them serve the same purpose.



### How does a stent stay in place?

The stents are designed to stay in the urinary system by having both the ends coiled. The top end coils in the kidney and the lower end coils inside the bladder to prevent its displacement.

The stents are flexible enough to withstand various body movements.

### How is a ureteric stent put in place?

Usually a stent is placed under a general anaesthetic using a special telescope (cystoscope) which is passed through the urethra into the bladder. The stents are then placed in the ureter and kidney via the opening of the ureter in the bladder. The stent may be inserted as an additional part of an operation on the ureter and kidney (e.g. ureteroscopy). Occasionally they are placed from the kidney down to the bladder using special x-ray techniques. The correct position of a stent is checked by taking an x-ray.

### Common symptoms associated with a stent inside your body

It is common to have

- Occasional blood in your urine
- Discomfort in your kidney area when passing urine
- Feeling of wanting to passing urine frequently
- Mild to moderate discomfort in your kidney area due to irritation of the stent in the ureter and kidney.

### How long will the stent stay in the body?

There is no hard and fast rule about this. The stent has to be kept in place as long as necessary, i.e. until the obstruction is relieved. This depends on the cause of obstruction and the nature of its treatment.

In the majority of patients, the stents are required for only a short duration, from a few weeks to a few months. However, a stent in the right position can stay in for up to 6 months without the need to replace it.

When the underlying problem is not a kidney stone, the stent can stay even longer. There are special stents which may be left in for much longer.

Dr Vasudevan will tell you how long he expects your stent to remain in place.

### How is a stent removed?

This is a short procedure and consists of removal of the stent using a flexible cystoscope, usually under local anaesthesia. Sometimes a stent can be left with a thread attached to its lower end that stays outside the body through the urethra. Such stents can be removed by just pulling this thread.

### Is there an alternative option to the use of a stent?

There is no simple alternative option. In some patients, a tube draining the urine to the outside call a 'nephrostomy tube', may be placed in the kidney. However, this involves carrying a urine collection bag attached to your back, which requires proper care.

### Is there a possibility of a urine tract infection?

The presence of a stent, along with the underlying kidney problem, makes it more likely that you

could get a urinary tract infection. Some of the symptoms that you may experience if you get a urinary tract infection are raised temperature, increased pain or discomfort in the kidney or bladder area, a burning sensation while passing urine and feeling unwell. In order to confirm if an infection is present a formal urine test needs to be done. If this confirms an infection then antibiotics will be given to treat it.

#### **What care do I need to take?**

- It is essential that you drink plenty of fluids, mainly water, a day.
- This will help to cut down the risk of getting an infection and will reduce the amount of blood in the urine. It will also help in the treatment of stones.
- If you experience bothersome pain you can take painkillers for relief, on the advice Dr Vasudevan.
- If you have got a stent with a thread coming down from the urethra outside the body, then more care will be needed so as not to dislodge the thread.

#### **When should I call for help?**

You should contact Dr Vasudevan if:

- You experience a constant and unbearable severe pain associated with the stent.
- You have symptoms of urinary tract infection as mentioned above (e.g. a raised temperature, pain during passing urine and feeling unwell).
- The stent gets dislodged or falls out.
- You notice a significant change in the amount of blood in your urine.