Bwrdd Iechyd Prifysgol Aneurin Bevan University Health Board

Patient Information

Bladder Stones

Department of Urology

Introduction

The bladder allows urine to be stored until full and squeezes when you pass urine (urination) allowing it to expel all the urine within it.
The waste products in urine can form into crystals in the bladder causing bladder stones to form. Problems can arise if these crystals become too large to be passed out when you urinate or become stuck in the water pipe (urethra).

Symptoms

Stones in the bladder may not be detected for some time unless they start to cause urinary symptoms - frequently passing urine, blood in the urine, needing to get to the toilet urgently and urine infections. If left, bladder stones can irritate the bladder and cause incontinence (leakage of urine).

A stone can get stuck in the urethra and block the emptying of the bladder or the flow of urine may suddenly stop midway. This can cause pain in the back or hips, the tip of the penis or scrotum in men, or the perineum (area between the vagina and the anus) in women. The pain may be dull or sharp and can be made worse by sudden movements and exercise.

Causes

- Change in the acidity of the urine can be enough to make a stone form – a change in acidity is often triggered by an incorrect diet or by not drinking enough fluids.

- Stagnation of urine in the bladder - diverticulum (a structural abnormality of the bladder), stricture (narrowing in the urethra) and enlargement of the prostate gland can all lead to varying amounts of urine being left in the bladder after urination.

- Urinary tract infections - increase the likelihood of developing bladder stones. Medical conditions such as gout, which affect the level of waste products in urine, can also cause bladder stones to form.

- Some healthy individuals can form stones for no apparent reason.

Most bladder stones are formed within the bladder, but some may initially form in the kidneys and then travel through the urinary system to the bladder.

Diagnosis
Certain X-ray tests, such as Ultrasound Scan (USS), CT Scan, or plain x-ray are performed to identify the presence of bladder stones.

Blood and urine samples may also be tested to identify any underlying medical conditions that may be causing bladder stones.

Treatment
Bladder stones usually need to be broken down in order that they can be removed from the bladder. The operation to do this is called **cystolithopaxy** or **rigid cystoscopy and stone removal.**

What is a rigid cystoscopy/cystolithopaxy?
This involves passing a rigid cystoscope (telescope) through the urethra into the bladder under anaesthetic. This allows the doctor to look inside your bladder. If the stone is small, it can simply be crushed. The stone fragments can then be flushed out through the cystoscope. The majority of stones can be dealt with in this way. In some cases the stones are broken down using laser or ultrasound energy rather than crushed.

If stones are very large, an open operation rather than a telescopic operation is needed. A cut is made just above the pubic bone to allow the doctor to get to the bladder. The bladder is then opened in order that the stone can be removed. If you need this operation your doctor will discuss this with you first.

What are the benefits of having this operation?
Removal of bladder stone(s).

Are there any risks? (1)

Common

Bleeding or mild burning when passing urine for a short period after the operation.
Temporary insertion of a urinary catheter (a small tube placed into the bladder to drain urine).

Occasional

Urine infection requiring antibiotic treatment.
Finding abnormalities which may require further surgery or other treatment.
Recurrence of stones or residual stone fragments

Rare

Heavy bleeding which may require a catheter to be passed into the bladder in order to wash out any clots or which can require further surgery.
Injury to the water pipe (urethra) causing scarring.
Perforation of the bladder is rare but should this occur a temporary catheter would need to be inserted into the bladder. On very rare occasions an open operation is needed to repair the bladder.

What are the alternatives? (2)

An open operation or observation – your doctor will discuss these with you.

How long will the operation take?

This will depend on the size of the stone and how easy it is to break and remove it from the bladder. On average this is usually 30 minutes but can take longer.

What happens before my operation?

Before you are admitted for your operation you will be asked to attend the Pre-Admission Clinic. This is to check that you are fit enough to undergo the operation. You will be asked questions about your general health, have some blood tests and possibly a chest x-ray and ECG (heart tracing). It also gives you a chance to ask any questions you may have.

You will usually be admitted to the ward the day of, or the day before, your operation. The anaesthetist will see you and will discuss the type of anaesthetic you will have - general anaesthetic (put to sleep) or spinal anaesthetic (numbs the area from the waist down). Your doctor will also see you and ask you to sign your operation consent form.

You will be asked not to eat or drink any non-clear fluids, such as soup, milk etc for 6 hours before your operation. You can have clear fluids (water/squash) up to 2 hours before your operation. After this you will be asked not to drink anything further. **If you are an insulin dependent diabetic, you will need special instruction, please discuss this with your nurse.**

A nurse will accompany you to the anaesthetic room where you will be given your anaesthetic.

Will I have any tubes coming out of me when I wake up?
A drip (a tube putting fluid into a vein in your arm); this is normally removed within 24 hours if you are eating and drinking well.

Some patients require a catheter (a tube placed into your bladder through your urethra). Urine will drain through the catheter into a bag. Your urine may be blood stained, this is quite normal and the blood should clear over the next week or so. The catheter is normally removed the same evening or day after your operation.

How long will I have to stay in hospital for?
1-2 days

Discharge Information

- It is likely to burn or sting when you pass urine initially after your operation. This should improve over 2-3 days
- If you develop a temperature, your urine is smelly/cloudy and burns when you pass urine, you may have an infection. You need to contact the ward for advice or your GP as you may need a course of antibiotics.
- You may see blood in your urine. This is normal and should clear after 4-7 days. If the bleeding does not improve or your urine becomes very blood stained you should contact the ward or your GP for advice.

- You can eat and drink normally. Unless you have been told by a doctor to restrict your fluid intake, you should try to drink at least 1.5 - 2 litres of fluid per day after your operation to help reduce your risk of infection and flush out any blood in the urine.
- You should wait at least 24 hours before driving or returning to work after your operation, as long as you feel well enough to do so. You should check with your insurance company to check when they are happy for you to start driving again.
- You can resume sexual activity as soon as you feel comfortable to do so.

If you have any questions or concerns, please find below contact numbers for the Urology wards and Urology nurses:-

Urology Wards:-

D 5 West on:- 01633 – 234040 / 234041 (24 hours)

Urology Day Ward on:-
Tel. No:- 01633 – 656378 / 656377 (Monday – Friday office hours)

Urology Outpatients Department on:-
Tel. No:- 01633 – 234979 (Monday – Friday office hours)

Stef Young, Pre-admission Nurse Practitioner on:-
Tel. No:- 01633 – 234533 (Monday – Friday office hours)

Reference:

(1, 2) British Association of Urological Surgeons (2004) *Procedure Specific Consent Forms for Urological Surgery*

"This document is available in Welsh / Mae'r ddogfen hon ar gael yn Gymraeg".