TEST

Pelvis MRI scan

A pelvis MRI uses magnets and radio waves to create detailed images of pelvic organs and tissues.

WHAT IT MEASURES
Detailed images of pelvic organs, soft tissues, bones, and vessels

SAMPLE
None

FASTING NEEDED?
Sometimes, for sedation, contrast, or specific imaging protocols

HOW LONG IT TAKES
Usually 30 to 60 minutes

RESULTS IN
Usually several days; varies by laboratory or imaging centre

USED FOR
Diagnosis, treatment planning, and monitoring

MAIN LIMITATION
Motion and metal can distort images or hide abnormalities

Overview

A pelvis MRI scan creates detailed pictures of the structures inside your pelvis. MRI stands for magnetic resonance imaging. It uses a strong magnet, radio waves, and a computer. It does not use X-rays or other ionising radiation.

The pelvis contains the bladder, lower bowel, reproductive organs, lymph nodes, blood vessels, muscles, and bones. Depending on your anatomy and the reason for the scan, MRI may examine the uterus, ovaries, cervix, vagina, prostate, seminal vesicles, penis, or rectum.

Different pelvic MRI protocols are designed for different questions. For example, a prostate MRI is performed differently from an MRI looking for endometriosis, rectal disease, or a muscle injury.

Some scans use a gadolinium-based contrast agent. This is injected into a vein to make certain tissues and blood vessels easier to distinguish. Not every pelvic MRI needs contrast.

Why the test is ordered

A pelvis MRI may be ordered after symptoms, an examination, or another test suggests that more detailed imaging is needed. It may help investigate:

MRI can help with diagnosis, treatment planning, and monitoring. It cannot always identify exactly what a finding is. Sometimes another scan, an examination, or a tissue sample called a biopsy is needed.

- Pelvic pain, swelling, a lump, or unexplained bleeding
- Changes involving the bladder or bowel
- Conditions affecting the uterus, ovaries, cervix, or prostate
- Possible endometriosis, fibroids, infection, or inflammation
- Injuries involving pelvic bones, joints, muscles, or tendons
- A finding first seen on ultrasound, CT, or another scan
- The position and extent of a known tumour
- Changes after surgery, radiotherapy, or other treatment

Who should have the test

A pelvis MRI is suitable when its detailed soft-tissue images are likely to answer a specific medical question. It is not usually used as a general screening test for people without symptoms or a defined risk.

Tell the imaging team before the appointment if you have a pacemaker, implanted defibrillator, aneurysm clip, medicine pump, hearing implant, metal fragments, or any other implanted device. Many modern devices can be scanned under specific conditions, but their exact make and model must be checked.

Also tell the team if you may be pregnant, have kidney disease, have previously reacted to MRI contrast, or cannot lie flat. If you have severe claustrophobia, pain, or difficulty staying still, the team may be able to adjust the plan.

How to prepare

Follow the instructions from your imaging centre because preparation differs by the type of pelvic MRI. You may be asked to avoid food for several hours, particularly if contrast, sedation, or medicine to reduce bowel movement will be used. Many routine scans do not require

fasting.

You may receive instructions to arrive with a full or partly full bladder. Other protocols require you to empty your bladder. Do not guess; the correct preparation depends on what is being examined.

Take prescribed medicines normally unless your appointment instructions say otherwise. Tell the team about all medicines and supplements you use.

Remove jewellery, piercings, watches, hearing aids, removable dental work, and clothing containing metal. Makeup, skin patches, and some athletic clothing can also contain metal. You may be given a gown.

If sedation is planned, arrange for someone to take you home. You will also receive separate instructions about eating, drinking, and medicines.

What happens during the test

A radiographer or MRI technologist will review a safety checklist with you. You will lie on a padded table, usually on your back. A device called a coil may be placed over your pelvis to receive the MRI signals.

The table moves into the scanner, which is shaped like a short tunnel. The machine makes loud knocking, buzzing, and tapping sounds. You will be given ear protection and can communicate with the imaging team throughout the scan.

You need to keep still while each set of pictures is taken. You may briefly be asked to hold your breath. Most pelvic MRI appointments take about 30 to 60 minutes, although specialised scans can take longer.

If contrast is needed, a small intravenous line is placed in your hand or arm. For a small number of specialised examinations, gel may be placed in the vagina or rectum to show nearby structures more clearly. The team should explain this beforehand and ask for your agreement.

Understanding your results

A radiologist, a doctor trained to interpret medical images, reviews the scan. The report describes the structures examined, any findings, and how those findings may relate to the reason for the test.

A report may use terms such as "lesion," meaning an area that looks different from nearby tissue, or "enhancement," meaning that tissue becomes more visible after contrast. These

words do not by themselves mean cancer.

