

Vesico ureteric reflux (VUR)

This leaflet explains more about VUR. If you have any questions or concerns after reading this leaflet please feel free to ask your nurse, who will be happy to help you.

What is VUR and why have I got it?

VUR occurs when the flow of urine travels backwards from the bladder, up the ureters (the tubes connecting the kidneys to the bladder) and sometimes as far as the kidneys. If infected urine flows into the kidneys it may cause pyelonephritis (infection of the kidney) which can damage them.

VUR may have been diagnosed during your childhood. It is more common in females than in males.

What are the signs and symptoms?

VUR may be suspected if a patient has recurrent urinary tract infections. Symptoms of a urinary tract infection include:

- burning or stinging when passing urine
- passing urine more often than usual
- offensive smelling urine
- abdominal pain
- high temperature
- vomiting.

If you have VUR, urine infections can damage your kidneys because the urine flowing backwards towards them contains bacteria. Kidney damage can cause high blood pressure in later life and if left untreated, can lead to kidney failure.

How is VUR diagnosed?

VUR may be indicated on an ultrasound scan, which creates an image of the kidneys, bladder and ureter for us to examine. This procedure is not invasive or unpleasant. It can give information about the shape of the kidneys, their size and whether there is any swelling or dilation. However, other tests need to be carried out to diagnose VUR. There are two types of scan that can be used to diagnose VUR – a mercapto acetyl tri-glycine reflux test (MAG3) and a micturating cysto-urethrogram (MCUG):

- **MAG3**

This test is performed in the nuclear medicine department. An injection of a special dye is given and pictures are taken to show the dye being taken up by the kidney. Pictures will also need to be taken whilst you pass urine to show if there is urine travelling backwards from the bladder. During the test you will receive a very small dose of radiation (less than you would receive if you had a simple x-ray).

- **MCUG**

During this test, the bladder is catheterised (using a thin plastic tube passed into the bladder via the urethra). Using the catheter, the bladder is then filled with a special dye that will show up on x-ray. Once the bladder is full, the patient is asked to pass urine while being scanned. This will show whether all the liquid from the bladder is being passed through the urethra, or whether any of it is flowing backwards through the ureters towards the kidneys.

MCUG is also used to grade the severity of reflux. Grade 1 is the least severe form of VUR, where urine is flowing back into the ureters but is not reaching the kidneys. Grade 5 is the most severe form, where a larger amount of urine is reaching the kidneys, resulting in swollen ureters and kidneys. VUR can also be described as unilateral (one kidney affected) or bilateral (both kidneys affected).

Sometimes a dimercapto succinic acid (DMSA) scan may be required to assess whether the kidneys have been affected by urine infections. This test also takes place in the nuclear medicine department. You will receive an injection of a special dye into a vein and then pictures will be taken of your kidneys a couple of hours later. You will be exposed to a small dose of radiation, similar to the dose that would be received by someone having a simple abdominal x-ray.

What treatments are available?

The most successful way of preventing a kidney infection resulting from reflux is to do everything possible to prevent cystitis or bladder infections. This includes ensuring a good fluid intake, passing urine regularly, and avoiding constipation. Women should take extra steps to prevent bladder infections, such as avoiding contraceptives containing spermicides and passing urine immediately after sexual intercourse.

The next step is oral medication. A low dose of antibiotics can be given on a long term basis. This is known as prophylactic (preventative) treatment. This can help to prevent urinary tract infections (UTIs), which in turn prevents any damage to the kidneys caused by infected urine flowing backwards into them.

Patients who continue to have symptomatic reflux may need an operation. The most common operation is cystoscopy and injection of Deflux (see our leaflet, Cystoscopy and Deflux treatment, or STING procedure). Other operations are also available, including open ureteric re-implantation and robotic (keyhole) ureteric re-implantation. Your doctor or nurse will discuss these options in more detail, as appropriate.

Is there anything I can do to help myself?

If you start to get symptoms of a urinary tract infection, increasing your fluid intake will help to flush any bacteria out of your system. You should also contact your GP and provide a sample of urine if you think you may be developing a urinary tract infection, so that it can be sent to the laboratory for analysis.

What is the outlook for patients with VUR?

The main aim of treatment is to prevent kidney infections which may cause kidney damage. It should be possible to control these infections with careful preventative measures. Surgery can be successful in treating reflux, although it is possible that more than one operation will be required.

If you have kidney damage (scarring), you are at increased risk of having raised blood pressure (hypertension), and also of losing protein in your urine. This can be easily treated with medication, so it is important that patients with kidney scarring have a blood pressure check at least once a year. You can have your blood pressure checked by your GP, who will also carry out a simple test on your urine to check for protein.

Contact us

If you have any questions or concerns about VUR, please contact the clinical nurse specialist (CNS) on **020 7188 0136** (Monday, Tuesday, Thursday and Friday 8am to 5.30pm).

You can also bleep the CNS by calling the hospital switchboard on **020 7188 188** and asking for the bleep desk. Ask for **bleep 0856** and wait for a response. This will connect you to Winnie Nugent directly.

Out of hours, please call **Aston Key Ward** on **020 7188 8860** or **Florence Ward** on **020 7188 8818**. You can also contact your GP.

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.guysandstthomas.nhs.uk/leaflets

Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

t: 020 7188 8748 9am to 5pm, Monday to Friday

Your comments and concerns

For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

t: 020 7188 8801 (PALS) **e:** pals@gstt.nhs.uk

t: 020 7188 3514 (complaints) **e:** complaints2@gstt.nhs.uk

Language and accessible support services

If you need an interpreter or information about your care in a different language or format, please get in touch:

t: 020 7188 8815 **e:** languagesupport@gstt.nhs.uk

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

Leaflet number: 3883/VER2

Date published: September 2017

Review date: September 2020

© 2017 Guy's and St Thomas' NHS Foundation Trust

A list of sources is available on request