

Young children have accidents every day but sometimes an unusual injury or unexplained injuries causes safeguarding concern. In the UK, if a health professional is concerned about the cause of your child's injury or illness, they have a duty of care to find out more information. Doctors are advised to **consider** child abuse as a possible cause for injuries or medical events and act according to professional standards of care.

This usually involves speaking to social services and sometimes the police. You will be told if this happens.

This leaflet aims to explain the tests that are used to evaluate young children if there are concerns that a child may have come to harm.

What tests and examinations will my child need?

The doctor will take down a detailed medical history of your child, and examine them. Your child may need:

- Blood tests
- X-rays, including a CT head scan and a skeletal survey
- Eye examination, called an eye review

These tests are based on the age of the child and on UK guidance from the Royal College of Radiologists and the Royal College of Paediatrics and Child Health.

The tests help provide further information about your child's injury. They can also help to assess possible underlying medical conditions.

Your child will likely be admitted to the children's ward so the tests can be completed.

In almost all situations, a parent stays with the child during their time in hospital (unless social services have grounds to disagree)

What is a CT head scan?

With young children, especially babies, it is very difficult to know if they have had a head injury. They cannot say if they have a headache. We know that some babies can undergo head injury that only comes to light later. CT is a sophisticated x-ray scan where a computer makes and analyses lots of images to create detailed pictures of your child's brain and skull. It takes less than 5 minutes. It helps detect fractures, brain bleeds and some metabolic conditions.

It is important your child stays still for the scan. If your child is a young baby, we may ask you to feed them and then wrap them in a blanket to help them fall asleep so that they are still for the scan. This needs careful coordination between staff.

If they are older, we may need to give your child medicines to make them sleepy to keep them still enough, but we will talk to you in more detail about this if it is needed.

What is a skeletal survey?

Skeletal surveys are used to look for broken bones, metabolic diseases, and abnormalities or conditions of bone development.

Babies can have undetected broken bones without any signs on examination. This may be because the break is old and no longer painful, or because the break is in an area that when handled gently causes minimal upset, or if the baby may have been unsettled previously but the upset was put down to teething or colic.

Fractures can be difficult to see on x-ray, so it means that views are taken from different angles to aid detection.

In total, 25 x-rays are taken (arms, legs, chest, torso and head).

It is important that the pictures are not blurred by movement, so the radiographer may ask you to help them hold your child's limb still and in the correct position. If it helps, you can breast feed them. The whole process may take up to an hour.

Our skeletal surveys are always looked at by two separate radiologists to ensure that nothing is missed. Please tell the radiographer if there is any chance that you could be pregnant.

We know that although the first skeletal survey may appear to the x-ray doctors (radiologists) to be "clear", some fractures that are invisible at first only become visible when the bones start to heal about ten days later. Therefore a 2nd appointment will automatically be made for **your child to return for an x-ray of their chest and other part that looked unusual on the first x-rays**. In some cases, the repeat x-ray helps rule out suspected abnormalities (which can turn out to be normal).

Is there a radiation risk to my child?

Sometimes, people worry about the dose of radiation involved with x-rays and CT scans. As always, your child's health is our priority. We think carefully about weighing up the low risk of harm from the x-rays against the benefit of detecting fractures in a young child and preventing future harm. We only recommend these tests if we believe they are in your child's best interests.

We are all bathed daily in radiation found in the environment, mainly from naturally occurring sources. This is called "background radiation". In most parts of the UK we are exposed to 2.3mSv/year (higher in Cornwall, lower in Sussex).

At RACH we try to add a little as possible to this background radiation, adjusting the dose for children so they get as low a dose as possible, whilst still getting good enough pictures.

National UK guidance quotes CT head as “approximately 18 months background radiation”. Our medical physics department has calculated the effective radiation doses from *our* machines for infants under a year:

CT head: For 0-5 month old babies - approximately 6 to 9 months of UK natural background radiation.
For 6-11 month old babies - approximately 7 to 11 months of UK natural background radiation.

The skeletal survey at RACH delivers the same amount of radiation as 1 – 2 months of UK average background radiation.

What is an eye review?

With babies it is very difficult to be certain whether or not they have had a head injury. An eye specialist can use a special torch to look at the back of your child’s eyes to detect bleeding at the back of the eye. It can also detect some metabolic conditions. Eye drops are used to help the specialist see your baby’s eye better. They are completely safe and take about 30 minutes to work.

Will photos be taken of my child?

Photos will be taken of any injuries or skin markings by the hospital’s specialist photographers. These photos are part of the medical notes. They are stored electronically and securely and access to them is restricted. We will discuss this in greater detail with you.

What happens next?

You will be informed of the results of the skeletal survey after they have been looked at by a consultant Paediatric radiologist.

The x-ray result at 2 weeks should be sent to you in writing. If there is a new finding you will be contacted by phone.

Some of the blood test results are available on the same day. Other results may take longer.

Social services will consider all the information in order to decide on the best discharge plan for your child and other children.

Please keep this leaflet. You can use this space to record the name of your social worker and contact details

Contact details

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Leaflet 2: Safeguarding tests in hospital

Information about blood tests, x-rays, scans and photographs

This leaflet should be provided together with **Leaflet 1: Safeguarding & Child Protection assessments**