MRI does not have one universal reference range. Interpretation varies with the scanner and protocol, as well as your age, sex, pregnancy status, medicines, previous treatment, and clinical context. If a kidney blood test is checked before contrast, its reference range may also vary by laboratory.

The report may recommend comparison with older scans, follow-up imaging, ultrasound, CT, an examination, or biopsy. An unexpected finding is not always important, but it should be interpreted alongside your symptoms and medical history.

What affects the results

Several factors can reduce image quality or make findings harder to interpret even when the scanner is working correctly:

Kidney function may change whether gadolinium contrast is offered, although it does not usually affect images taken without contrast. Pregnancy may also change the choice of protocol and whether contrast is used.

Food, coffee, time of day, and ordinary exercise have little effect on most pelvic MRI scans. Follow specific instructions if the scan is for endometriosis, prostate disease, bowel disease, or another specialised purpose.

- Movement, including breathing, discomfort, or difficulty keeping still
- Normal bowel movement, bowel gas, or incorrect bladder filling
- Metal implants, surgical clips, or metal fragments causing distortion
- Recent surgery, biopsy, radiotherapy, bleeding, or inflammation
- Menstrual cycle timing or hormone treatment for certain pelvic conditions
- Contrast timing, blood flow, and the specific MRI sequences used
- A protocol not designed for the organ or condition being investigated

Accuracy and limitations

Pelvic MRI is especially good at showing differences between soft tissues. Its accuracy still depends on the organ being examined, the condition being considered, the imaging protocol, image quality, and the experience of the reporting radiologist.

MRI can miss very small abnormalities, early disease, or findings hidden by movement or metal

distortion. It may also show scar tissue, inflammation, bleeding, or benign growths that resemble more serious disease. This can lead to further testing even when no harmful condition is present.

MRI is not always the best first test. Ultrasound may be better for an initial assessment of the uterus, ovaries, or pregnancy. CT is often faster for severe injury, kidney stones, or some urgent abdominal and pelvic problems. Colonoscopy directly examines the bowel lining, while biopsy is usually needed to confirm what a suspicious mass is made of.

A normal MRI lowers the chance of some conditions but cannot rule out every cause of pelvic symptoms.

Risks and complications

MRI does not expose you to ionising radiation. The main safety concern is the strong magnetic field, which can move, heat, or interfere with certain metal objects and implanted devices.

The scan itself is painless, although the enclosed space, noise, and need to lie still can be uncomfortable. If an intravenous line is used, you may develop a small bruise or feel faint.

Gadolinium contrast can cause short-lived effects such as nausea, headache, or discomfort at the injection site. Serious allergic reactions are uncommon. In people with severe kidney impairment, some gadolinium agents carry a risk of a rare condition called nephrogenic systemic fibrosis, so kidney function and the need for contrast may be reviewed.

Sedation has separate risks and requires monitoring. It is not routinely needed.

What happens next

You can usually return to normal activities immediately if you did not receive sedation. Drink and eat normally unless the imaging team gives different instructions.

The clinician who requested the MRI should explain the report and whether any follow-up is routine. This might include reviewing an older scan, arranging another type of imaging, repeating the MRI after an interval, or taking a biopsy.

Do not wait for a routine MRI result if you develop severe or rapidly worsening pelvic or abdominal pain, heavy bleeding with faintness, new loss of bladder or bowel control, or new leg weakness. Seek emergency help after contrast if you develop trouble breathing, collapse, or swelling of your face or throat.

Common questions

Can I drink coffee before a pelvis MRI?

Usually, unless you were told to fast. Coffee may also fill your bladder or increase bowel activity, so follow the instructions for your specific scan.

Does the time of day matter?

Usually not. For some specialised examinations, timing may be chosen around bowel preparation, treatment, or the menstrual cycle.

Can I exercise beforehand?

Ordinary exercise rarely affects a pelvic MRI. Avoid activity that makes it difficult to lie still because of pain, muscle fatigue, or shortness of breath.

Can I have a pelvis MRI during my period?

Usually yes. Menstruation can affect the appearance of some reproductive tissues, so tell the imaging team. Certain scans may be scheduled for a particular point in the cycle.

Can I drive home afterward?

Yes, if you did not receive sedation and feel well. You must not drive after sedation; arrange for someone else to take you home.

Can an MRI tell whether a pelvic mass is cancer?

MRI can show features that make a mass more or less concerning and can map its location. It cannot always confirm cancer, and a biopsy may be needed.

Sources

- American College of Radiology and Radiological Society of North America. Pelvic MRI
- American College of Radiology. Manual on Contrast Media
- US Food and Drug Administration. Benefits and risks of MRI
- NHS. MRI scan
- American College of Obstetricians and Gynecologists. Guidelines for diagnostic imaging during pregnancy and lactation