

## Children's (Paediatric) Micturating Cysto-urethrogram

### Consumer Information

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### What is a Micturating Cysto-urethrogram?

A Micturating Cysto-urethrogram (or MCU) is a study using X-rays that shows the bladder and urethra (the tube that carries urine from the bladder and out of the body) while passing urine (see *Children's (Paediatric) X-ray Examination*).

The test is performed to find out if the urine goes from the bladder back up to the kidneys instead of out through the urethra, known as vesico-ureteric reflux (VUR). This can be the cause of recurrent urinary tract (in the bladder or kidneys) infection and kidney damage. The test also shows how the bladder empties and what the urethra looks like.

This test is most commonly performed on children under six months of age, but can be used less commonly as an investigation for older children and adults with multiple recurrent urinary tract infections.

### How do I prepare my child for a Micturating Cysto-urethrogram?

No special preparation is required, but your child should be dressed in clothing that can be easily removed from the waist down.

If your child is old enough to have some understanding of what is happening, talking about the study with your child before the test should help to reduce his or her anxiety. If a parent or carer who attends the study with a child is anxious, then the child usually notices this and will often also become anxious or frightened. Parents and carers are encouraged to find out about the test and have their own fears allayed before attending with their child.

MCUs are mostly performed on children who are 6 months or younger and can be performed without too much stress for the child or carer. Older children may be able to have an indirect nuclear medicine study or go to a specialist centre where these services are available. An indirect nuclear medicine MCU is a test where an injection is given into the arm rather than a catheter inserted into the bladder. It is less sensitive than a radiographic MCU but appropriate in some children who would find insertion of a catheter into the bladder more stressful than an injection into the arm.

### What happens during a Micturating Cysto-urethrogram?

When your child attends for the study, a doctor or nurse will first use an antiseptic (cleaning) solution to clean around the urethra. For boys this involves washing the penis and scrotum and for girls involves washing the perineum between the inner thighs.

A small plastic catheter (thin plastic tube) is inserted carefully into the bladder through the urethra using a lubricant. This can be uncomfortable for the brief time during insertion of the catheter. If older children are not cooperative this can be done with sedation or as part of a general anaesthetic. Your child will not be restrained for this.

Once the catheter has been inserted, a liquid containing iodine (which shows up on the X-rays to provide a clear image or picture of the area) is then dripped through the catheter and into the bladder so that the bladder can be seen on the X-ray images. Your child may be rolled slightly onto the left and/or right side to show different parts of the bladder or urethra. Once the bladder is filled, your child will be asked to empty their bladder while X-ray images are being taken to show how the urethra is working. For children who are too young to follow this instruction, the bladder empties naturally when it is full and the necessary pictures can be taken while this is happening.

This investigation is usually performed to see if urine passes from the bladder up to the kidneys instead of out through the urethra, referred to as vesico-ureteric reflux or VUR.

### Are there any after effects of a Micturating Cysto-urethrogram?

The liquid inserted into the bladder can feel slightly "sticky" when it dries and a small number of children may experience a urinary tract infection after having the catheter inserted or mild discomfort while passing urine for the first time after the study.

A very small amount of blood may be passed in the urine immediately after the procedure, but this is not important if it is small and does not last. Any discomfort should only be brief if it occurs and should not increase or worsen. Any persisting or significant symptoms (such as persistent blood staining of urine, foul smelling urine, unexplained irritability, fever) that cause distress should be reported to the hospital or radiology practice where the study was done or if severe directly to your local doctor as soon as possible.

Normally your child can return to school, kindergarten, or child care after the study provided there is no medical reason not to do so.

## How long does a Micturating Cysto-urethrogram take?

It usually takes 5-10 minutes to explain and prepare your child for the study. Very young children can have the procedure performed in a few minutes but older children with voluntary bladder control may take over thirty minutes.

## What are the risks of a Micturating Cysto-urethrogram?

When any object is inserted into the bladder there is a small risk of causing a urinary tract infection (UTI) or infection of the bladder.

The Micturating Cysto-urethrogram study may not show an abnormality that is present and further investigation may be required in order to diagnose what is causing the problem. Your referring doctor will discuss the test results with you.

X-rays are invisible and pass through the body without any sensation. X-rays, like many other medical investigations and treatments, are not considered harmful if used appropriately (see [Radiation Risk of Medical Imaging for Adults and Children](#)).

## What are the benefits of a Micturating Cysto-urethrogram?

A Micturating Cysto-urethrogram will show images of the bladder and urethra and show if there is any abnormal passage of urine from the bladder into the kidneys, referred to as Vesico-Ureteric Reflux (VUR). This is a useful test to help find the cause of recurrent urinary tract infections or determine the cause of dilatation (enlargement) of the kidneys. This is usually identified on an ultrasound study or examination of the baby performed before or after birth.

This test diagnoses VUR which is abnormal and can be associated with scarring of the kidneys; this may cause reduced kidney function or high blood pressure later in life. Abnormalities of the urethra (such as posterior urethral valves) can also be identified.

## Who does the Micturating Cysto-urethrogram?

The images are usually obtained by a [radiologist](#) who performs the study with the assistance of a [radiographer](#). A radiologist or nurse may insert the catheter. A nurse will often assist the radiologist and radiographer to perform the test safely and with the least amount of distress to your child.

## Where is a Micturating Cysto-urethrogram done?

Micturating Cysto-urethrogram studies are performed in a special X-ray fluoroscopy room of a private radiology practice or in a public or private hospital. Fluoroscopy is the imaging of the body as a movie that can be viewed directly on a screen and a

fluoroscopy room has all the equipment necessary to perform this type of study.

## When can I expect the results of my child's Micturating Cysto-urethrogram?

The time that it takes your doctor to receive a written report on the test or procedure your child has had will vary, depending on:

- the urgency with which the result is needed
- the complexity of the examination
- whether more information is needed from your child's doctor before the examination can be interpreted by the radiologist
- whether your child has had previous X-rays or other medical imaging that needs to be compared with this new test or procedure (this is commonly the case if your child has a disease or condition that is being followed to assess his or her progress)
- how the report is conveyed from the practice or hospital to your child's doctor (in other words, email, fax or mail)

Please feel free to ask the private practice, clinic, or hospital where you are having your test or procedure when your child's doctor is likely to have the written report.

It is important that you discuss the results with the doctor who referred your child, either in person or on the telephone, so that they can explain what the results mean for your child.

## Further information about Micturating Cysto-urethrogram:

A Micturating Cysto-urethrogram can be uncomfortable and although it has been widely performed in the past on all patients with recurrent urinary tract infections, it is now most commonly used in children under six months of age with urinary tract infection or other proven or suspected abnormality of the kidneys or bladder requiring investigation.

Older children or adult patients with recurrent urinary tract infections or other significant urinary tract symptoms should only have an MCU if referred from a urologist, a specialist surgeon who treats bladder and kidney diseases.

### **Please note:**

This information is of a general nature only and is not intended as a substitute for medical advice. It is designed to support, not replace, the relationship that exists between a patient and his/her doctor. It is recommended that any specific questions regarding your procedure be discussed with your family doctor or medical specialist

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