TEST

Mesenteric angiography

Mesenteric angiography uses a catheter, contrast dye, and X-rays to examine arteries supplying the intestines.

WHAT IT MEASURES
Blood flow and blockages in arteries supplying the intestines

SAMPLE
None; X-ray imaging with injected contrast dye

FASTING NEEDED?
Sometimes, usually several hours when sedation is planned

HOW LONG IT TAKES
Usually one to three hours

RESULTS IN
Usually same day; timing varies by laboratory or imaging department

USED FOR
Diagnosis and image-guided treatment of mesenteric artery problems

MAIN LIMITATION
Intermittent bleeding can stop during imaging and be missed

Overview

Mesenteric angiography is an invasive imaging test of the arteries that supply your intestines. These are called the mesenteric arteries.

A specialist passes a thin, flexible tube called a catheter into an artery, usually through the groin or wrist. Contrast dye is injected through the catheter. A series of X-ray images then shows how blood moves through the vessels.

The test is also called catheter angiography. It differs from CT angiography, which uses a CT scanner and contrast injected into a vein without placing a catheter inside an artery.

Mesenteric angiography can be diagnostic and therapeutic. This means the specialist may identify a blood vessel problem and treat it during the same procedure.

Why the test is ordered

Mesenteric angiography may be used to look for:

It may also guide treatment. For example, the specialist may open a narrowed artery with a balloon, place a stent, or block a bleeding vessel using small coils or other materials. Blocking a vessel deliberately is called embolisation.

CT angiography is often used first because it is faster and does not require an arterial catheter. Catheter angiography may follow when treatment is likely, CT findings are uncertain, or detailed real-time images of blood flow are needed.

- A narrowed or blocked artery supplying the bowel
- Active bleeding into the digestive tract
- A bulging or abnormal blood vessel, such as an aneurysm
- An unusual connection between arteries and veins
- Problems involving a previous vascular stent or operation

Who should have the test

The test may be considered if your symptoms, examination, blood tests, or other scans suggest reduced intestinal blood flow or bleeding from a blood vessel. It is not a general screening test.

Whether it is suitable depends on the reason for testing, the urgency of the situation, your kidney function, bleeding risk, allergies, pregnancy status, and whether a less invasive scan could answer the same question.

Tell the healthcare team if you have previously reacted to X-ray contrast dye. Also tell them about kidney disease, bleeding problems, pregnancy or possible pregnancy, and any recent vascular procedures.

How to prepare

Follow the instructions from your imaging department. Preparation differs between planned and emergency procedures.

You may be asked not to eat for several hours, particularly if sedation is planned. You may still be allowed clear fluids, but follow the specific instructions you receive.

Provide an up-to-date list of medicines and supplements. Blood thinners like warfarin or apixaban , antiplatelet medicines, diabetes medicines, and some kidney-related medicines may need special planning. Do not stop a prescribed medicine unless the team responsible for the

procedure tells you to.

Blood tests may be arranged to check kidney function, blood count, and how well your blood clots. An intravenous line may be placed for fluids or medicines.

If you will receive sedation, arrange for someone to take you home. You may also need someone to stay with you for the first night.

What happens during the test

You will lie on an X-ray table. Monitoring equipment will check your heart rate, blood pressure, and oxygen level. You may receive medicine to help you relax, but many procedures do not require a general anaesthetic.

The skin over the groin or wrist is cleaned and numbed with local anaesthetic. You may feel a brief sting. The specialist then places a small tube into the artery and guides a catheter toward the mesenteric arteries using live X-ray images.

Contrast dye is injected while images are taken. You may briefly feel warmth or a metallic taste. You will need to remain still and may be asked to hold your breath for a few seconds.

If a treatable problem is found, the specialist may perform angioplasty, place a stent, or embolise a bleeding vessel. This can make the procedure longer.

After the catheter is removed, pressure or a closure device is used to seal the puncture. If the groin was used, you may need to lie flat for several hours.

Understanding your results

The images show whether contrast flows freely through the mesenteric arteries and their branches. The report may describe:

A normal angiogram means no significant abnormality was visible at that time. It does not rule out bleeding that had temporarily stopped, problems in very small vessels, or bowel conditions not caused by the arteries.

There is no universal numerical reference range for this test. Interpretation is based mainly on the images. Any accompanying laboratory ranges and the overall interpretation vary by laboratory, age, sex, pregnancy status, medicines, and clinical context.

The specialist may discuss an initial result immediately. A written report is usually sent to the clinician who requested the procedure.

