



Labelled white cell scans

This information explains about labelled white cell scans, what is involved and what to expect when your child comes to Great Ormond Street Hospital (GOSH) for the scan.

What is a labelled white cell scan?

A labelled white cell scan is used to show areas of infection or inflammation (swelling) within the body. The scan works by mixing a substance called an isotope with a sample of your child's blood, which is then injected back into a vein. The isotope 'sticks' to the white cells so that they can be followed as they circulate throughout your child's body and collect in areas of infection or inflammation.

Are there any alternatives?

Various types of scans such as CT, ultrasound and x-rays can show infection and inflammation but not in great detail. 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 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 blood is due to be taken, 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 or weighs less than 5kg, please arrive 15 minutes before the appointment time.

Your child needs to be well hydrated (not thirsty) to give a good result, so please make sure that he or she drinks plenty of fluids on the day of the scan.



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 blood sample

The radiographer will put a cannula (thin, plastic tube) into a vein in your child's hand, arm or foot and take a small amount of blood. This is then sent to another hospital to be mixed with the isotope and then returned to GOSH about three hours later. The cannula will remain in place until after the re-injection of your child's blood.

You are free to leave the hospital while waiting for the blood sample to be returned. We will give you a time to come back to the department for the injection. The blood labelling can be difficult so the time it takes can vary. Please give us your mobile telephone number before you leave the department and take the department's number too, so you can check when it is time to come back. 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. There are plenty of things to do, such as lunch or shopping at the Brunswick Centre, visiting the British Museum or playing in Coram's Fields. For more ideas on activities in the local area, please call in at the Pals Office opposite the hospital shop for our *Around GOSH* information sheet.

The injection

Once you have come back to the department, please report to the Nuclear Medicine reception desk to let us know you have returned. The radiographer will inject the blood sample and isotope into the cannula and then remove it and put a plaster over the area.

Between the injection and the scan

It can take around 20 minutes for the isotope to travel to any site of infection or inflammation. We advise that you stay in the department while waiting for the scan.

The scan

We will then call you and your child to come to the scanning room. You can stay with your child throughout the scan. He or she will need to get up onto the scanning bed, and lie very still while some pictures are taken. We can put sandbags around your child to help keep him or her still. Each set of pictures takes 5 to 10 minutes.

Your child will also have pictures taken at various times throughout the afternoon after the injection. You are free to leave the department in between scans but it is very important that you come back to the department on time. The scan is not complete until all sets of pictures have been taken so if you are late we may have to reschedule the entire examination for another day.

There is a small possibility that we will need to take an additional set of pictures on the following day. This is unlikely but we will warn you if this is necessary.



After the scan

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 the 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 Radiology department in collaboration with the Child and Family Information Group
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