TEST

Neck x-ray

A neck x-ray uses low-dose radiation to create images of the neck bones and nearby soft tissues.

WHAT IT MEASURES
X-ray images of neck bones, alignment, and soft tissues

SAMPLE
None

FASTING NEEDED?
No

HOW LONG IT TAKES
Usually 10 to 20 minutes

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

USED FOR
Diagnosis and monitoring

MAIN LIMITATION
Can miss subtle fractures and spinal cord problems

Overview

A neck x-ray uses a small amount of ionising radiation to create pictures of structures in your neck. It may also be called a cervical spine x-ray when the focus is the seven neck bones, called vertebrae.

Most neck x-rays examine the bones and their alignment. They can also show the spaces between bones and some surrounding soft-tissue outlines. A soft-tissue neck x-ray is a related examination that may be used to look at the airway or tissues in the throat.

X-rays do not show muscles, discs, ligaments, nerves, or the spinal cord in much detail. Depending on what needs to be investigated, a CT scan or MRI scan may provide more useful information.

Why the test is ordered

A neck x-ray may be ordered to investigate pain, stiffness, reduced movement, or symptoms

following an injury. It can help identify some fractures, changes in the position of the vertebrae, and wear-related changes such as arthritis.

It may also be used to check:

An x-ray is not required for every episode of neck pain. Your symptoms, examination, age, medical history, and the way an injury happened help determine whether imaging is useful.

After a significant injury, CT is often preferred when a detailed search for a fracture is needed. MRI may be more appropriate when symptoms suggest damage to the spinal cord, nerves, discs, or ligaments.

- The shape and alignment of the cervical spine
- Changes following previous surgery
- Some bone infections, tumours, or structural abnormalities
- The position of medical devices
- Certain causes of airway narrowing or soft-tissue swelling

Who should have the test

You may be offered a neck x-ray when the result could help explain your symptoms, guide treatment, or monitor a known problem.

For an injury, the choice of imaging is based on factors such as where your neck hurts, whether you can move it safely, and whether you have numbness, weakness, or other signs of nerve involvement. An x-ray may be suitable in some situations, while CT or MRI may be needed in others.

Tell the imaging team if you are or might be pregnant. An x-ray can still be performed when medically necessary, but the team will consider whether it should be delayed, adjusted, or replaced by another test.

Children are assessed carefully because they are more sensitive to radiation and their growing bones can be harder to interpret. The imaging method and radiation settings are adapted when an x-ray is needed.

How to prepare

You can normally eat, drink, and take your usual medicines. A neck x-ray does not usually require fasting, injections, or sedation.

Wear clothing that is easy to remove from around your neck and shoulders. You may be asked to change into a gown.

Remove items that could cover part of the image, including:

If you are wearing a neck brace after an injury, do not remove it yourself. The imaging team will decide whether it can be moved safely.

Tell the radiographer about previous neck surgery, implanted devices, or difficulty standing or changing position. A radiographer is the healthcare professional trained to take medical images.

- Necklaces and some earrings
- Hair clips or pins
- Glasses
- Removable dental appliances
- Clothing with metal fasteners

What happens during the test

The examination may be performed while you are standing, sitting, or lying down. The position depends on your symptoms and whether an injury is suspected.

The radiographer places you beside the x-ray detector and positions the machine around your neck. Several pictures are usually taken from different directions. You may be asked to look straight ahead, open your mouth, or move your shoulders slightly.

You will need to remain still for a few seconds while each image is taken. You may also be asked to hold your breath briefly. Taking the image does not hurt, although holding a particular position may be uncomfortable if your neck is painful.

In selected non-emergency situations, bending and straightening views may be requested to assess movement between the vertebrae. These views are not suitable for everyone and should only be performed under the imaging team's direction.

The radiographer checks that the required areas are visible before you leave. The x-rays are then reviewed by a radiologist or another qualified reporter. A radiologist is a doctor who specialises in interpreting medical images.

Understanding your results

The report describes what can be seen and whether further imaging may be helpful. It must be interpreted alongside your symptoms, examination, and medical history.

Possible findings include normal alignment, a fracture, narrowing between vertebrae, bone spurs, arthritis, or changes from an old injury or operation. "Degenerative changes" means wear-related changes in the bones or joints. These changes become more common with age and do not always explain pain.

