



# MAG3 scans

**This information sheet explains about the MAG3 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 MAG3 scan?

It is used to assess the structure and location of the kidneys and to check how well they are working. It is also used to show any blockages or obstructions in the kidneys that might stop them 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 and comes out through your child's urine. There are no side effects to this injection.

The MAG3 scan is named after the chemical 'mercapto acetyl tri-glycine' or MAG3 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.

## 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 to 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 needs to be well hydrated for the scans to give a good result. Please make sure that your child drinks plenty of fluids on the day of the scan. If your child is also having an ultrasound, he or she will be able to go to the



toilet afterwards but should carry on drinking for the MAG3 scan. If your child is on restricted fluids, please follow guidance from your doctor.

If your child needs an ultrasound scan as well, we will try to carry this out during the same appointment. Your child's bladder needs to be full for the ultrasound scan so your child should not go to the toilet until this has been completed.

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 can interfere 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. Your child will need to get up onto the scanning bed for the injection and pictures. The radiographer will put a very small needle in your child's hand or foot and inject the isotope. Immediately after the injection, he or she will remove the needle and put a plaster over the area. The scan starts as your child has the injection.

## The scan

You can stay with your child throughout the scan. He or she will need to lie very still while a series of images are taken over a period of 20 minutes or so. We can put sandbags around your child to help keep him or her still. After the 20-minute pictures have been taken, you and your child should wait in the waiting room for 20 minutes. While you are waiting for the next part of the scan, please encourage your child to drink plenty of water, juice or milk. You and your child will then be asked to come back to the scanning room for one image, this time taken over one minute. Your child will not need another injection.

## After the scan

If your child is not having any further scans or tests, you will be free to go home. The nuclear medicine consultant 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 below 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. If your child had an injection of diuretic medicine, he or she will need to go to the toilet more frequently than usual for first few hours after the test. It is important that your child continues to drink to avoid dehydration. 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 Nuclear Medicine  
department on 020 7405 9200 ext 5220**

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