

Computed Tomography Renal Scan (Haematuria Pathway)

Radiology Department



Patient information leaflet

This leaflet tells you about having a CT Renal scan. This procedure is also sometimes called a **Haematuria Pathway**. If you have any questions about the procedure, please ask the consultant who has referred you for the test or the department which is going to perform it.

The Radiology Department

The radiology department may also be called the X-ray or imaging department. It is the location in the hospital where radiological examinations of patients are carried out, using a range of equipment.

Who does what?

Appointment clerks will help you to make or change appointments.

Radiographers will perform the test. They will be able to answer some of your questions but will not be able to give you the results of your test. They ensure the images taken are of high quality for a radiologist to provide a written report for your doctor.

Radiologists are specialist doctors who will interpret the images and report the scan for your consultant.

What is a CT scan?

Computerised Tomography (CT) is a special type of X-ray that uses a computer to create cross sectional (or slice-like) images of the body. The CT scanner is a large square machine with a hole that produces X-rays. Many people liken the machine to a polo mint.

Does CT involve radiation?

Yes, but your doctor will have considered the possible risks and decided that the benefits to you outweigh any risk from the examination. If you have any queries about the need for this test or other alternative tests please contact your referring clinician.

The amount of radiation used during a CT scan is more than an ordinary X-ray of the chest or body, but provides a great deal more information than an ordinary X-ray as it acquires very detailed images.

Many CT examinations involve you having an iodine-based contrast medium (commonly called dye), injected into a vein to increase the quality of information obtained from the scan.

This dye is filtered from your blood stream by your kidneys. Your referring clinician may arrange for you to have a blood test prior to your scan to check your kidney function (if you have not already had one in the previous three months).

What is a CT Renal scan?

This scan is a diagnostic test which provides information on the anatomy and function of the urinary (renal) system. The renal system consists of the kidneys, the bladder, and ureters (the tubes which connect the kidneys and bladder).

While this scan is used to specifically gain information on the renal system, all other organs and tissues in the abdomen are also included in this scan, and will be looked at by the radiologist when they are reporting your scan.

You will be given an injection of dye through a cannula placed into a vein of the arm/hand. The kidneys filter this dye out of your bloodstream, and so your renal system is highlighted on the scan.

After scanning, the images will be processed using a special computer and software and reviewed in different planes and projections by the radiologist.

What preparation is required?

You will be given a gown to wear during the scan. Metal objects, such as belts and bra fastenings, may affect the CT images and should be removed prior to the examination while you are changing.

Unless you have been told otherwise, you may eat and drink normally before and after the scan.

Women of childbearing age

This examination is not suitable for pregnant women, or women who are breastfeeding. If you are unsure whether you may be pregnant, please contact the CT department before attending for your appointment.

Can I bring a relative or friend?

Yes, but for reasons of safety they will not be able to accompany you into the examination room, except in very special circumstances.

Please contact the CT department if you are diabetic, taking any blood thinning drugs , have renal impairment, or if you know that you are allergic to X-ray dye (iodine). If you are asthmatic, please bring your inhaler or asthma medication with you to your appointment.

When happens when I arrive?

Please go to the reception desk to book in for your appointment. You will be given some labels and directed to the CT scanning waiting area. If there is a volunteer on duty they will take your labels, show you where to change and provide you with a gown. If there is no volunteer on duty the radiographers will be aware of your arrival and will come out to greet you in a short while.

If you need to change for your procedure you will be given a basket for your clothes and personal belongings. You may bring your belongings with you into the scanning room.

What will happen during the scan?

You will be taken into the CT scanning room where your identity will be checked. The radiographer will explain the procedure to you and answer any questions you might have. They will check some other details with you such as any allergies you might have. Your consent will be gained for the examination and you will be asked to lie down on the couch. The radiographers will endeavour to make you comfortable for the time you are on the couch.

A cannula will be placed into a vein in your arm, and through this you will receive two injections of the dye, which is introduced through the cannula using an automatic injector. The injector is operated by the radiographers in the control room.

The couch will be moved slowly to position your body within the 'polo mint'. The radiographers will retire to the control room but they are able to hear you talk over the intercom and they will be able to see you throughout the scan. With modern CT scanners, you will only hear slight buzzing, clicking and whirring sounds as the machine acquires images. During the scan, the couch will move in and out of the machine a few times.

You will be asked to breathe in and hold your breath for a short time as the couch moves out of the scanner.

Your first scan takes place without any injection of the dye. This is to identify if there are any renal stones present.

Following this first scan, you will be given your first injection. When the dye is introduced it is common to experience a 'hot flush' sensation, particularly across the neck and chest. This feeling goes away quite quickly and is normal. Many people experience the hot sensation around the rest of the body. Some people also get a metallic taste in their mouth. As you receive two injections of the dye for this examination, you may experience these feelings twice.

After the first injection, we need to wait before scanning you again to allow your kidneys to filter the dye from your bloodstream. This involves a 5 minute delay between scans, during which time you will remain lying on the couch, but not inside of the machine.

