TEST

Pelvic CT scan

A pelvic CT scan uses X-rays to create detailed pictures of organs, bones, and other structures in the pelvis.

WHAT IT MEASURES
Cross-sectional X-ray images of pelvic organs, bones, and blood vessels

SAMPLE
None

FASTING NEEDED?
Sometimes, especially before contrast; follow your imaging service's instructions

HOW LONG IT TAKES
Usually 10-30 minutes

RESULTS IN
Often 1-3 days; timing varies by laboratory and imaging service

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

MAIN LIMITATION
Some soft-tissue conditions are clearer on ultrasound or MRI

Overview

A pelvic CT scan is an imaging test that uses X-rays and a computer to create detailed pictures of your pelvis. CT stands for computed tomography.

The pelvis contains the bladder, lower bowel, reproductive organs, major blood vessels, lymph nodes, muscles, and pelvic bones. A CT scan shows these structures as thin "slices," which can also be combined into three-dimensional images.

Some scans are done without contrast. Others use an iodine-based contrast liquid, usually injected into a vein, to make blood vessels and certain organs easier to see. You may also be asked to drink contrast so the bowel is easier to distinguish.

CT uses more radiation than a standard X-ray. The decision to use it should balance that exposure against the information the scan is expected to provide.

Why the test is ordered

A pelvic CT scan may be ordered to investigate symptoms, assess an injury, plan treatment, or monitor a known condition. It is often combined with a CT scan of the abdomen.

Reasons may include:

CT is particularly useful when a wide view of the pelvis is needed quickly. However, ultrasound or MRI may provide better detail for some conditions involving the uterus, ovaries, prostate, muscles, or other soft tissues.

- Pelvic or lower abdominal pain
- An injury after a fall, collision, or other trauma
- Suspected infection, abscess, or inflammation
- Blood in the urine or possible urinary stones
- A suspected mass or enlarged lymph nodes
- Bowel or bladder problems
- Planning surgery, radiotherapy, drainage, or a biopsy
- Checking how a known condition has changed

Who should have the test

A pelvic CT scan may be appropriate when its results could explain symptoms or affect your care. It is not generally used as a routine pelvic screening test in people without a specific reason for imaging.

Tell the imaging team if you are pregnant or could be pregnant. CT may still be necessary in an emergency, but ultrasound or MRI can sometimes answer the question without using X-rays.

Before contrast is used, the team may ask about kidney disease, previous reactions to contrast, asthma, diabetes, and your medicines. A recent blood test may be needed to check kidney function, particularly if you have kidney disease or are acutely unwell.

Children and younger adults can have CT when clinically needed. Imaging teams usually adjust the scan to use the lowest radiation exposure that provides adequate pictures.

How to prepare

Follow the instructions from your imaging service because preparation differs according to the reason for the scan and whether contrast is planned.

You may be asked not to eat for several hours. Clear fluids may still be allowed, but local instructions differ. Do not stop prescription medicines unless the healthcare team specifically tells you to.

Tell the team before the appointment if you:

Wear comfortable clothing without metal if possible. You may need to remove jewellery, a belt, or clothing with metal fasteners because metal can interfere with the pictures.

- Are pregnant or could be pregnant
- Have kidney problems or are on dialysis
- Previously reacted to CT contrast
- Take metformin or other diabetes medicines
- Have a fluid restriction or severe heart condition
- Recently had an examination using barium contrast

What happens during the test

You may change into a gown. A radiographer, the healthcare professional who performs the scan, will explain the procedure and help position you on a narrow table.

If intravenous contrast is needed, a small tube called a cannula is placed into a vein, usually in your hand or arm. Contrast can cause a brief warm feeling, a metallic taste, or the sensation that you are passing urine. These feelings usually pass quickly.

The table moves through the CT scanner, which is shaped like a large ring rather than a tunnel. The scan itself is painless. You will need to keep still and may be asked to hold your breath for a few seconds.

The radiographer operates the scanner from the next room but can see, hear, and speak with you. Most pelvic CT appointments take about 10 to 30 minutes, although the image collection may last only a few minutes.

Understanding your results

A radiologist, a doctor trained to interpret medical images, reviews the scan. The report describes what was seen and gives an opinion about its possible meaning.

There is no universal "normal range" for a pelvic CT. Expected appearances vary with age, sex, pregnancy status, previous surgery, medicines, and clinical context. Any accompanying blood

tests, such as a kidney function test, use ranges set by the laboratory.

The report may describe:

A finding on CT does not always establish a diagnosis. Some findings are harmless, while others need comparison with older scans, another type of imaging, or a tissue sample.

- No CT explanation for the symptoms
- Inflammation, infection, fluid, or bleeding
- A fracture or other injury
- Stones or blockage in the urinary system
- Changes in the bowel, bladder, or reproductive organs
- A mass or enlarged lymph nodes
- An unrelated finding discovered by chance

What affects the results

Several factors can reduce image quality or make a finding harder to interpret even when the scanner is working correctly.

