TEST

Sinus x-ray

A sinus x-ray uses low-dose radiation to create pictures of the air-filled spaces around your nose

WHAT IT MEASURES
Air, fluid, and bone patterns within the sinuses

SAMPLE
None; imaging only

FASTING NEEDED?
No

HOW LONG IT TAKES
Usually 10 to 15 minutes

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

USED FOR
Investigating sinus symptoms, injury, or bone changes

MAIN LIMITATION
Limited detail cannot reliably confirm or exclude sinusitis

Overview

A sinus x-ray is a quick imaging test that uses a small amount of ionising radiation. It creates pictures of the paranasal sinuses, the air-filled spaces in the bones around your nose, cheeks, forehead, and eyes.

Sinus x-rays were once used more often to investigate sinus infections. They are now requested less frequently because they provide limited detail. A CT scan can show the sinuses and nearby structures much more clearly.

An x-ray may show that a sinus is partly or completely filled instead of containing air. It may also show a horizontal air-fluid level, bone injury, or a large structural abnormality. These findings are not specific to one condition and must be considered alongside your symptoms and examination.

The test does not use injections or contrast dye.

Why the test is ordered

A healthcare professional may request a sinus x-ray to look for a possible explanation for facial pressure, persistent nasal symptoms, or an abnormal examination. It may also be used when looking for certain facial injuries or a foreign object.

However, imaging is not usually needed for straightforward, short-term sinus symptoms. A sinus infection is often assessed from the pattern and duration of symptoms and a physical examination.

A sinus x-ray may be selected when:

If detailed information is needed before surgery, after significant facial trauma, or because of possible eye or brain complications, another type of imaging is usually more useful.

- A limited view of the sinuses may answer a specific question
- CT is unavailable or is not considered necessary
- There is concern about a radiopaque foreign object, meaning one visible on x-ray
- Follow-up of a known bone or sinus finding is required

Who should have the test

You may be offered this test if your symptoms or examination suggest that an image could change what happens next. The decision should take into account how long you have had symptoms, whether they are improving, and whether there are signs of an alternative problem.

Sinus x-rays have particular limits in children. Their sinuses are still developing, and normal development can make the pictures harder to interpret.

Tell the imaging team if you are pregnant or could be pregnant. Pregnancy does not automatically mean that a medically necessary x-ray cannot be performed. It allows the team to confirm that the test is appropriate and reduce exposure where possible.

How to prepare

You can eat and drink normally before a sinus x-ray. Coffee, prescribed medicines, and usual daily activity do not affect the pictures.

Remove glasses, earrings, facial jewellery, hair clips, removable dental appliances, or hearing devices if asked. Metal near your head can cover part of the image or create misleading shadows.

Wear clothing that allows you to remove necklaces or other items around your head and neck easily. Tell the radiographer if standing or holding your head in a particular position is difficult.

Bring details of previous sinus surgery or earlier imaging if they are not already available to the service. Comparing old and new images can help the radiologist understand whether a finding has changed.

What happens during the test

A radiographer, a professional trained to take medical images, will position your head next to an x-ray detector. You may stand, sit, or occasionally lie down.

Several pictures may be taken from different angles. You may be asked to place your chin or forehead against the equipment and remain still. Holding still helps prevent blurred images and reduces the chance that a picture must be repeated.

The x-ray itself is painless and takes only a moment. Most appointments take about 10 to 15 minutes, including positioning. You can usually leave immediately afterward and return to normal activities.

Understanding your results

A radiologist, a doctor who specialises in medical imaging, usually reviews the pictures and sends a report to the professional who requested the test.

A report may describe:

Mucosal thickening or clouding does not by itself prove a bacterial infection. Similar appearances can occur with viral illness, allergy, inflammation, or changes left after earlier symptoms.

A normal x-ray does not completely rule out sinus disease. Some sinuses are difficult to see, and small or early changes may not appear.

There is no numeric reference range for this test. Interpretation varies with age, sinus development, previous surgery, image quality, symptoms, and the clinical question. Sex, pregnancy status, and medicines usually do not alter the sinus image itself, although pregnancy can affect whether and how imaging is performed.

