



For children having a DMSA kidney scan

A DMSA kidney scan is a nuclear medicine test of the kidneys. It can be used to detect any damaged areas of the kidneys, for example as a result of repeated urinary tract infections. It can also be used to identify other kidney abnormalities such as acute pyelonephritis (inflammation of the kidneys), duplex (two collecting systems), small, horseshoe (joined kidneys) or ectopic kidney (located in an unexpected place). It is also able to see whether both kidneys are working equally well.

Is it safe for my child to have the scan?

For this scan it is necessary to inject a small amount of radioactive tracer, called a radiopharmaceutical, in order to take the pictures. The amount is calculated according to your child's weight. The small risk from this radiation dose is outweighed by the information that will be gained by having the scan. There is a table at the end of this leaflet which gives radiation risk from various sources. Call us before your appointment if you have any questions. All investigations are vetted by the Medical Physics Team to make sure this is the appropriate test for your child. If you don't understand why your child needs to have this scan please speak to the doctor who referred them.

Preparation for the scan

The DMSA scan will normally be performed 4 to 6 months after any urinary tract infections as it may take that time for any scarring on the kidney to show. There are no special preparations for a DMSA kidney scan. Your child can eat, drink and take any medicines as normal.

The injection

You will be given a time to report to the Kempton Day Bed Unit (children's ward) for anaesthetic cream to be applied to the skin over some of your child's veins. After approximately 30 minutes a cannula will be inserted into a vein. Then, you will be asked to come to Medical Physics in the North Block of the hospital. Here we will use the cannula to give a radioactive injection to be able to see the kidneys. Your child will not feel any different after having the injection.

After the injection you can take your child home or out and about and they can eat and drink as normal. You will be given a time to return to the Medical Physics Department for the scan (usually around four hours later).

The scan

The scan is taken by a special machine called a gamma camera. It usually takes about 30 minutes and it is very important that your child keeps their torso as still as possible during this time. Babies and smaller children can lie in a special support on top of the camera and bigger children can either sit or lie down, alone or on the parent's lap if necessary. If you think that your child will find this difficult please speak to the Medical Physics Department before your appointment.



After the scan

Your child can continue all normal activities unless you have been advised otherwise. After the scan there will be some radioactivity left in their body but this will not present a significant risk to other people around you. The radioactivity will soon disappear.

The results

The DMSA kidney scan will be looked at by a specialist doctor, who will issue a report. The report will be sent to the doctor who requested the scan rather than to your GP. This is because the doctor who requested your scan will have all the results from other tests and will be able to tell you how the result of the DMSA scan affects your child's care.

Contacting us

Medical Physics Department, Level 1 North Block, Monday to Friday, 9.00 am to 5.00pm.

If you have any questions about your child's treatment, please ask the staff looking after you or telephone **0118 322 7355** or email: **rbb-tr.physics@nhs.net**

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

RBFT Physics & Clinical Engineering Department, March 2024.

Next review due: March 2026.

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The table below is a simple guide to the levels of radiation risks for various examinations. These are measured in millisieverts (mSv).

Source of exposure (using RBFT local diagnostic reference levels (DRLs) for Nuclear Medicine)	Dose
Having a chest x-ray	0.014 mSv
Taking a transatlantic flight	0.08 mSv
DMSA kidney scan (adult dose)	0.7 mSv
UK average annual radiation dose	2.7 mSv
CT scan of the chest – CT scan of whole spine	6.6 mSv – 10 mSv