

Department of Diagnostic Radiology

Patient Information Leaflet: DMSA Kidney Scan (Child)

Please allow up to 4 hours from start to finish.

This is a resource intensive, specialised scan so it is very important to confirm your appointment or let us know at least 48 hours prior to the scan that you cannot make the scan appointment.

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What is a Nuclear Medicine DMSA Kidney scan?

A DMSA scan is a method of examining your child's kidneys following an injection of a small amount of radioactivity. Special pictures are taken which will give your child's doctor more information about their condition.

What preparation do I need?

Your child may eat and drink as normal and there is no need to stop taking any drugs they may have been prescribed. During the scan it is important that your child lies still. It might be necessary to hold them fairly firmly to prevent movement on the pictures. You may like to bring a selection of toys or electronic devices to help occupy them.

Before the scan you need to attend the children's ward on the second floor to prepare for the scan. On the ward they will insert a cannula into a vein. This may take up to an hour.

Once they have inserted the cannula you will be sent down to the X-ray department for the radioisotope to be administered.

What does the procedure involve?

When you arrive in the X-ray department you will be shown to the Nuclear Medicine area, the staff will weigh your child in order for the correct amount of radioisotope to be given.

The procedure will be explained to you and your child will be given an injection of a radioactive tracer into the cannula. The cannula will then be removed.

Following this you are free to leave the department. We will require your child to return for us to take images of the kidneys 3 hours after the injection. We will let you know the exact time while you are in the department with us. During this time your child can eat and drink normally and go the toilet as often as they need to.

If your child wears nappies, prior to returning please ensure that your child has a clean nappy before the scan, as the urine in the nappy can affect the pictures. All nappies that have been changed during the 3 hours between the injection and scan must be returned to the Nuclear Medicine department for safe disposal. Your child will not need to undress for the scan.

Then you will be asked to lie your child on the couch underneath the gamma camera, when your child is still in the correct position the images will be taken. The scan will take about 30 minutes.

Is there anything I should tell the staff?

Please telephone us on the number in the appointment letter if any of the below applies to you:

- If your child is pregnant or if you think they might be pregnant. Tell us this BEFORE you have your injection. Also tell us if your child is breastfeeding. Individuals who breastfeed are advised to follow guidance available on NHS website at Breastfeeding.
- If your child has difficulty moving from a chair to a bed, please let us know before you arrive so arrangements can be made.
- If your child is a Carer or if you are a Carer or if you or your child resides in a care home.
- If you have any other medical or dental appointments in the 48 hours following the scan.
- Please inform us if you have had a recent Urinary Tract Infection (UTI).

What happens after the examination?

You child can continue as normal but will be emitting a small amount of radiation for 24 hours post injection. Please ensure your child avoids prolonged close contact with children and pregnant women for 24 hours post procedure. Close contact means having a child or pregnant woman sitting next to you for more than 30 minutes. This is to avoid these individuals being exposed to unnecessary radiation.

The examination report will be sent to the Doctor who referred your child, they will relay the results and aftercare to you. This will take about 2 weeks.

Is it safe?

It is important that you are aware that there will be a small dose of radiation as part of your Nuclear Medicine diagnostic procedure. The dose is set (by national regulations) to the level needed for effective diagnosis or treatment. We aim to keep the dose as low as possible, without compromising the diagnostic quality of the images.

What is Diagnostic Nuclear Medicine procedure?

Diagnostic Nuclear Medicine procedure involves injecting a small amount of radioactive material into the body through a vein in the arm or hand or sometimes this will be administered by ingestion. This radiation can then be detected by a gamma camera to give information on organ function/physiology. There will be a low level of radiation present in the body for several hours after the injection. The radiation may be excreted from your body in urine, saliva and sweat.

What is Radiation?

Radiation is a normal part of our everyday lives. This is called natural background radiation. Natural background radiation comes from; the ground and building materials around us, the food that we eat and outer space (cosmic radiation). The average UK natural background dose is around 2.7 units (the unit being millisievert, mSv) per year (this varies across the country from 1.5 to 7.5 units per year).

What are the benefits?

Your doctor has deemed the procedure to be necessary in order to gain a clinical diagnosis after considering the risk vs benefit. The use of radiation in medicine has brought tremendous benefits to society, especially in the diagnosis and treatment of disease. The benefits are immeasurable.

If any concerns as to whether your child should have a scan involving radiation then please discuss the risks and benefits with your referring doctor.

What are the risks?

Nuclear medicine procedures are among the safest diagnostic imaging tests available. The amount of radiation in a Nuclear Medicine procedure is comparable to that from an x-ray procedure. The typical radiation dose is one to two times the annual natural background radiation levels in the UK. Any radiation dose, from any source, carries a small risk - the current best estimate is that the increase in the risk of developing a cancer is no more than 0.005% (1 in 20000) for every unit of radiation dose received. Each medical examination involving radiation gives a small additional dose on top of this natural background radiation.

For comparison, the natural risk of developing cancer is around 50% (1 in 2), so the total risk for a person receiving an additional radiation dose of 1 unit is 50.005%. As can be seen, the additional risk is very small.

For more information on the risks of exposure to radiation please refer to the [Public Health England website](#).

For more information about Nuclear Medicine scans please refer to the information available on patient information [Radio Nucleotide scan website](#).

Carers and comforters?

If your child needs someone to help during the procedure i.e. with mobility etc., or need to be cared for by a family member or friend post examination, they may receive a small dose of radiation that presents a very small risk to them. The Radiographer will ensure that this is as low as possible and provide information on how to ensure this dose is kept as low as reasonably practical after the procedure.

It is important that they are informed of the risk they may face by being involved during your examination and post examination, there is a separate sheet attached with information for them and a consent for to sign. If they would like more information they can contact us on the number below.

Contact Us

Please refer to the appointment letter. If you require the information in paper format please contact the Radiology Department on the number provided on the letter.

How to provide feedback

Our aim is to provide a quality of care we would want for ourselves, our families and friends. If there was anything that we could have done please let us know via the department/ward staff or the patient experience team available on 01432 372986 or email PALs@wvt.nhs.uk (opening times may vary).

This leaflet is available in large print, Braille, Audio tape or other languages upon request. Please contact patient experience team on the above telephone number.

You may be asked to give your opinion on the service you have received. We welcome your feedback as this will help us to improve the care and treatment we provide to our patients. [Wye Valley NHS Trust website](#) Telephone 01432 355444