TEST

Arm CT scan

An arm CT scan uses X-rays to create detailed images of the arm.

WHAT IT MEASURES
Cross-sectional detail of arm bones, soft tissues, and blood vessels

SAMPLE
None

FASTING NEEDED?
Sometimes, if contrast or sedation is planned

HOW LONG IT TAKES
Usually 10-30 minutes

RESULTS IN
Usually 1-2 days; timing varies by radiology service

USED FOR
Diagnosis, injury assessment, treatment planning, and monitoring

MAIN LIMITATION
Metal and movement can hide or distort nearby anatomy

Overview

An arm CT scan uses X-rays and a computer to create detailed, cross-sectional images of the upper arm, elbow, forearm, wrist, or a specific area around an injury or lump.

CT stands for computed tomography. Unlike a standard X-ray, CT produces thin image "slices" that can be combined into three-dimensional views. It is especially useful for showing bones and complex fractures, but can also show muscles, fluid collections, some tumors, and foreign objects. A CT angiogram uses injected contrast dye to show blood vessels.

The scan is painless, but you must keep the arm still while images are taken.

Why the test is ordered

An arm CT may be ordered when an examination or another imaging test has not provided enough information, or when detailed images are needed quickly.

Common reasons include:

A standard X-ray is often the first test for a possible fracture. CT may follow if the X-ray is unclear or more detail is needed.

- Examining a complex, hidden, or poorly healing fracture
- Checking the position of broken bone fragments
- Looking for infection, an abscess, or a foreign object
- Assessing a lump or abnormal area
- Planning surgery, a biopsy, or another procedure
- Checking healing after treatment
- Examining blood vessels after injury or when blood flow is a concern

Who should have the test

An arm CT is ordered for a specific injury, symptom, examination finding, or follow-up need. It is not normally used as a general screening test.

CT is often chosen for detailed bone anatomy or rapid imaging. MRI may be better for certain tendon, ligament, nerve, muscle, or bone marrow problems. Ultrasound can help assess superficial tendons, fluid collections, and some blood vessel concerns.

Tell the imaging team if you are or may be pregnant. CT may still be appropriate when the expected benefit is important, but the team will consider radiation exposure and possible alternatives.

How to prepare

For CT without contrast, you can usually eat, drink, and take your regular medicines normally. Follow the imaging service's instructions because preparation may differ if contrast or sedation is planned.

Remove jewelry, watches, and other metal near the arm. You may need to wear a gown.

If contrast dye will be injected, tell the team about:

You may need a blood test to check kidney function. Do not stop any medicine unless the service arranging the scan specifically tells you to. If sedation is planned, follow the separate fasting and travel instructions provided.

- A previous reaction to CT contrast

- Kidney disease, reduced kidney function, or dialysis
- Pregnancy or possible pregnancy
- Diabetes and the medicines you take
- Asthma, allergies, or other important medical conditions
- Recent illness that caused dehydration

What happens during the test

A radiographer will position you on the CT table. You may lie on your back, side, or stomach, with the arm beside you or raised above your head.

The table moves through a short, ring-shaped scanner. You may hear humming or clicking, but you will not feel the X-rays. You must remain still. Cushions or supports may help, and you should tell the radiographer if pain makes the position difficult.

If contrast is needed, a small plastic tube called a cannula is placed in a vein, usually in the hand or opposite arm. Contrast may cause brief warmth, flushing, or a metallic taste. These feelings usually pass quickly.

The appointment commonly takes 10 to 30 minutes. The images may take only a few minutes, but positioning and contrast preparation add time.

Understanding your results

A radiologist reviews the scan and sends a report to the clinician who requested it. The findings may be compared with earlier X-rays, CT scans, or MRI scans.

There is no universal "normal range" for an arm CT. Interpretation depends on the area scanned, your symptoms, age, medical history, previous surgery, and reason for the test.

The report may describe:

A finding may not identify its exact cause. For example, another test may be needed to determine what a mass or fluid collection is.

