

## What is EOS?

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EOS is the name of the company who developed the technology for this examination.

EOS is a low-dose x-ray that produces detailed images of patients usually of the whole spine or lower limbs. Linked images are produced by the EOS's two x-ray tubes. This allows the interaction between the joints and the rest of the musculoskeletal system to be seen in detail.



### Why do I need this examination?

It has been identified that you have some symptoms/conditions that require you to have an EOS examination, or you may be for a follow-up examination to monitor your medical condition.

### How EOS works

EOS uses ultra-low dose radiation during the scan. In a hospital, there are many types of medical imaging procedures each with different technologies. Radiography, Fluoroscopy, and Computed Tomography (CT) all work on the same principle, using penetrating X-rays to form an image of internal structures in the body.

### Radiation information

#### Risks

X-rays offer valuable benefits in healthcare by providing a quick and non-invasive way to see inside the body, however, as with many aspects of medicine, there are risks associated with their use. X-rays are a form of ionising radiation meaning they have enough energy to potentially cause damage to DNA increasing the risk of cancer later in life. However, these risks are low.

In the UK, on average each of us is exposed to a level of background radiation mainly originating from naturally occurring minerals in the Earth but also other sources like food, and cosmic rays from space. For example, having a typical X-ray of your chest, limbs or teeth is equivalent to the same levels of radiation as you would naturally receive in 3 days of regular life. This would result in less than a 1 in a million chance of additional risk of fatal cancer in your lifetime <sup>[1]</sup>.

Whilst the benefits of clinical diagnosis using X-rays generally far outweigh the risks, efforts should be made to minimise unnecessary exposures. Within the hospital, specialised staff, including Radiographers, Physicists and Engineers monitor the use of X-rays and ensure equipment is safe.

## Pregnancy

It is important to understand the effect of radiation on pregnancy. Due to possible effects of radiation exposure on the developing foetus, when having an EOS exam, you should inform a member of staff if you think you might be pregnant.

Prior to attending if you have any concerns about undergoing the scan, please discuss this with your referring clinician.

<sup>[1]</sup> 'Patient dose information: guidance', GOV.UK.

<https://www.gov.uk/government/publications/medical-radiation-patient-doses/patient-dose-information-guidance>

**All patients** aged between 12 to 55 years of age (regardless of gender) will be asked to complete a pregnancy status consent form.

If you know you are pregnant when you are due to attend, please contact us on 01392 402336 or email [rduh.radiologyappointments@nhs.net](mailto:rduh.radiologyappointments@nhs.net)

## How long will it take?

The examination usually takes up to 20 minutes to complete.

## During the EOS Examination

You will be booked in at our Nightingale reception and directed to one of the waiting areas. A member of the Imaging team will call you from the waiting room when they are ready to take your EOS images. Some clothing, particularly anything containing metal, buttons, zips or embroidery can show up on an EOS examination, so you may be asked by a member of staff to change into a gown and/or remove jewellery, however if your clothes are metal free, it may be that you can be imaged in your own clothes.

The Radiographer will confirm your identity. They will position you standing (or in some cases you may be seated) within the EOS machine, once you are positioned correctly the images will be taken. This is relatively quick but remaining still once you are in the correct position is very important. You will not feel anything although if you find it difficult to maintain a standing position you may be uncomfortable for a short time.

Two very narrow X-ray beams, one from the front and one from the side, scan the entire body simultaneously. The equipment does make a small amount of noise as it moves to take the images of the area required.

## What happens after the examination?

When your examination is finished you will either be allowed to go home with advice on how the results will be communicated to you or, if you are attending as part of a one stop clinic, the images will be available for the next part of your visit.

## Can I still take my regular medication?

Yes, you can still take any regular medication.

## Adults Patients

For your examination, we kindly ask you not to bring children if at all possible as they will not be permitted into the room. This is due to radiation safety regulations. We appreciate that at times this may be difficult, therefore, you may wish to bring another adult with you to supervise them in the waiting area whilst your examination is performed.

## Personal choices

As a teaching hospital, we have Student and Apprentice Radiographers undergoing training. If a Student or Apprentice is to be present or perform your examination we will ask your permission, which you have the right to refuse and we will support your decision.

## cancelling your appointment

If you are unable to attend your appointment, we would be grateful if you could contact us on the telephone number listed on the top of your appointment letter as soon as possible. We can then offer your original appointment to another patient. A further date and time will then be arranged for you.

**Please be advised that if you fail to attend your appointment, it may be necessary to remove you from the EOS waiting list.**

## Finally

If you find reading this leaflet difficult or you do not understand what it means for you, please call the telephone number listed on the top of your appointment letter and we can talk it through or alternatively you can email us **rduh.radiologyappointments@nhs.net**

## How to get to the Nightingale Hospital Exeter

**Please refer to the enclosed "Travel to Nightingale Hospital Exeter" leaflet or use the Trusts website for the latest information:**

**[www.royaldevon.nhs.uk/our-sites](http://www.royaldevon.nhs.uk/our-sites)**

For more information on the Medical Imaging Department, please visit our website:

**[www.royaldevon.nhs.uk/services/medical-imaging-radiology-x-ray/medical-imaging-eastern-services/](http://www.royaldevon.nhs.uk/services/medical-imaging-radiology-x-ray/medical-imaging-eastern-services/)**

This information can be offered in other formats on request, including a language other than English and Braille.

**RD&E (Eastern Services) main switchboard: 01392 411611      NDDH (Northern Services) main switchboard: 01271 322577**

**For Royal Devon services log on to: <https://royaldevon.nhs.uk>**

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