



DMSA scan

This information sheet explains about the DMSA scan on your child's kidneys, what is involved and what to expect when your child comes to Great Ormond Street Hospital (GOSH) for the scan.

What is a DMSA scan?

A DMSA scan is used to assess the structure and location of the kidneys and to check how well the kidneys are working. It is also used to show any scarred areas in the kidneys that may not be working as well as they should. It works by injecting a substance called an isotope into your child's veins, which then travels to 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?

Various types of scan such as CT, ultrasound and x-rays can show the size and shape of your child's kidneys but not how they are working. 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 a child cancels or does not attend two appointments in a row, we will close their referral and inform their GOSH consultant.

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 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 under four years old or has a medical condition that means it is difficult to lie still, it is likely that he or she will need to go to a ward in between the injection and the scan. Your child will be given a medicine that will make him or her sleep during the scan. The ward will contact you about the time of admission and any special instructions. If you have not heard from the ward three days before the scan, please ring the Nuclear Medicine department.



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. This will numb the skin so the needle does not hurt so much. If your child is apprehensive or scared of needles, please telephone us beforehand and discuss your concerns with our play specialist.

If your child does not want local anaesthetic cream, please arrive fifteen minutes before the injection.

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 need to get undressed for the scan. However, he or she should wear clothes containing as little metal, such as zips or buttons, as possible as this interferes with the scan.

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 or nurse will put a very small needle in your child's hand, arm or foot and inject the isotope. Immediately after the injection, he or she will remove the needle and put a plaster over the area.

Between the injection and the scan

It can take between two and four hours for the isotope to travel to 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 possible, try to keep your child awake between the injection and the scan as being a bit sleepy will help your child to keep still during the scan particularly if he or she is under five years old. Your child can eat and drink as normal in between the injection and the scan. You are welcome to leave the hospital to explore the local area. For ideas of things to do, please ask for a copy of our booklet *What to do in between appointments*, available from the Radiology department or the Pals Office.

The scan

Once you have come back to the department, please report to Nuclear Medicine to let us know you have returned. We will then call you and your child to come to the scanning room. He or she will need to get up onto the scanning bed, and lie very still while three or four pictures are taken. We can put sandbags around your child to help keep him or her still. Each picture can take up to ten minutes, but unfortunately, if your child moves during this time, we may need to start that picture again. The scan itself takes between 30 minutes and an hour. If your child needs a CT scan as well, we will try to do this during the same appointment.

After the scan

If your child has had sedative medicine, he or she will return to the ward to wake up fully before you can all go home. If your child is not having any further scans or tests, you will be free to go home. The radiographer will send a report about the scan to your child's doctor.



Are there any risks?

There are no side effects to the scan. The isotope that we inject will not interfere with any medicines your child is taking. The isotope contains a very small amount of radioactivity, similar to the amount we receive from natural background radiation in about six months. This is not a danger to your child as the isotope becomes inactive in the hours following the scan. However, it is necessary to take some precautions for the first 24 hours after the scan, while the isotope is leaving your child's body. These are explained in the next section.

There is a risk that the isotope could harm an unborn baby, so please follow the instructions earlier in this leaflet to minimise these risks.

Going home

For the first 24 hours after the scan:

- Your child should drink plenty of fluids. This will allow the isotope to pass out through his or her body as quickly as possible.
- If your child is toilet-trained, he or she should go to the toilet as often as possible. Hand washing afterwards is very important.
- If your child is in nappies, you should change them frequently and dispose of the dirty nappy in an outside bin. Wash your hands thoroughly after nappy 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 continue to take any medicines as usual. The isotope will not affect them in any way.

**If you have any questions,
please telephone the Radiology
department on 020 7405 9200 ext 5220**

Compiled by the Renal and Radiology department in collaboration with the Child and Family Information Group
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