TEST

Sialogram

A sialogram uses contrast dye and X-rays to examine a major salivary gland duct

WHAT IT MEASURES
Salivary duct shape, narrowing, blockage, and contrast drainage

SAMPLE
None; X-ray imaging after contrast enters a salivary duct

FASTING NEEDED?
No, unless sedation is specifically planned

HOW LONG IT TAKES
About 30 to 60 minutes

RESULTS IN
Same day to several days, varying by imaging service

USED FOR
Diagnosing salivary duct blockage, narrowing, or chronic inflammation

MAIN LIMITATION
Incomplete duct filling can hide or mimic abnormalities

Overview

A sialogram is an imaging test of a major salivary gland and its duct. Salivary glands make saliva, while ducts are the small tubes that carry saliva into your mouth.

During a conventional sialogram, a thin tube is placed into the opening of a salivary duct inside your mouth. A small amount of contrast liquid is gently introduced through the tube. The contrast makes the duct system visible on X-rays.

The test most often examines a parotid gland, located in front of and below the ear, or a submandibular gland, located beneath the jaw.

A sialogram can show whether a duct is blocked, narrowed, widened, damaged, or leaking. It can also show patterns associated with long-term inflammation. It does not usually determine the exact cause of every abnormality.

MR sialography is a different technique that uses magnetic resonance imaging and may not require contrast to be placed in the duct. Check your appointment information because preparation and risks differ.

Why the test is ordered

A sialogram may be ordered when symptoms suggest that saliva is not flowing normally through a major salivary duct. Swelling or discomfort that becomes worse around mealtimes can be particularly relevant because eating stimulates saliva production.

The test may be used to investigate:

Ultrasound, CT, or MRI may be used first or instead. The best imaging method depends on the suspected problem and which gland is involved.

- Repeated swelling or pain near the jaw, cheek, or ear
- A suspected salivary stone or duct blockage
- Narrowing caused by scarring
- Recurrent or long-term salivary gland inflammation
- A possible duct injury, leak, or abnormal connection
- Duct anatomy before another salivary gland procedure

Who should have the test

A sialogram is not a routine screening test. It is usually considered when your symptoms, examination, or earlier imaging suggest a problem within a major salivary duct.

The test may not be suitable during an active, severe gland infection. Passing a tube into an inflamed duct can be difficult and may make symptoms worse, so the appointment may be delayed until the infection settles.

Tell the imaging team if you are pregnant or could be pregnant because the test uses X-rays. Also tell them about a previous reaction to iodinated contrast, current facial or neck infection, recent salivary gland surgery, or a recent procedure such as sialendoscopy.

How to prepare

Fasting is not usually required. You can generally eat, drink, and take your usual medicines unless your imaging service gives different instructions. Do not stop prescribed medicines on your own.

Tell the service in advance about:

You may be asked to remove dentures, removable dental work, earrings, necklaces, or other

metal objects near your head and neck.

Sedation is not normally needed. If sedation has been specifically arranged, you will receive separate instructions about fasting, medicines, transport, and driving.

- Previous reactions to X-ray or CT contrast
- Pregnancy or possible pregnancy
- Active swelling with fever, pus, or severe tenderness
- Recent surgery or treatment involving the gland
- Difficulty opening your mouth or remaining still

What happens during the test

You will usually sit or lie near an X-ray machine. The clinician first identifies the tiny duct opening inside your cheek or beneath your tongue. A substance that stimulates saliva, such as lemon juice, may be used to make the opening easier to find.

The opening is gently widened if necessary. A small plastic tube or fine cannula is then placed a short distance into the duct. This can feel uncomfortable, but it should not feel sharply painful.

Contrast liquid is slowly introduced. You may notice pressure, fullness, a bitter taste, or temporary swelling in the gland. X-ray images are taken as the contrast fills the main duct and its smaller branches.

The tube is then removed. You may be asked to suck something sour or have the gland gently massaged to encourage the contrast to drain. Further images may be taken to see how well the duct empties.

Understanding your results

A radiologist, a doctor who interprets medical images, reviews the pictures. A normal result generally shows a smoothly branching duct system without an obvious blockage, narrowing, leak, or area where contrast fails to pass.

Possible findings include:

A sialogram has no universal numerical reference range. Interpretation does not vary by laboratory in the same way as a blood test, but equipment and reporting practices differ between imaging services. Age, sex, pregnancy status, medicines, previous procedures, and the wider clinical context can influence which test is used and how findings are interpreted.

An abnormal image does not always identify one specific cause. The result must be considered alongside your symptoms, examination, and any other scans.

