

## The Radiological X-ray Exam: Leg Length Measurements

This leaflet provides information about having an X-ray exam of leg length measurements. It explains what leg-length measurements are, why this exam may have been requested, what to expect during the procedure, and how you will receive the results. We hope it will answer any questions you may have, however if there are further concerns, we advise you to raise them with your doctor.

### What is an X-ray exam of leg-length measurements?

This is an imaging exam where a series of X-rays are taken from your pelvis to your ankles. The images taken are digitally stitched together by the computer to show the series of X-rays as one image. A ruler and a scaling marker are included on the image to allow accurate measurements of the bones to be taken. This can highlight whether one leg is longer than another and by how much in centimetres. It can also show if there are any bone and joint pathologies of the pelvis to the ankles which may be causing symptoms.

### Why would I need this procedure?

This exam can only be requested by an orthopaedic consultant / doctor. The doctor would have clinically assessed you through a physical examination, taken a past medical history including symptoms, and maybe querying whether there is a difference in leg length. This exam is requested to gain a precise measurement of leg length discrepancy between both legs, to help plan and provide treatment options.

Please note that it is not uncommon for this exam to be repeated within an agreed time period as requested by the orthopaedic consultant / Dr in children where their bones may still be growing, this is to see as to whether the difference in leg lengths is increasing or decreasing.

### What are the symptoms that have led to me having this procedure?

Symptoms that may result in this exam being requested include: abnormal gait, limping, poor posture, pain within the lower limbs and hips, abnormal orthopaedic physical assessment.

### What are the alternatives?

Alternative exams to help diagnose the leg length discrepancy include: a CT (X-ray) scan which can provide measurements of the lower limb bones. A physical assessment by the orthopaedic consultant / Dr can be done, where limited measurements are taken. Alternatively, you can choose not to have these imaging tests, however an accurate diagnosis may not be able to be achieved which would limit treatment options.

### What are the potential risks and side effects?

#### X-rays

This test uses X-rays to take continuous X-ray films of the patient's pelvis, femurs (thigh bone), knees, tibia and fibula (shins), and ankles. All X-ray procedures involve exposure to radiation in varying amounts. The dose you get from a medical X-ray is very low and your doctor has determined that the benefits of having this exam outweigh the potential risks.

The radiographer is present throughout the exam; they will accurately position you and take the pictures. They will make sure that the dose is kept as low as reasonably practicable, keeping the dose of radiation you receive to a minimum.

Please note that if you are pregnant this exam is not advised due to the risk the X-rays may have on the unborn baby. You must inform your orthopaedic consultant / doctor to discuss the most appropriate test for diagnosis.

### **What are the expected benefits of treatment?**

This imaging test may highlight a cause for any symptoms you may be experiencing. With an accurate diagnosis this can help the orthopaedic consultant / Dr understand the cause of the symptoms and they can explain possible treatment plans to improve posture, gait and reduce pain. This could vary from special orthotic inserts to counteract some of the leg length discrepancy, to surgical treatment in some cases. However, every individual case is unique, and these are discussions that you will need to have with your orthopaedic consultant / Dr upon receiving the results of the exam.

### **What should I do before I come into hospital?**

No preparation is needed before this exam. The X-ray department will contact you by letter with an appointment time to attend the radiology department for the X-ray. Please ensure that this appointment is within the first 28 days of your period, appointments can be re-arranged by calling the radiology appointment line on: 0300 131 5853.

### **What happens during the X-ray appointment?**

Upon arrival for the appointment, please report to the Radiology Reception desk. Ensure you are wearing light fitting clothing without any metal adornments from the waist downwards. The Radiographer will call you in for your appointment, they will verbally check some identification and confirm the examination.

Please be aware that patients with reproductive capacity over the age of 12 – 60 years will be asked as to whether they have started their periods, and if so this needs to be confirmed that they are not pregnant, and are within 28 days of 'day one' of their last cycle. The radiographer has the right to refuse to do the exam, and this will be rebooked if the patient is not within this 28 day time period.

The Radiographer will ask you to stand on a wide stand with handles that has been set up within the room. There will be a ruler and scaling marker attached to the stand. They will communicate with you as to how they would like you to be positioned, usually you are standing as straight as you can with your knees and ankles facing forward. It may be necessary that foam pads are placed underneath your feet.

The radiographer will communicate with you when they are about to take the picture and you must remain still. The machine will make a little noise whilst it takes the X-rays. The radiographer will then review the images making sure that they are diagnostic for the radiologists to report. If any repeats need to be taken this will be communicated to you.

Once the radiographer is satisfied with the images they will instruct you on when you are likely to expect the results, and you are free to leave the department.

## How long will it take to receive the results?

The X-ray will be reported on by a doctor / radiologist and the results will be made available to your consultant within 10 days.

The consultant will arrange another outpatient appointment to discuss these results, or, the consultant / dr, or their secretary will contact you directly.

## How will I feel afterwards?

After the exam there are no side effects and can resume normal daily activities.

## How long will I be in hospital?

This exam is booked for specific times as it can only be performed within certain rooms due to the specialist equipment. This exam may take up to 45 minutes; this is dependent on how busy the X-ray department is. The department tries to keep to appointment times as best as possible.

## What should I do when I go home?

You can carry on with normal daily activities.

## How soon will I be able to resume normal activities?

Normal daily activities can resume before and after the procedure.

## Will I have to come back to hospital?

You will not routinely need to come back to the X-ray department. Your consultant may arrange a follow up appointment for the results which may need you to attend the hospital.

## Consent

Although you consent for this treatment, you may at any time after that withdraw such consent. Please discuss this with your medical team.

## Sources of information

For appointment enquiries and general enquiries about the marker study please contact the X-ray appointment line on: 0300 131 5853.

Any enquiries about the results, please contact the referring doctor / consultant's secretary, (contact details are usually found on the letters sent by the outpatient clinics).

## Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

## Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the patient experience team on 0300 131 4784 or [esh-tr.patientexperience@nhs.net](mailto:esh-tr.patientexperience@nhs.net).

## Hand hygiene

We are committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

## Other formats

**If you require any of our leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department on 0300 131 4434 or [esh-tr.AccessibleInformation@nhs.net](mailto:esh-tr.AccessibleInformation@nhs.net)**

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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## Reference

The following clinicians have been consulted and agreed this patient information:  
Sarah Day – (Deputy Clinical Manager – General Radiographer)

The directorate group that have agreed this patient information leaflet:  
Enter name here, if appropriate

Next review date: July 2026  
Responsible clinician/author: Sarah Day Deputy Clinical Manager

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