- Normal or reduced blood flow
- Narrowing, blockage, or a blood clot
- Contrast leaking from a vessel, suggesting active bleeding
- Aneurysms or abnormal vessel connections
- The result of treatment performed during the procedure

What affects the results

Mesenteric angiography gives a real-time view, so conditions at the time of imaging matter.

Bleeding can be intermittent. If it stops before or during the procedure, no leak may appear even when bleeding occurred earlier. Very slow bleeding may also be difficult to see.

Low blood pressure or reduced circulation can change how quickly contrast moves through the arteries. Catheter contact may briefly make an artery tighten, called vasospasm, which can resemble narrowing.

Movement, breathing, overlapping vessels, body size, and the angle of the images can obscure small abnormalities. Previous surgery, stents, or embolisation can alter the usual vessel pattern.

Medicines that affect bleeding or blood vessel tone may influence what is visible. Kidney function does not usually make the image falsely normal or abnormal, but it affects how safely contrast can be given and may limit the amount used.

Food, coffee, exercise, and the time of day do not usually change the artery images directly. They may still affect sedation safety, blood pressure, or procedure scheduling.

Accuracy and limitations

Catheter angiography provides detailed moving images of the inside of blood vessels. It can identify a narrowing or blockage and show where active bleeding is coming from. Its major advantage is that treatment can begin immediately.

However, it can miss intermittent or very slow bleeding. Small-vessel disease may not be clear, and a vessel can look narrowed because of temporary spasm rather than a fixed blockage. Additional views or another imaging test may be needed to clarify uncertain findings.

The test mainly shows the space inside arteries. It does not assess the bowel wall or surrounding organs as fully as CT. CT angiography is often the better initial test when a broad

view of the abdomen is needed. MR angiography or ultrasound may sometimes be used for planned assessment, depending on the question and local expertise.

No imaging test is correct in every case. Results are interpreted alongside your symptoms, examination, blood tests, and other scans.

Risks and complications

A small bruise, tenderness, or minor bleeding at the catheter site is common. Some people feel faint during needle or catheter procedures.

Less common complications include a larger collection of blood under the skin, damage or blockage in the accessed artery, infection, or injury to a mesenteric artery. Contrast can cause an allergy-like reaction and may worsen kidney function, especially when kidney function is already reduced.

The procedure uses ionising radiation. The team limits exposure to what is needed. Tell them if you are pregnant or could be pregnant so the risks and alternatives can be assessed.

Embolisation, angioplasty, or stent placement adds treatment-specific risks. These may include unintended blockage of healthy tissue, vessel injury, or reduced bowel blood flow. Your specialist should explain the relevant risks before a planned procedure.

What happens next

Your pulse, blood pressure, and catheter site will be monitored during recovery. Follow instructions about resting, drinking fluids, wound care, lifting, and restarting medicines.

A small bruise or mild soreness can usually be discussed at routine follow-up. Contact the procedure team promptly if the puncture becomes increasingly painful, swollen, red, warm, or starts oozing.

Seek urgent or emergency care for:

Further care depends on the findings. You may need medicine, another scan, vascular or bowel specialist review, or follow-up after a stent or embolisation.

- Bleeding that does not stop with firm pressure
- Severe or worsening abdominal pain
- Fainting, chest pain, or difficulty breathing
- A hand or leg that becomes cold, pale, numb, or very painful

- Rapidly increasing swelling at the catheter site

Common questions

Can I drink coffee before mesenteric angiography?

Not if you have been told to fast, unless the imaging department specifically allows it. Coffee with milk is not a clear fluid. Even black coffee may be restricted when sedation is planned.

Does the time of day matter?

The arteries do not have a standard time-of-day reference. Timing is based on urgency, fasting requirements, staffing, and whether treatment may be needed.

Can I exercise beforehand?

Ordinary activity does not usually alter the images. Avoid arriving dehydrated or exhausted, and follow any fasting instructions. Afterward, strenuous exercise and heavy lifting are usually restricted for a short period to protect the puncture site.

Will it hurt?

The local anaesthetic can sting briefly. You may feel pressure where the catheter enters and warmth when contrast is injected, but you should not feel the catheter moving inside the arteries. Tell the team if you have pain.

Can I drive home afterward?

You should not drive if you received sedation. Even without sedation, the department may advise against driving because of the arterial puncture and movement restrictions.

Is this the same as CT angiography?

No. CT angiography uses a CT scanner after contrast is injected into a vein. Mesenteric catheter angiography places a catheter inside an artery and can allow treatment during the same procedure.

Sources

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