



CT Arthrography

Patient Information Leaflet

Introduction

This leaflet tells you about a CT Arthrogram, a test to look at the internal structures of a joint, including the bones, cartilage, ligaments, joint lining and surrounding muscles and tendons. It explains how the test is done, what to expect, and the risks involved. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such a discussion.

What is a CT Arthrogram?

CT is a non-invasive way of looking inside your body to help diagnose medical conditions and guide treatment. A CT (computed tomography) scanner uses special x-ray equipment and computers to produce images of multiple “slices” of the part of the body being scanned. These images of the inside of the body can then be examined on a computer monitor.

CT Scans provide much greater detail of internal organs, bone, blood vessels and soft tissue than ordinary x-rays and so are often the preferred method of diagnosing a wide range of medical conditions such as cancers, infection, inflammation, trauma and musculoskeletal disorders. A CT Arthrogram uses an injection of contrast (X-ray dye) into the joint to visualize the joint space and its lining on the CT scan.

How does it work?

The CT scanner consists of a ‘doughnut-shaped’ structure with a hole, or short tunnel, in the centre. You will lie on a narrow examination table that slides into and out of this tunnel. The x-ray tube and electronic x-ray detectors are located opposite each other in a ring, called a gantry, which rotates around you. A narrow fan-shaped beam of X-rays is produced from inside the gantry, passes through your body and is detected by electronic sensors on the other side of the gantry. This information is sent to a computer that produces a picture of the internal structure of the body. Modern CT scanners are so fast that they can scan through large sections of the body in just a few seconds.

The scanner is operated by a Radiographer, who is a professional trained to carry out X-rays and other imaging procedures. The pictures are displayed on a computer workstation for examination by the Radiologist, who is a doctor specially trained to interpret the images and carry out more complex imaging examinations.

Some scans need to be performed with an injection of special contrast (dye) which is used to enhance visibility of the area being scanned, particularly the blood vessels and blood flow to organs.

Are there any risks?

CT scanning involves the use of X-rays. There are strict guidelines in place for the use of x-rays in diagnosing medical conditions so CT scans can only be performed at the request of a Doctor. The amount of radiation used is more than an ordinary X-ray of the chest or body and is equal to the natural radiation that we receive from the atmosphere over a period of approximately three years. Women who are or might be pregnant must inform a member of staff in advance.

Because children are more sensitive to radiation, they should have a CT study only if it is essential for making a diagnosis and should not have repeated CT studies unless absolutely necessary. We will keep the radiation dose as low as we possibly can.

A CT arthrogram involves you having a contrast medium (X-ray dye) injected into the joint under X-ray (fluoroscopic) guidance to increase the quality of information obtained from the scan. The injection is a sterile procedure and the risk of introducing infection into the joint is very small. The risk of serious allergic reaction to the contrast is extremely rare, and radiology departments are well-equipped to deal with this.

Despite these slight risks, your doctor believes it is advisable that you should have this examination, and do bear in mind there are greater risks from missing a serious disorder by *not* having your scan.

What do I have to do before my CT?

Taking tablets and medicines

You should continue to take all your normal medication.

If you take Metformin (Glucophage) tablets for diabetes, please let us know on the day of your test. We sometimes ask patients to stop these tablets for two days after their test.

Females

Females are asked to contact the Radiology department if you suspect that you may be pregnant OR if the appointment is more than 10 days after the *start* of your last period. This test uses radiation and there is a risk to the unborn baby if we were to do the X-rays when you are pregnant. When you arrive for your test, you will be asked when your last period started. If it is more than 10 days earlier, your appointment will be postponed.

Allergy to iodine or intravenous contrast medium

You should inform us in advance if you have a known allergy to iodine or intravenous contrast material (X-ray dye). Your doctor may prescribe medications prior to the examination to reduce the risk of an allergic reaction.

Driving

You are advised to ask someone to bring you to hospital. This procedure can cause numbness in the joint affected for an hour or so afterwards so you should not to drive for a few hours following this test.

Where do I go when I arrive at the hospital?

Please report to the reception desk in the Radiology department with your appointment letter 10 minutes before your appointment time. You will be asked to sit in the waiting area until called by a member of staff.

A member of the team will explain the test and answer any questions.

If you have to undress for the procedure, you will be shown to a private cubicle and asked to change into a clean gown. You will be asked to remove all jewellery and metal from the area to be scanned. Your clothes and valuables will be secured in a locker until after the procedure.

Can I bring a relative/friend?

You may bring a relative or friend with you to the appointment but, as the examination uses x-rays, for reasons of safety they will not be able to accompany you into the examination room, except in very special circumstances. If the patient is a young child or is un-cooperative, a parent or health worker may stay in the room but will be required to wear a protective lead apron.

If you need an interpreter please tell us when you receive your appointment so that we can arrange this.

Please let us know when you arrive for your test if you have any of the following conditions:

- Diabetes
- Asthma
- Kidney disease
- Heart disease
- Thyroid problems
- Any allergies
- You have had a reaction to iodine or any intravenous contrast medium (if you are not sure about this, please ask us).

What happens during the Procedure?

Firstly you will be taken into the X-ray screening (fluoroscopy) room. Fluoroscopy uses low dose X-rays to obtain real-time images of a part of the body. You will be asked to lie on your back on the x ray table and the radiologist will mark a position on the skin as a suitable injection site by looking at the “real time” images on a monitor.

The radiologist will clean the skin with an antiseptic solution and insert a small sterile needle into the joint using x-ray guidance. A small amount of iodine-containing contrast (X-ray dye) will be injected into the joint. You may feel some pressure and fullness in the joint but it should not be painful. The needle will then be removed but the contrast will stay in the joint for a short time.

You will then be taken into the CT Scanning room and asked to lie on the scanner table flat on your back. The radiographer will ensure that you are lying comfortably in the correct position. Straps and pillows may be used to help maintain the correct position and to keep you still during the examination.

You will be asked to hold your breath and will feel the table move in and out of the scanner whilst the scans are taken. Each scan will take approximately 10-20 seconds (one breath hold). You will be alone in the CT room during the scan but the Radiographer will be able to see, hear and speak with you at all times.

When the scan is finished the radiographer will check the images are complete before helping you get off the table.

The entire examination takes approximately 40-60 minutes.

What happens after the test?

You may experience some swelling and discomfort in the injected joint for 1-2 hours following the procedure. This may be eased with mild analgesics, such as paracetamol, if necessary and should resolve quickly. If the pain persists for more than 24 hours, please consult your GP.

How do I get my results?

A specialist Radiologist will review the images from your CT scan and send a report to your doctor. Your GP or hospital Consultant who referred you for the test will see you to discuss the results.

Any further questions?

We will do our best to make your visit as comfortable and stress free as possible. If you have any further questions, or suggestions for us, please let us know.

If you would prefer information and advice in another language, please contact the Radiology department.

Further Information

For general information about Radiology departments, visit The Royal College of Radiologists' website: www.goingfora.com

For information about the effects of x-rays read the National Radiological Protection Board (NRPB) publication: 'X-rays how safe are they?' on the website: http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947388410

For health advice or information you can call NHS Direct on 0845 4647 or visit the website: www.nhsdirect.nhs.uk

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