- Clear or aerated sinuses: The visible sinus spaces mainly contain air
- Mucosal thickening: The sinus lining appears thicker than expected

- Opacification: Part or all of a sinus looks filled rather than air-filled
- An air-fluid level: Air and liquid form a visible horizontal line
- Bone changes: The surrounding bone looks altered, damaged, or unusually shaped

What affects the results

The main influences are technical and anatomical rather than changes in blood chemistry.

Movement can blur the picture. If your head is not positioned correctly, bones and soft tissues may overlap the sinus being examined. Dental fillings, jewellery, removable dental work, and other metal can also hide details or create shadows.

Age matters because the sinuses grow throughout childhood. Some are very small or not yet fully developed in younger children. Previous surgery, facial injury, naturally uneven sinuses, dental disease, and thick skull or facial bones can also change the appearance.

Recent or improving inflammation may remain visible after symptoms have eased. This means an abnormal image may not represent a current bacterial infection.

Food, coffee, exercise, kidney function, blood transfusions, and most medicines do not affect a sinus x-ray result. Pregnancy does not make the image inaccurate, but it should be disclosed so the need for radiation can be reviewed.

Accuracy and limitations

A sinus x-ray cannot reliably determine whether sinus symptoms are caused by a virus, bacteria, allergy, or another form of inflammation. It can miss disease because some sinus areas overlap with facial bones, and it shows much less detail than CT.

The test can also appear abnormal when there is no bacterial sinus infection. For example, temporary lining thickening after a cold or changes related to allergy may look like sinusitis on an x-ray. This means it can say "abnormal" when the finding does not explain your current symptoms.

There is no single dependable rate for how often sinus x-rays miss disease or give a misleading positive result. Performance changes with the sinus involved, the type of abnormality, positioning, image quality, and the person interpreting the study.

CT is generally the better test when detailed sinus anatomy is needed, when surgery is being planned, or when a complication or significant facial injury is suspected. MRI may be preferred when the main concern involves soft tissues, the eye socket, nerves, or structures inside the

skull. Each test answers a different clinical question.

Risks and complications

The test uses a low dose of ionising radiation. The risk from a single medically justified examination is small, and no radiation remains in your body afterward.

The procedure is non-invasive and does not require a needle or contrast dye. You may experience brief discomfort from holding your head still, but complications are not expected.

What happens next

The report may be available on the same day, although it can take several days. Timing varies between imaging services and laboratories.

A normal or mildly abnormal result may lead to routine follow-up based on your symptoms. Because the x-ray has important limitations, treatment decisions should not be based on the image alone. If symptoms continue or the result does not explain them, a clinical review or a different imaging test may be considered.

Arrange routine follow-up if symptoms are not improving as expected, keep returning, or interfere with sleep and daily activities.

Seek urgent medical assessment for marked swelling around an eye, new double vision, reduced vision, or pain and difficulty moving an eye. Emergency care is appropriate for new confusion, reduced alertness, a seizure, or a severe rapidly worsening headache with neurological symptoms. These symptoms are uncommon but require assessment rather than waiting for an x-ray report.

Common questions

Can I eat or drink coffee before a sinus x-ray?

Yes. Fasting is not needed, and coffee does not affect the pictures.

Does the time of day matter?

No. Sinus x-rays can be taken at any time. Scheduling may affect when the report becomes available, but not the image itself.

Can I exercise beforehand?

Yes. Exercise does not alter the result. If exercise makes facial pressure or other symptoms worse, mention that during your clinical assessment.

Will I need an injection?

No. A standard sinus x-ray does not require contrast dye, an intravenous line, or any other injection.

Can a sinus x-ray confirm a sinus infection?

Not reliably. It may show fluid or thickened lining, but these findings can have several causes. The result must be interpreted with your symptoms and examination.

Why might I need a CT scan instead?

CT shows individual sinuses, drainage pathways, surrounding bone, and nearby structures in much greater detail. It is more useful when complications, injury, unusual symptoms, or surgical planning are concerns.

Sources

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