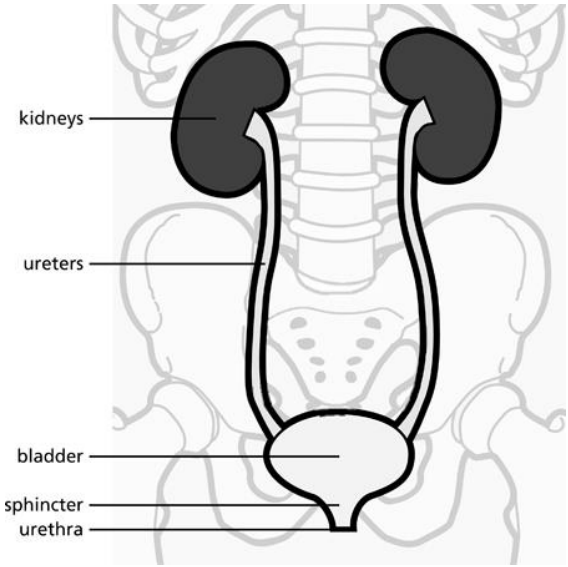
DMSA scan: information for families

This information sheet from Great Ormond Street Hospital (GOSH) explains about the DMSA scan used to look at your child's kidneys, what is involved and what to expect when your child comes to Great Ormond Street Hospital (GOSH) for the scan. An Easy Read information sheet about the scan is also enclosed for your child. If you have any questions, please call the Radiology Department on 020 7405 9200 extension 5262.

A DMSA scan is used to assess the function and location of the kidneys, that is, to check how well the kidneys are working. It is also used to show any potentially scarred areas in the kidneys, which may not be working as well as they should.

It works by injecting a substance called an isotope into your child's veins, which is then absorbed by the kidneys. The scan is named after the chemical 'de mercapto succinic acid' or DMSA for short, to which the isotope is attached.



Are there any alternatives to a DMSA scan?

Various types of scan such as CT, ultrasound and x-rays can show the size and shape of your child's kidneys but not their function. The results of the scan are then used to plan your child's treatment.

When you receive your appointment letter

If you are unable to keep this appointment, please inform the department at least two weeks beforehand. Sometimes, we can offer the appointment to another child on the waiting list.

As so many children and young people need to use our services, we have had to introduce a policy where if you cancel or a child does not attend two appointments in a row, we will inform their GOSH consultant and close their referral.

Before the appointment

If you are pregnant or think you could be pregnant, please let us know at least two days before your child is due to come to GOSH for the injection.

There is a small risk that the isotope given to your child could harm your unborn baby, so we advise you to organise another adult to help look after

your child for the first 24 hours after the scan. If this is not possible, we may have to reschedule your appointment.

If your daughter is 12 years old or older, we will ask her about her periods and any possibility that she could be pregnant.

If your child is apprehensive or scared of needles or injections, please telephone the Nuclear Medicine Department before the appointment – we can advise you on how to prepare your child and may involve the play team.

Your child will be able to watch a DVD during the scan, so please bring along any favourites. It can also help if your child has a favourite toy to hold as well.

Your child will not be asked to undress for the scan. However, they should wear clothes containing as little metal (such as zips or buttons) as possible as this interferes with the scan.

Important

The person bringing your child to the scan should have 'Parental Responsibility' for them. Parental Responsibility refers to the individual who has legal rights, responsibilities, duties, power and authority to make decisions for a child. If the person bringing your child does not have Parental Responsibility, we may have to cancel the scan.

The day of the scan

Please arrive at the Radiology (X-ray) reception desk at the time stated in your child's appointment letter. This is one hour before the injection is due to be given, so your child can have local anaesthetic cream applied to numb the skin.

If your child does not want local anaesthetic cream or weighs less than 5kg, please let us know and arrive 45 minutes after the time given in the letter – this is 15 minutes before the injection.

