TEST

Abdominal x-ray

An abdominal x-ray uses a small amount of radiation to make images of structures inside your abdomen.

WHAT IT MEASURES
Gas, stool, calcifications, organs, devices, and foreign objects

SAMPLE
None

FASTING NEEDED?
No, unless combined with another procedure

HOW LONG IT TAKES
Usually 10 to 20 minutes

RESULTS IN
Same day to several days; varies by imaging service

USED FOR
Diagnosis and checking device or foreign-object position

MAIN LIMITATION
Many abdominal problems are invisible or unclear on x-ray

Overview

An abdominal x-ray uses a small amount of ionising radiation to create pictures of structures inside your abdomen.

Air appears dark. Bones, some stones, metal objects, and calcium appear lighter. Soft tissues, including the bowel and abdominal organs, are harder to distinguish.

The test may show patterns of bowel gas and fluid, some kidney stones, swallowed objects, medical devices, or air where it should not normally be. It is quick but provides less detail than a CT scan, and many conditions cannot be confirmed or ruled out by x-ray alone.

Why the test is ordered

An abdominal x-ray may be used to investigate abdominal pain, swelling, vomiting, or difficulty passing stool or gas. Whether it is useful depends on your symptoms and examination.

It may be ordered to look for:

It is not usually the best test for gallstones, appendicitis, inflammation, internal bleeding, or many abdominal growths. Ultrasound or CT often provides more useful information.

- A blocked or unusually enlarged bowel
- Air outside the bowel, which can suggest a hole in the digestive tract
- Certain kidney or urinary stones
- A swallowed or inserted foreign object
- The position of a feeding tube, drainage tube, stent, or other device
- Complications after an operation or procedure

Who should have the test

You may have an abdominal x-ray when your healthcare team needs a rapid overview or wants to check an object or medical device.

Not everyone with abdominal symptoms needs one. The choice depends on your symptoms, examination, medical history, age, pregnancy status, and whether another test would be clearer.

Children are generally offered x-rays only when the expected information is important for their care. The examination is adjusted to use as little radiation as reasonably possible.

Tell the imaging team if you are pregnant or could be pregnant. An x-ray may still be appropriate if its expected benefit outweighs the radiation risk, although ultrasound may sometimes be preferred.

How to prepare

Most abdominal x-rays require no special preparation. You can usually eat, drink, and take your regular medicines normally.

Follow your appointment instructions. Preparation may differ if the x-ray is combined with another examination that uses contrast material.

Before the test, tell the imaging team if you:

You may need to remove clothing with metal fasteners, jewellery, a belt, or other objects that could cover the image. You will usually receive a gown if clothing must be removed.

- Are pregnant or might be pregnant

- Recently had an x-ray or scan using barium or other contrast
- Have a medical device in your abdomen
- Cannot stand, lie flat, or change position safely

What happens during the test

A radiographer, a healthcare professional trained to take medical images, will position you beside or on an x-ray machine.

You may lie on your back or side, or stand upright. More than one position may be needed. An upright image can help show gas and fluid levels or air beneath the diaphragm.

You will need to keep still and may be asked to hold your breath briefly. Movement can blur the picture.

Each image is taken quickly, although positioning and checking the images take longer. The examination usually lasts 10 to 20 minutes.

The x-ray does not hurt. If your abdomen is already painful, holding a position may be uncomfortable. Tell the radiographer if you cannot manage a requested position.

Understanding your results

A radiologist, a doctor trained to interpret medical images, usually reviews the x-rays and reports to the healthcare professional who requested them.

The report may describe:

A normal result means no concerning abnormality was visible. It does not rule out every cause of abdominal symptoms.

An abnormal result may suggest an explanation, but appearances are not always specific to one condition. Results must be considered alongside your symptoms, examination, previous images, and other tests.

- The pattern and size of gas-filled bowel
- Fluid levels or visible stool
- Air outside the bowel
- Stones or other areas of calcium
- The outlines of certain organs

- Foreign objects or medical devices

What affects the results

Body position matters. Small amounts of free air or fluid levels may be harder to see if you cannot stand or lie in the required position.

Movement or incomplete breath-holding can blur the image. Body size can also affect detail.

Normal bowel contents change throughout the day. Gas and stool may hide a small stone or overlap other structures. A large amount of visible stool does not, by itself, prove that constipation is causing your symptoms.

Recent barium contrast can obscure structures for several days. Other contrast materials, surgical clips, dense tablets, and metal on clothing can create bright areas or confusing shadows.

Age-related calcification may resemble a stone. Pregnancy can change organ and bowel position and affect which imaging test is most appropriate. Tell the team about recent procedures, contrast examinations, and swallowed medicines or objects that might appear on the image.

Accuracy and limitations

An abdominal x-ray is useful for showing metal objects, some stones, bowel gas patterns, and the position of certain devices. It is less reliable for soft tissues and many causes of abdominal pain.

It can miss a bowel blockage, particularly if it is early, partial, or contains little gas. It may also miss a small amount of air from a perforation, especially if only a lying-down image can be taken.

Some findings have several possible causes. Enlarged bowel loops or fluid levels do not always indicate a dangerous problem, while stool, tablets, normal structures, or calcification may resemble stones or foreign objects.

CT provides more detailed images and is often preferred when obstruction, perforation, inflammation, internal injury, or another serious problem is suspected. Ultrasound is often better for gallstones, pelvic organs, pregnancy-related concerns, and some problems in children.

The x-ray may answer a focused question or be only the first test before further imaging.

Risks and complications

An abdominal x-ray exposes you to a small amount of ionising radiation. Imaging teams limit the exposed area and use the lowest amount needed for a useful image.

A routine x-ray has no expected after-effects and does not make you radioactive.

Radiation needs extra consideration during pregnancy because a developing baby is more sensitive to it. Tell the imaging team if pregnancy is possible, but do not delay urgent care. The team can assess whether the x-ray is needed or another test is suitable.

What happens next

If the x-ray provides a clear answer, your healthcare team will explain whether you need treatment, monitoring, or routine follow-up.

If it is unclear or does not explain your symptoms, you may need blood or urine tests, ultrasound, CT, or another examination. A normal x-ray does not mean continuing symptoms should be ignored.

Seek prompt medical advice if your symptoms worsen while you wait for results. Seek urgent or emergency care for severe or rapidly increasing abdominal pain, a rigid or very swollen abdomen, repeated vomiting, fainting, vomiting blood, black or bloody stool, or difficulty breathing. Do not wait for an imaging report if you feel seriously unwell.

Common questions

Can I eat or drink before an abdominal x-ray?

Usually, yes. Routine abdominal x-rays do not normally require fasting. Follow any specific instructions, especially if another test is planned.

Can I drink coffee first?

Usually, yes. Avoid it only if your instructions ask you to fast.

Does the time of day matter?

Usually not. X-rays are arranged according to clinical need.

Can I exercise beforehand?

Ordinary activity is unlikely to affect the test. If exercise worsens pain, vomiting, or other symptoms, avoid it and seek medical advice.

Do I need to stop my medicines?

Not for a routine abdominal x-ray. Take medicines as directed unless your healthcare team says otherwise for another procedure.

Will I need an injection or contrast drink?

Not for a standard abdominal x-ray. Separate digestive or urinary examinations may use contrast, which the imaging team should explain beforehand.

Sources

- American College of Radiology. ACR Appropriateness Criteria: Acute Nonlocalized Abdominal Pain
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- US Food and Drug Administration. Medical X-ray Imaging
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