Movement during the scan can blur small structures. Metal from hip replacements, surgical clips, jewellery, or clothing can create streaks that hide nearby tissue.

The amount of urine in your bladder and the contents of your bowel can change how pelvic structures appear. Recent barium contrast in the bowel may also obscure part of the scan.

Contrast timing matters. Pictures taken too early or too late after an injection may not show a blood vessel or organ as intended. A leaking or poorly positioned IV line can prevent the full amount from reaching the bloodstream.

Body size can affect image detail, although scan settings can often be adjusted. Previous surgery, radiotherapy, or inflammation may change normal anatomy and sometimes resemble active disease.

Kidney function does not usually make the images inaccurate, but it may affect whether intravenous contrast is used. Most medicines do not alter the pictures directly. Metformin does not distort the scan, although instructions about taking it may change if kidney function is severely reduced or worsens suddenly.

Pregnancy and age can change expected anatomy and influence which imaging test is most suitable. They do not mean the scanner itself is inaccurate.

Accuracy and limitations

Accuracy depends on what the scan is looking for, whether contrast is used, and the scanning protocol. There is no single reliable "accuracy rate" for every pelvic CT.

CT is good at showing fractures, bleeding, many urinary stones, bowel complications, abscesses, and larger masses. It is also fast, making it useful after serious injury or when urgent information is needed.

However, CT can miss very small abnormalities or disease at an early stage. It may not clearly show superficial endometriosis, small abnormalities inside the uterus or ovaries, subtle prostate changes, or some soft-tissue injuries.

CT can also identify an abnormal-looking area that later proves harmless. Normal lymph nodes, cysts, scar tissue, bowel contents, or age-related changes can sometimes look concerning. Further imaging or a biopsy may be needed before anyone can say what a finding represents.

Ultrasound is often better for an initial assessment of the uterus, ovaries, pregnancy, or blood flow in the testicles. MRI may be better for detailed soft-tissue assessment. A biopsy is needed when the exact cell type of a mass must be established.

Risks and complications

CT exposes you to ionising radiation. The amount differs according to the area scanned, your body size, and the protocol. Imaging teams aim to use the lowest exposure that gives useful images.

A contrast injection can cause temporary warmth, nausea, or a metallic taste. Mild bruising can occur where the cannula was placed.

Allergic-like reactions to iodine-based contrast can occur. Most are mild, but serious reactions are possible and imaging departments are equipped to treat them.

Contrast occasionally leaks into the tissue around the vein, causing pain and swelling. Severe tissue injury is uncommon. Iodine-based contrast may also be a concern for people with severely reduced kidney function or sudden kidney injury, so kidney health is assessed when relevant.

Tell staff immediately during the appointment if you develop breathing difficulty, widespread hives, facial swelling, severe pain, or rapidly increasing swelling around the injection site.

What happens next

You can usually return to normal activities immediately. If you received contrast, you may be encouraged to drink normally unless you have a fluid restriction.

A radiologist sends the report to the healthcare professional who requested the scan. Routine results are commonly discussed at a follow-up appointment, by telephone, or through a patient portal.

Some findings need another test, such as ultrasound, MRI, blood tests, endoscopy, or biopsy. Others need no further action. An urgent result is usually communicated promptly to the team responsible for your care.

After leaving, seek emergency help for difficulty breathing, collapse, or swelling of the face or throat. Contact the imaging service or seek urgent advice for worsening injection-site pain, marked swelling, numbness, blistering, or a widespread rash. A small bruise or mild tenderness can usually be monitored at home.

Common questions

Can I drink coffee before a pelvic CT scan?

Usually yes if you have not been asked to fast. If fasting is required, coffee may not be allowed, especially with milk or sugar. Follow the instructions in your appointment letter.

Does the time of day matter?

Usually not. Timing may matter if the scan is being coordinated with another procedure or a specific contrast protocol.

Can I exercise beforehand?

Normal activity does not usually affect a pelvic CT. Avoid becoming dehydrated before a contrast scan, and follow any instructions about food and fluids.

Can I drive home afterward?

Most people can drive after a standard CT. You will need other arrangements if you received a sedative, although sedation is uncommon for pelvic CT.

Will I have to drink contrast?

Not always. It depends on which organs are being assessed and the imaging service's protocol. Some scans use intravenous contrast, oral contrast, both, or neither.

Is a pelvic CT scan claustrophobic?

The scanner is a short, open ring rather than a long enclosed tunnel. Your head may remain

outside the scanner, depending on the area being imaged.

Sources

- American College of Radiology and Radiological Society of North America. CT of the Abdomen and Pelvis . RadiologyInfo.org
- American College of Radiology. ACR Manual on Contrast Media
- US Food and Drug Administration. Computed Tomography (CT)
- National Health Service. CT scan
- American College of Obstetricians and Gynecologists. Guidelines for Diagnostic Imaging During Pregnancy and Lactation . Committee Opinion No. 723