



## Bone SPECT/CT scans: information for families

This information sheet from Great Ormond Street Hospital (GOSH) explains about bone scans, how it is used to look at your child's bones, 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 bone scan is used to show the structure of your child's bones. It can show up problem areas, such as infection or fractures. It can also show areas of new or overactive bone growth.

It works by injecting a substance called an isotope into your child's veins, which then travels to the bones. The isotope contains a very small amount of radioactivity which is picked up by the camera used to take pictures during the scan. More of the isotope collects in areas where more bone cells are being formed making them easier to see.

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.

### 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 bones but not how the bone cells 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 you cancel or a child 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 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.

If your child is under four years old or has a medical condition that means it is difficult to lie still for two hours, it is likely that they will need to have a general anaesthetic for the scan. They will need to stop eating and drinking for a few hours before the scan. This reduces the risk of stomach contents getting into the lungs.

The Nuclear Medicine department or ward will contact you if this is necessary about the time of admission and any special instructions. If you have not received a call three days before the scan, please ring the department on the number at the top of this information sheet.

### **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 before the injection.

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) 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 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. Sometimes a few short pictures are taken at the same time as the injection but this will not apply to all children.

### **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. Our doctors have checked that the expected benefit of your child receiving the study outweighs any small risk from the radiation involved.

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 bones. 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. If the scan is delayed, the quality of the imaging is greatly reduced.

If your child is due to have a general anaesthetic, they will go back to the ward in between the injection and the scan and must not have anything to eat and drink.

If your child is under two 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.

Unless they are having a general anaesthetic, your child can eat and drink as normal in between the injection and scan. You are welcome to leave the hospital to explore the local area – for ideas of things to do, please pick up a copy of our *What's on* information from the Pals Office.

## The scan

Please come back directly to the Nuclear Medicine department and let us know you have arrived. Your child will need to have a wee before the scan and then we will then call you and your child to come to the scanning room. You can stay with your child throughout the scan.

Depending on how many pictures are needed, the scan can take up to two hours with short breaks in between each picture. However, if they are distressed and unable to remain still, this may take longer.

If your child needs a CT scan at the end of the SPECT scan, we will ask you to wait outside the room but this only takes a few minutes.

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

## 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.

If your child had a general anaesthetic for the bone scan, they will return to the recovery area to wake up fully before you go home.

## For the first 24 hours at home

Your child should eat and drink normally and can return to their day to day activities.

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.

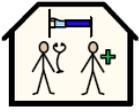
If your child is potty training, flush the toilet twice after emptying the potty. Wash the potty and your hands thoroughly in warm soapy water.

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.

## Having a bone SPECT/CT scan



You are coming to hospital for a bone scan. This looks at your bones and shows any problem areas.



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 bones. You can have something to eat and drink and can go outside the hospital. We will tell you what time to come back.



When you come back for the scan, you will need to go to the toilet for a wee.



Some children have some medicine to make them sleepy for the scan. You might need this if you find it hard to lie still for a while.



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



If you need a CT scan as well, we will do this straight after the bone scan.



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