Your child needs to be well-hydrated (not thirsty) to give a good result, so please make sure that they drink plenty of fluids on the day of the scan. If your child is on restricted fluids, please follow guidance from your doctor.

The injection

Once the local anaesthetic cream has made your child's skin numb, we will ask you and your child to come to have the injection. The radiographer will put a very small needle in your child's hand, arm or foot, inject the isotope then remove the needle immediately.

Radiation and risk

It is our legal duty to tell you about the potential risk of having an isotope scan. There are no side effects to the scan itself and the isotope will not interfere with any medicines your child is taking.

The isotope contains a very small amount of radioactivity, about the amount we receive from natural background radiation in about two years. The isotope becomes inactive in the hours following the scan and is passed out of the body in your child's urine.

You should take precautions in the 24 hours immediately after the injection as described below. Following these simple precautions will minimise the risk of radioactivity from your child's urine.

Between the injection and the scan

It can take between two and three hours for the isotope to reach the kidneys. We will give you a time to come back to the department for the scan itself. It is very important that you come back to the department on time. Otherwise, the scan may need to be delayed or even cancelled.

If your child is under five years old, please try to keep them awake between the injection and the

scan. Being a bit sleepy will help your child to keep still during the scan.

There are no restrictions for your child in between the injection and scan (they are able to eat and take any necessary medication), however it improves the quality of the scan if they are able to drink extra fluid during this time – it does not matter what fluid they drink.

You are welcome to leave the hospital to explore the local area – for ideas of what to do, please pick up a copy of our *What's on* information sheet from the Pals Office.

The scan

Please come back directly to the Nuclear Medicine department and let us know you have arrived. You can stay with your child throughout the scan. They will need to lie very still while three or four pictures are taken.

Each picture can take up to 10 minutes. Unfortunately, if your child moves, we may have to start that picture again. Depending on how many pictures are needed, the scan will take approximately 45 minutes.

SPECT/CT scan

Some children, for instance if they have kidney stones, also need a SPECT/CT scan during the same appointment. A SPECT/CT (single-photon emission computed tomography) scan creates images of the inside structures of your child's body in three dimensions (3D) using x-rays and computers. We will let you know if your child will need this additional scan, which will take another 45 minutes.

After the scan

If your child is not having any further scans or tests, you will be free to go home. A consultant radiologist will send a report about the scan to your child's doctor.

For the first 24 hours at home

Give your child plenty to drink. This will help the isotope pass out of their body as quickly as possible.

If your child is toilet-trained, they should go to the toilet as often as possible. When they have used the toilet, they should flush it twice and wash their hands thoroughly with soap and water.

If your child is potty training, flush the toilet twice after emptying the potty. Wash the potty and your hands thoroughly in warm soapy water.

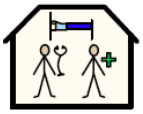
If your child is in nappies or pads, you should change them frequently and dispose of the dirty nappy or pad in an outside bin. Wash your hands thoroughly after nappy or pad changing.

If you are pregnant or think you could be pregnant, you should avoid contact with your child's bodily fluids, such as urine (wee), faeces (poo) and vomit.

Your child should carry on taking their regular medications as usual. The isotope will not affect them in any way.

If you have any questions, please call the Radiology Department on 020 7405 9200 extension 5262.

Having a DMSA scan



You are coming to hospital for a kidney scan. This looks at your kidneys and how well they work.

Your kidneys take water from your body and clean it. This removes any bad stuff and turns it into wee.

You cannot have this scan if you are pregnant. We may ask you to give us a wee sample to test.

You need to drink lots of water for this scan to give good pictures.

We will put some cream on your hand to make it numb. A while later, you will have an injection. This shows up as a different colour on the pictures.

The liquid takes a few hours to travel to your kidneys. You can have something to eat and drink and you can go outside the hospital. We will tell you what time to come back.

We will help you get onto the scanner bed ready for your pictures. You need to stay very still so we get good pictures.

After this, you can go home. Remember to keep drinking lots of water to get rid of the liquid.