- A fracture and the position of bone fragments
- Joint alignment or damage near a joint
- Swelling, fluid, gas, or a collection
- The size and location of a lump

- Changes after surgery or treatment
- Blood vessel narrowing, blockage, injury, or bleeding on CT angiography

What affects the results

Movement can blur images, particularly if pain or tremor makes it difficult to hold the arm still. Metal from jewelry, fragments, plates, screws, or joint replacements can create streaks that hide nearby tissue.

Other factors include:

Kidney function affects whether contrast is suitable, not usually the appearance of a non-contrast CT. Most medicines do not distort the images, although they may affect contrast or sedation planning.

- Positioning that does not fully show the area of concern
- Poorly localized symptoms leading to the wrong area being scanned
- Contrast reaching blood vessels too early or too late
- Reduced blood flow affecting a CT angiogram
- Swelling or recent surgery making tissues harder to distinguish
- Earlier scans being unavailable for comparison

Accuracy and limitations

CT is very good at showing bone detail and complex fractures, including some injuries that are difficult to see on standard X-rays. However, no scan finds every abnormality.

Very small or early fractures may be missed, especially if movement or metal reduces image quality. Healing changes or previous surgery can also be difficult to interpret.

MRI is often more detailed for tendons, ligaments, nerves, and bone marrow. Ultrasound may be better for watching a tendon move or examining a superficial lump. Different blood vessel tests may be preferred depending on the clinical question.

CT cannot always show whether a lump is harmless or cancerous, or whether fluid contains infection. MRI, follow-up imaging, biopsy, or laboratory testing of fluid or tissue may be needed.

Risks and complications

CT uses ionizing radiation. The dose is kept as low as practical, but exposure carries a small potential long-term risk. This is weighed against the expected benefit of the scan.

A cannula may cause brief discomfort, bruising, or faintness. Contrast can leak into surrounding tissue, causing pain and swelling.

Most contrast reactions are mild, such as itching or a rash. Serious allergic-like reactions are uncommon. Contrast also requires extra consideration if kidney function is severely reduced or has recently worsened.

Sedation is rarely needed. If used, it has separate risks and requires monitoring and arrangements for getting home safely.

What happens next

The report is sent to the clinician who requested the scan. Routine results may be available within one or two days, although timing depends on urgency and the imaging service.

The next step may be treatment, specialist referral, comparison with earlier images, or another test. An uncertain lump or collection may require MRI, ultrasound, blood tests, or a tissue or fluid sample.

Seek urgent medical advice after contrast if pain or swelling around the injection site is worsening, especially with blistering, numbness, or a change in skin colour.

Call emergency services for trouble breathing, collapse, or swelling of the face, lips, tongue, or throat. A small bruise or mild tenderness at the injection site can usually be monitored.

Common questions

Can I drink coffee before an arm CT scan?

Usually, if no contrast or sedation is planned. If told to fast, follow the imaging service's instructions. Plain water may still be permitted.

Does the time of day matter?

Usually not, although timing may matter if you need fasting, sedation, kidney blood tests, or carefully timed contrast imaging.

Can I exercise beforehand?

Exercise does not usually affect the result. Avoid activity that worsens an injury, and follow any

restrictions already provided.

Will I need contrast dye?

Not always. Many bone and fracture scans do not require it. Contrast is more likely when examining blood vessels, infection, inflammation, or a mass.

Can I drive home afterwards?

You can usually drive after a standard CT, including one with contrast, if you feel well. Do not drive after sedation; arrange an escort and follow the discharge instructions.

Is an arm CT better than an MRI?

Neither is always better. CT is usually stronger for fine bone detail and speed. MRI often shows nerves, tendons, ligaments, muscles, and bone marrow in greater detail.

Sources

- American College of Radiology Manual on Contrast Media , guidance on intravenous contrast safety and patient assessment
- RadiologyInfo.org: Body CT , American College of Radiology and Radiological Society of North America
- RadiologyInfo.org: CT Angiography , information about contrast-enhanced blood vessel imaging
- US Food and Drug Administration: Computed Tomography , overview of CT benefits and radiation considerations
- NHS: CT scan , patient information about preparation, procedure, and contrast