

Your child's micturating cystourethrogram (MCUG)

Information for patients, parents and guardians

This factsheet explains what a micturating cystourethrogram (MCUG) is and what will happen at your child's appointment, so that you know what to expect and can help prepare your child. We hope it will answer some of the questions you may have. If there is anything you don't understand, a member of your child's healthcare team will be happy to explain further.

What is a micturating cystourethrogram (MCUG)?

A MCUG is a scan of the bladder and urethra (the opening through which your child urinates). The scan shows the appearance of the bladder and how it fills and empties.

A MCUG will be performed by a radiographer (a person specially trained in taking x-ray images) and a radiologist (a doctor who is specially trained to interpret x-rays).

How does a MCUG work?

The procedure uses a special type of x-ray called 'fluoroscopic imaging', which produces real-time moving images of the body (like a film). The moving images will appear on a screen, which will then be reviewed by a radiologist.

The procedure also uses contrast liquid. The contrast liquid contains iodine which shows up on the images and allows the radiologist to clearly see and check your child's urinary system.

How do I prepare my child for a MCUG?

Antibiotics

To reduce your child's risk of getting a urinary tract infection, they must be on antibiotics before this procedure. Please read the 'antibiotics guidance for MCUG' factsheet attached.

Eating and drinking

Your child can eat and drink as normal before and after the procedure.

Medications

You should continue to give your child their normal medications.

Allergy to iodine or contrast liquid

Please inform us before the scan if your child has a known allergy to iodine or contrast liquid. Your doctor may prescribe your child medications before the scan to reduce their risk of having an allergic reaction.

Clothing

Your child should wear clothing that can be easily removed from the waist down.

What will happen before the scan?

Please arrive at the children's radiology department at the time stated in your child's appointment letter. If you are unable to keep this appointment, please let us know as soon as possible so we can offer the appointment to another child on the waiting list.

As the scan will involve the use of x-rays, we are legally required to ask girls who have started their periods whether there is any chance they could be pregnant. This is to protect unborn babies from receiving unnecessary radiation. We will provide you and your child with a simple questionnaire when you arrive at the department. We will check your child's answers before proceeding with the scan.

We may ask your child to change into a hospital gown and wait in a cubicle until the x-ray room is ready. We recommend talking about the scan with your child while they are waiting to help reduce any anxiety.

Can I stay with my child during the scan?

You are welcome to stay with your child during the scan, but you will need to wear a protective lead apron.

If you are pregnant, we suggest you bring someone else with you, to be with your child during the scan instead, as radiation from the x-rays may be harmful to your unborn baby.

What will happen during the scan?

Before we begin the scan, we will ask some questions to confirm your child's identity and the type of scan being done.

We will then take your child into the x-ray room and ask them to lie down on our x-ray couch. We will clean the area around your child's urethra using a cleaning solution. For boys, this will involve us washing their penis and scrotum, and for girls, this will involve us washing their perineum (between the inner thighs). We will then carefully insert a small, soft catheter (a thin, plastic tube) into your child's bladder through their urethra. Your child may find this process uncomfortable and we may need to keep them still for a few minutes while we insert the catheter (we will not restrain them). For older children, we can use Entonox (laughing gas) to help relax them while we insert the catheter.

Once the catheter is in place, we will start to fill your child's bladder with liquid contrast. As their bladder fills, we will take some x-ray images. We may roll your child slightly onto their left and/or right side to allow us to take x-ray images of different parts of the bladder and urethra. Once your child's bladder is full, we will ask them to empty their bladder (wee) while we take x-ray images. For children who are too young to follow this instruction, we will gently remove the catheter and wait to take x-ray images when their bladder naturally empties itself.

The images we take will appear on a computer screen in the room. We will check that the images contain all the required information before your child leaves the department. This may take up to ten minutes, depending on the number of images to be checked.

How long will the MCUG take?

The length of the procedure will vary depending on:

- the age of your child
- how your child cooperates
- how many areas need to be x-rayed

In most circumstances, the entire procedure will take around 30 minutes.

What are the benefits of a MCUG?

A MCUG makes it possible to see internal organs in motion, which allows us to check whether your child has vesico-ureteric reflux (when urine travels upwards from the bladder to the kidneys instead of downwards out through the urethra). It can also be used to help find the cause of recurrent urinary tract infections and/or dilation (enlargement) of the kidneys.

What will happen after the scan?

When we have finished the scan, your child will be able to get dressed and resume their normal day-to-day activities.

Your child should drink plenty of fluids for the first couple of days after the scan to help flush the contrast liquid out of their urinary system.

The contrast liquid inserted into the bladder can feel slightly 'sticky' when it dries, so your child may need to have a warm bath when they get home to help remove any leftover contrast on their skin.

Are there any risks?

Antibiotics

If your child was on prophylactic or preventative antibiotics before the procedure, they must continue to take the antibiotics as prescribed until told otherwise by their doctor.

Urinary tract infection

A very small number of children may experience a urinary tract infection after having the catheter inserted, or mild discomfort when passing urine for the first time after the scan. If your child has any problems passing urine the day after the scan, contact your GP.

Allergic reaction to iodine or contrast liquid

The risk of a serious allergic reaction to the contrast liquid is rare.

Exposure to radiation

We are all exposed to background radiation on a daily basis. Some of it comes from natural sources and some comes from artificial sources. Natural sources of background radiation include:

- cosmic rays - radiation that reaches the Earth from space
- rocks and soil - some rocks are radioactive and give off radioactive radon gas
- living things - plants absorb radioactive materials from the soil and these pass up the food chain

Generally, the amount of radiation your child will be exposed to during a MCUG is equivalent to a few days extra background radiation. Your child will not be exposed to any more x-rays than is absolutely necessary.

Before we carry out any examination using radiation, we will weigh up the benefits of having the examination against the risks of the radiation itself. Exposure to radiation can slightly increase a person's lifetime cancer risk, but for this examination, the risk is very small.

When will I receive my child's results?

We will send your child's results to the clinician who requested the MCUG. They will then contact you to discuss the results. If your child's results require urgent attention, we will discuss this with you as soon as possible.

Contact us

We hope that this factsheet will answer some of the questions you may have, but if there is anything you do not understand or is not covered, please speak to a member of your child's healthcare team who will be happy to explain further.

If you have any questions before the procedure, please telephone the children's radiology department.

Telephone: **023 8120 4429** (Monday to Friday, 8.30am to 4.30pm)

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Version 1. Published November 2020. Due for review November 2023. 2790