- A filling defect, where a stone, debris, or air interrupts the contrast
- A stricture, meaning an abnormally narrowed section
- Widening behind a blockage
- Irregular small ducts associated with chronic inflammation
- Contrast leaking outside the duct
- Delayed or incomplete drainage

What affects the results

The quality of a sialogram depends heavily on whether the duct can be entered and filled completely. If the tube cannot pass a narrowed opening, the images may not show the duct beyond that point.

Several factors can make the result incomplete or misleading:

Medicines that cause a dry mouth can reduce saliva flow and may affect how quickly the contrast drains, although they do not usually create a structural blockage. Dehydration may also slow drainage.

Kidney function is usually less important than it is for contrast injected into a vein because sialogram contrast is placed inside a duct. However, you should still provide your full medical and contrast-reaction history.

- A stone close to the duct opening can prevent contrast from passing
- Swelling, scarring, or unusual duct anatomy can make tube placement difficult
- Too little contrast may leave smaller branches unseen
- Air bubbles or thick secretions can resemble stones or other filling defects
- Contrast leaking around the tube can obscure the duct
- Movement can blur the images
- Dental fillings or other metal may overlap parts of the gland on X-rays
- Recent surgery or sialendoscopy can alter the duct's appearance

Accuracy and limitations

A sialogram gives detailed images of the inside of ducts that fill successfully. Its accuracy is lower when the duct cannot be entered, contrast does not reach all branches, or the suspected problem lies outside the duct system.

The test may miss a very small stone, a blockage beyond an unfilled section, or disease mainly affecting the gland tissue rather than its ducts. It can also suggest a blockage when the apparent defect is actually an air bubble, thick mucus, temporary duct spasm, or technical problem.

There is no single reliable figure for how often sialograms miss disease or give a false alarm. Performance differs according to the gland, suspected condition, equipment, and operator technique.

Other tests may be more useful in some situations. Ultrasound can detect many stones and areas of swelling without radiation. CT can show calcified stones and deeper anatomy. MRI or MR sialography can assess soft tissue and ducts without inserting a tube. Sialendoscopy places a tiny camera inside the duct and can sometimes diagnose and treat a blockage. A suspicious mass may require separate imaging or a tissue sample because a sialogram cannot diagnose cancer.

Risks and complications

Temporary discomfort, gland swelling, or soreness is common during or shortly after contrast injection. These effects usually improve as the contrast drains.

Less common problems include infection, injury to the duct opening, duct perforation, or contrast leaking into nearby tissue. A reaction to the iodinated contrast is possible, although the contrast is placed in the duct rather than intentionally injected into a vein.

The test uses a small amount of ionising radiation. The imaging team balances this exposure against the expected benefit and takes pregnancy status into account.

Contact the imaging service or seek prompt medical advice if you develop worsening swelling, increasing pain, fever, pus in the mouth, or symptoms that do not begin to settle. These usually need urgent assessment rather than an emergency response.

Call emergency services for trouble breathing, swelling of the throat or tongue, severe difficulty swallowing, collapse, or rapidly worsening symptoms.

What happens next

You can usually return to normal activities immediately if you did not receive sedation. Drinking water and following any instructions about gentle gland massage or sour sweets may help saliva and remaining contrast drain.

A radiologist sends a report to the clinician who ordered the test. Results may be discussed the same day, but often take several days depending on the imaging service.

If a blockage or narrowing is found, further care might include ultrasound, CT, MRI, sialendoscopy, stone removal, or referral to an ear, nose, and throat or oral and maxillofacial specialist. If the sialogram is normal but symptoms continue, another test may be needed because a normal result does not exclude every salivary gland condition.

Common questions

Can I drink coffee before a sialogram?

Usually, yes. Fasting is not normally required, and coffee does not generally change the duct images. Follow different instructions if sedation has been arranged.

Does the time of day matter?

Usually not. The test can generally be performed at any available appointment time.

Can I exercise beforehand?

Normal exercise does not usually affect the result. Drink enough water, since dehydration can reduce saliva flow and slow contrast drainage.

Will the test hurt?

You may feel pressure, fullness, or brief discomfort when the tube is inserted and the contrast is introduced. Tell the clinician if you feel sharp or increasing pain.

Can I drive home afterward?

Most people can drive after a conventional sialogram because sedation is rarely used. Do not drive if you received a sedative or were told to arrange transport.

Is the contrast the same as CT contrast?

Both may contain iodine, but sialogram contrast is introduced into a salivary duct rather than directly into a vein. Tell the team about any previous contrast reaction.

Sources

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