After this delay, you will be asked to sit upright for a short time, if you are able. This helps move the dye around the bladder for better images.

You will then be asked to lie back down, and the second scan will take place, with another injection. This allows us to see your kidneys actively filtering the dye.

Once the scan is complete, you will be able to change into your clothes and leave the department.

Will the scan be uncomfortable?

You will need to lie on your back for the scan, and you will be asked to bring your hands up above your head while you are being scanned, as this results in clearer images. Most people find that the process of scanning is not uncomfortable.

How long will the procedure take?

The scanning process will take up to twenty minutes. Sometimes there may be a delay in the department due to emergency cases which may result in you being seen later than your appointment time. We try to keep patients informed of any delays when we can.

Are there any side effects?

In rare cases, some people may have an allergic reaction to the dye. Most reactions are mild; radiographers are trained to recognise the signs of a reaction and to look after you. Doctors are also available should you start to feel more unwell.

A reaction may involve feelings of intense hot flushing, nausea, developing a rash or becoming breathless or wheezy. Severe reactions to the dye are extremely rare.

Following the scan, you can eat and drink normally. The injection will not affect your ability to drive.

When will I get the results?

Patients who are undergoing a cystoscopy examination on the same day as this CT scan will receive the results of all their investigations that afternoon. If you are having a cystoscopy you will have been notified of this beforehand.

For those patients who are not undergoing cystoscopy on the same day, or are not having any cystoscopy, the scan will be formally reported after your visit and the findings sent to your referring consultant. If you already have a clinic appointment time for the results, please inform the radiographer.

What are the benefits vs. the risks?

Benefits

- This scan can easily identify the presence of renal problems, which may not be visible with other investigations such as ultrasound
- The scan is quick, minimally invasive and provides a lot of information on everything in the abdomen as well as the renal system
- The results assist with treatment planning for best management of any issues identified
- For some patients with severely impaired renal function, this scan can still be performed without the injection of the dye. This is beneficial as detailed information is still gained on the anatomy of the renal system

Risks

- It is not advisable for patients with severely impaired renal function to undergo the second part of the procedure, as the injection of the dye can put additional strain on the kidneys
- On rare occasions, it is possible for the dye to leak out of the vein into the surrounding tissues. If a large amount leaks out it may cause discomfort and damage to the tissues. If this does occur, the radiographer will treat the area if necessary and advise you on any aftercare

- There is an extremely small chance that you might have an allergic reaction to the injection
- The use of radiation is a risk which has been considered by your referring clinician. The benefits of diagnosis outweigh any of the risks of the use of radiation

As with all radiographic examinations, the amount of exposure to radiation is kept to an absolute minimum.

Is there an alternative procedure?

There is a plain film examination that also involves an injection of x-ray dye, but it provides far less useful information on what could be the cause of your problem and is not an appropriate procedure choice for a patient with your symptoms.

Ultrasound can also be used to give more limited information.

Privacy and dignity

We promise to do everything we can to make you as comfortable as possible during your visit to the department. We hope that the information in this leaflet will answer any questions you may have but please feel free to contact us if you have any particular worries, questions or concerns.

Patient surveys

We value your opinion on our service and in order to deliver, maintain and improve our service we ask you to complete a short patient questionnaire survey found with the appointment letter. Completion of these surveys is entirely voluntary.

Following the examination, if you experience any problems please contact the CT department between **08:30** and **17:00**.

Outside these times please contact your GP.

Further information

For further information about Diagnostic Imaging Services at Royal Surrey County Hospital NHS Foundation Trust, please contact:

Royal Surrey County Hospital NHS Foundation Trust

Egerton Road
Park Barn
Guildford
Surrey
GU2 7XX

www.royalsurrey.nhs.uk

Reference source

- Royal college of radiologists

Useful websites

- **Radiation Dose:**
www.gov.uk/government/publications/ionising-radiation-dose-comparisons/ionising-radiation-dose-comparisons
- **NHS Choices:**
<http://www.nhs.uk/Conditions/ct-scan/Pages/Introduction.aspx>
- **NHS Choices:**
www.nhs.uk/conditions/blood-in-urine/

Contact details

If you have any questions or would like to know more about this procedure, please telephone the CT department:

Telephone: 01483 464151 (Direct line)

Telephone: 01483 571122 **ext** 4151 / 4414

If you are unable to keep your appointment notify the CT Scanning department as soon as possible.

PALS and Advocacy contact details

Contact details of independent advocacy services can be provided by our Patient Advice and Liaison Service (PALS) who are located on the right hand side as you enter the main reception area. PALS are also your first point of contact for health related issues, questions or concerns surrounding RSCH patient services.

Telephone: 01483 402757

Email: rsc-tr.pals@nhs.net

Opening hours: 9.00am–3.00pm, Monday to Friday

If you would like information documents in large print, on tape or in another language or form please contact PALS.

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