A report may mention that part of the spine was not clearly seen. The lowest neck vertebrae can be hidden by the shoulders, while the jaw may overlap the upper vertebrae. More images or another type of scan may then be needed.

A neck x-ray has no numerical reference range. Interpretation can vary with the imaging service and clinical context, including age, sex, pregnancy status, medicines, previous surgery, and symptoms; laboratory reference ranges do not apply.

What affects the results

Positioning is one of the main influences on image quality. Rotation, raised shoulders, or an inability to hold the required position can make alignment difficult to assess.

Other factors include:

Food, coffee, exercise, medicines, and a recent blood transfusion do not usually alter what a neck x-ray shows. Pregnancy does not make the image inaccurate, but it affects the decision about whether and how the examination should be performed.

- Movement while an image is being taken
- Jewellery, clothing fasteners, dental appliances, or other metal
- A neck brace or medical device covering part of the spine
- The jaw or shoulders overlapping the area of interest
- Previous surgery, healed injuries, or congenital bone differences
- Age-related changes that may be present without causing symptoms

Accuracy and limitations

A neck x-ray can correctly identify many obvious bone abnormalities, but it does not find every injury. Small, non-displaced fractures may be missed, particularly if the affected area is hidden or the available views are incomplete. A normal result therefore does not always rule out an

important injury.

An x-ray can also show changes that are real but unrelated to your symptoms. For example, arthritis may appear on the image even when it is not the cause of current pain. This can make an abnormal report seem more significant than it is.

How often an x-ray misses a problem or raises a false concern varies with the condition, image quality, number of views, and person being examined. There is no single accuracy figure that applies to every neck x-ray.

CT gives more detailed pictures of bone and is usually better for finding subtle or complex fractures. MRI is better for the spinal cord, nerves, discs, ligaments, infection, and many tumours. Ultrasound, CT, MRI, or direct examination of the throat may be more useful than an x-ray for a neck lump or soft-tissue concern.

Risks and complications

A neck x-ray uses a low dose of radiation. The radiation does not remain in your body after the examination, and you will not become radioactive.

The test is painless, but positioning may briefly worsen existing discomfort. There are no risks from needles, contrast dye, or sedation because these are not normally used for a standard neck x-ray.

What happens next

If the images answer the clinical question, you may be given advice about routine follow-up, pain management, movement, or physiotherapy. Findings such as age-related wear often need to be considered alongside your symptoms rather than treated on the image alone.

If an image is unclear or the result does not explain ongoing symptoms, repeat x-rays, CT, MRI, or another examination may be recommended. In an emergency department, important results may be acted on before the formal written report is available.

Arrange routine follow-up if symptoms continue, worsen gradually, or interfere with normal activities despite initial care.

Seek urgent medical assessment after a neck injury if you develop new numbness, weakness, difficulty walking, or worsening severe pain. Call emergency services for difficulty breathing, paralysis, loss of bladder or bowel control, or reduced consciousness. Do not wait for a routine x-ray result if these symptoms occur.

Common questions

Can I drink coffee before a neck x-ray?

Yes. Coffee, water, and food do not affect a standard neck x-ray. Follow separate instructions if another test is planned at the same appointment.

Does the time of day matter?

No. Neck x-ray findings do not normally change with the time of day. Choose a time when you can attend comfortably and follow any local appointment instructions.

Can I exercise beforehand?

Usually, yes. Exercise does not change the x-ray itself, but strenuous activity may make a painful neck harder to position. Avoid movements that worsen your symptoms.

Can I wear jewellery?

You will usually need to remove necklaces, earrings, and other metal near your head, neck, or shoulders. Metal can cover important details on the image.

What if I might be pregnant?

Tell the radiographer before the examination. The team will review why the x-ray is needed and use appropriate precautions or another imaging method when suitable.

Can I drive afterward?

Yes. A standard neck x-ray does not use sedation, so it does not normally affect driving. Do not drive if your injury, pain, limited movement, or medicines make it unsafe.

Sources

- American College of Radiology. ACR Appropriateness Criteria: Acute Spinal Trauma
- American College of Radiology. ACR Appropriateness Criteria: Cervical Pain or Cervical Radiculopathy
- National Institute for Health and Care Excellence. Spinal injury: assessment and initial management, guideline NG41
- Radiological Society of North America and American College of Radiology. Spine X-ray
- US Food and Drug Administration. Medical X-ray Imaging
- NHS. X-ray