

Skeletal Survey

Why are any tests needed in this situation?

NHS hospitals and all their employees have a duty to protect children. Staff are encouraged and expected to raise concerns if they believe the care, or welfare of a child is at risk. Although this can be upsetting and difficult for those with parental responsibility, the child's wellbeing and safety comes first.

If any concerns are raised, it is important that these are investigated fully. As part of the investigation it is essential to identify any injuries. In younger children and babies, injuries can be difficult to see. X-rays and scans can help to diagnose these injuries. Sometimes children need to stay in hospital whilst tests are completed and plans are made for your child.

What X-rays and scans will be needed?

A baby or young child will require a skeletal survey X-ray examination and a computed tomography (CT) head scan. Other imaging tests may be necessary, which could include ultrasound, nuclear medicine or magnetic resonance imaging (MRI) scans. Blood tests may also be needed.

What is a skeletal survey?

This examination takes place over two visits about 2 weeks apart. You will be given an appointment for the second visit once the first appointment is complete.

First appointment

The skeletal survey is carried out by appropriately educated and trained paediatric radiographers who are skilled in dealing with children. They will help you and your child throughout the examination. A nurse, or other healthcare professional, will also be present to help and support you and your child.

A skeletal survey is an X-ray examination of the whole body and will involve around thirty separate X-ray images. This can take up to an hour to perform. Your child will need to keep still for each image taken. You may be asked to help hold your child still although toys and other distractions will be available. You may want to bring your child's favourite toy or comforter to help with this.

Sometimes your child will be sedated – this will be discussed with you beforehand by the paediatric doctors. The staff present will be able to help you in holding your child safely, so as to cause as little distress as possible to both you and your child. You will need to wear a special protective apron while holding your child to prevent your own exposure to X-rays. If you are pregnant, or could be pregnant, you must tell the radiographer. You will not be allowed to hold your child in this case. It is not unusual for a child to become distressed or grizzly during the

procedure due to the need to be kept still for the images. You will be able to comfort your child between X-ray images.

The radiographers who perform the X-rays will not know the result. The images will be reported by a consultant radiologist, usually within one or two days. The results will be discussed with you by the doctor looking after your child's care.

Second appointment

Sometimes recent injuries are not visible initially and will only be seen on images obtained later. The skeletal survey examination is not complete until a shorter second series of images has been taken. You should ensure your child returns for the second appointment, which will usually be 11-14 days after the first series. You will be given an appointment to bring your child back for these images. The process of taking the images will be very similar to your first appointment.

CT brain scan

A CT scan is performed by experienced radiographers and produces images of the brain and the skull. The scan is relatively quick although your child will need to lie very still. Sometimes sedation may be used to help your child stay still.

The radiographers who perform the CT brain scan will not know the result. The scan will be reported by a consultant radiologist usually within one or two days. The results will be discussed with you by the doctor looking after your child's care.

MRI Scan

It may be necessary for your child to have an MRI scan of their brain and other areas. This will be performed by experienced radiographers. The MRI scanner looks similar to a CT scanner, but the interior is more like a tunnel. An MRI scan can take up to one hour and is noisy. Your child will need to be perfectly still for this and may need sedation or a general anaesthetic. The anaesthetist will explain to you the details of the anaesthetic before your child has the MRI. You will be asked to provide your agreement for this procedure to be undertaken.

The radiographers who perform the MRI scan will not know the result. The scan will be reported by a consultant radiologist. The results will be discussed with you by the doctor looking after your child's care.

Sedation

Your child's doctor will discuss this with you if sedation is necessary. Children will need to be fasted (not had anything to eat or drink) for a period of time before being given sedation. They will be accompanied by a nurse at all stages, who will monitor their breathing and oxygen levels until the sedation has worn off. If oral sedation does not work, a paediatric doctor will discuss other options with you.

Can I stay with my child?

Those with parental responsibility may be able to stay in the room with their child during these examinations. If you are allowed to stay, the radiographer will tell you where to stand/sit and will ensure that you and your child are safe. Sometimes you may be asked to assist staff in holding

your child. The radiographer will help you to do this safely. You do not have to remain in the room if you choose not to, as there will be experienced health staff present to look after your child. In the X-ray you will be required to wear a heavy protective apron to protect you from scattered radiation.

If your child is having an ultrasound or MRI scan you do not need to wear any protective clothing. The MRI radiographer will go through a checklist with you to ensure that it is safe for you and your child to be in close contact to the MRI magnet.

If there is any possibility that you may be pregnant, please tell the radiographer.

Consent

The person or persons with parental responsibility for your child will be asked to give consent for any imaging and/or sedation needed. You will have an opportunity to ask questions and have these answered to your satisfaction before you agree (give consent) to proceed.

Pregnant mother or guardian?

A baby in the womb can be particularly sensitive to the radiation of an X-ray.

If you are, or may be, pregnant you can accompany your child to the X-ray department. You may not be allowed in the actual X-ray room when the X-rays are being used. A friend or relative may be able to accompany your child if necessary. Professional health staff will always be there to look after your child.

Risks

Radiation

We are all exposed to natural background radiation. This is made up of cosmic rays, radon; from some foods and from the ground.

- Every X-ray gives us a small additional dose of radiation.
- A skeletal survey is equivalent to a few months' background radiation.
- A CT head scan is equivalent to about 18months' background radiation.

These extra exposures to radiation slightly increase the lifetime cancer risk but the increase in risk is very small.

Your child will not be exposed to any more X-rays and scans than is absolutely necessary to adequately complete the examinations. Before any examination that uses radiation is carried out, the benefits of having the examination are closely weighed against the risks of the radiation itself.

All X-ray doses are kept 'as low as reasonably practicable' to ensure that images of a high diagnostic quality are obtained without exceeding accepted doses. This is particularly the case with children as they are still growing and more susceptible to radiation. The radiographers will use techniques to try to ensure that they achieve the correct X-ray first time and use various methods to keep the dose to your child as minimal as possible. Your child will not be exposed to any more radiation than needed to gain the examinations required.

For further information:

NHS Choices – Radiation www.nhs.uk/conditions/Radiation/Pages/Introduction.aspx

GOV UK – Radiation: risk from low levels of ionising radiation 2008

www.gov.uk/government/collections/radiation-risks-from-low-levels-of-ionising-radiation

You can also seek further information from your radiographer.

MRI

Extensive research has been carried out into whether the magnetic fields and radio waves used during MRI scans could pose a risk to the human body. No evidence has been found to suggest there's a risk, which means MRI scans are one of the safest medical procedures currently available.

Not everyone can have an MRI scan. For example, they're not always possible for people who have certain types of metal implants fitted, such as a pacemaker

(www.nhs.uk/conditions/pacemakerimplantation/pages/introduction.aspx) (A battery-operated device that helps to control an irregular heartbeat [www.nhs.uk/conditions/Heart-palpitations/Pages/Introduction.aspx]).

A safety check will be done by the radiographer for you and your child before an MRI scan.

Department address and contact information:

Radiology Department
Birmingham Heartlands Hospital
Bordesley Green Road
B9 5SS
Tel: 0121 4240280

Paediatric Departments:
Birmingham Heartlands Hospital
Tel: 0121 424 2215 or 0121 424 0515

Good Hope Hospital
Tel: 0121 424 9708 or 0121 424 7206

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