TEST

Lumbosacral spine x-ray

A lumbosacral spine x-ray uses low-dose radiation to image the lower spine and sacrum.

WHAT IT MEASURES
Bones and alignment of the lower spine and sacrum

SAMPLE
None

FASTING NEEDED?
No

HOW LONG IT TAKES
Usually 10 to 20 minutes

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

USED FOR
Diagnosis and monitoring of bone or alignment changes

MAIN LIMITATION
Poor view of discs, nerves, and subtle bone injury

Overview

A lumbosacral spine x-ray creates pictures of the lower back using a small amount of ionizing radiation. It usually includes the five lumbar vertebrae-the large bones above the pelvis-and the sacrum, the triangular bone at the back of the pelvis.

The images show bone shape, position, and alignment. They can help identify some fractures, vertebral slippage, curvature, or changes caused by arthritis and wear.

An x-ray does not show spinal discs, nerves, muscles, or ligaments clearly. If one of these structures may be causing your symptoms, an MRI or another test may be more useful.

Why the test is ordered

A healthcare professional may order this x-ray to look for a structural cause of lower back symptoms. It may also be used after an injury or to monitor a known bone or alignment problem.

Possible reasons include:

X-rays commonly show age-related changes, such as bone spurs or narrowing between vertebrae. These findings do not always explain pain.

Most people with new, uncomplicated lower back pain do not need immediate imaging. Guidance from the American College of Radiology and NICE advises against routine imaging when there are no signs of a serious underlying problem and the result is unlikely to change care.[1][2]

- Back pain after a significant fall, collision, or other injury
- Suspected fracture or collapse of a vertebra
- An unusual spinal curve or change in posture
- Possible spondylolisthesis, where one vertebra slips relative to another
- Monitoring after spinal surgery or treatment
- Persistent symptoms when the result could affect treatment decisions

Who should have the test

This test may be appropriate if your symptoms, examination, medical history, or injury suggest a problem that an x-ray can show. The decision also considers your age, bone health, previous surgery, and how long symptoms have lasted.

Tell the imaging team if you are or might be pregnant. Pregnancy does not automatically mean the x-ray cannot be done. The team will consider how urgently the image is needed and whether another test could provide the necessary information without radiation.

Children and younger adults may be imaged when there is a clear clinical reason. The equipment and technique can be adjusted to use only the radiation needed for a useful image.

How to prepare

You can normally eat and drink as usual. Fasting is not required, and you can take your regular medicines unless the imaging facility gives you different instructions.

Wear comfortable clothing without metal around the waist or lower back. You may need to remove belts, coins, keys, jewelry, or clothing with metal fasteners. These objects can cover part of the image.

Tell the radiographer-the professional who takes the x-rays-about:

Bring previous spine images if the facility cannot access them electronically. Comparing old

and new images can help show whether a finding has changed.

- A possible or confirmed pregnancy
- Recent spinal surgery or known spinal implants
- Difficulty standing, lying flat, or changing position
- A recent imaging test using contrast material
- Any pain that may make it hard to stay still

What happens during the test

You may be asked to change into a gown. The radiographer will position you against an upright detector or on an x-ray table. Images are commonly taken from the front or back and from the side. Extra views may be needed for a particular clinical question.

You must stay still for a few seconds while each image is taken. You may be asked to hold your breath briefly. Taking the image does not hurt, but the required position may be uncomfortable if your back is painful.

The radiographer checks that the images are clear before you leave. A radiologist, who is a doctor trained to interpret medical images, usually prepares the report.

Understanding your results

There is no numeric reference range for this test. Interpretation varies with age, sex, pregnancy status, medicines, clinical context, previous treatment, and local imaging practice.

A report may describe:

A normal result does not rule out every cause of back pain. An abnormal result also may not identify the cause, because many x-ray findings occur in people without symptoms.

- Alignment: Whether the vertebrae remain in their expected positions
- Vertebral height: Whether a bone appears compressed or collapsed
- Disc-space narrowing: Reduced space between vertebrae, which can suggest disc wear but does not show the disc itself
- Osteophytes: Bone spurs that often occur with age-related change
- Spondylolisthesis: Forward or backward slippage of one vertebra

- Curvature: A change in the usual shape or side-to-side alignment
- No acute abnormality: No recent bone injury or other urgent x-ray finding was seen

What affects the results

Movement during the exposure can blur an image. Pain may make it difficult to hold the required position, so the radiographer may adapt the examination or repeat a view.

Metal from clothing, jewelry, surgical hardware, or objects in a pocket can hide anatomy. Contrast material remaining from a recent bowel or urinary imaging test may also obscure part of the lower spine.

Body size, bowel gas, and stool can reduce how clearly some structures-especially the sacrum-are seen. Osteoporosis can make subtle fractures difficult to detect on an ordinary x-ray.

Standing and lying images can show alignment differently because the spine carries weight while you are upright. If vertebral movement is suspected, carefully controlled bending views may sometimes be requested.

Age-related changes are common and may be unrelated to your symptoms. Previous surgery and natural differences in vertebral shape can also complicate interpretation. Comparison with older images and your clinical history can make the report more useful.

Medicines and recent exercise do not usually alter the x-ray appearance directly. Pregnancy mainly affects whether and how the test is performed rather than changing the bones shown.

Accuracy and limitations

A lumbosacral x-ray is good at showing general bone alignment and many obvious fractures. It is less reliable for small, early, or complex fractures. It may therefore say no fracture is visible when a subtle injury is present.

An x-ray can also show changes that look important but are not causing symptoms. Disc-space narrowing, bone spurs, and other degenerative changes become more common with age. Their presence does not prove that they are the source of pain.

Computed tomography, or CT, gives more detailed pictures of bone and may be better after significant trauma or when a subtle fracture is suspected. MRI is usually better for discs, nerves, bone marrow, infection, tumors, and pressure on the spinal canal.[1][3] The best test depends on the question being asked rather than one test being best for every type of back

problem.

Risks and complications

The examination is painless and does not involve an injection. It uses a small amount of ionizing radiation, and imaging staff limit the exposure to what is needed for useful pictures.[4][5]

If you are pregnant or could be pregnant, tell the imaging team before the test. They can assess the benefit, timing, technique, and possible alternatives. No radiation remains in your body after the x-ray.

What happens next

A radiologist sends a report to the healthcare professional who requested the test. Routine results may be discussed at a planned appointment, by telephone, or through an online patient portal.

If the x-ray shows no clear cause for your symptoms, care may still continue based on your history and examination. Physical therapy, activity advice, medicines, or further imaging may be considered according to your situation. If the report identifies a possible fracture or another important finding, you may need prompt assessment or a CT or MRI.

Do not wait for a routine x-ray appointment or report if you develop emergency symptoms. Seek urgent medical help for new loss of bladder or bowel control, numbness around the genitals or buttocks, rapidly worsening leg weakness, or severe back pain after major trauma. Severe back pain with fever and feeling very unwell also needs urgent assessment.

Common questions

Can I drink coffee before the x-ray?

Yes. You can usually eat and drink normally, including coffee. No fasting is needed unless you are having another test on the same day that has separate instructions.

Does the time of day matter?

Usually not. Standing and lying positions can affect alignment more than the time of day. Attend at the scheduled time unless the imaging facility tells you otherwise.

Can I exercise beforehand?

Ordinary activity does not usually affect the images. Avoiding strenuous exercise may make

positioning more comfortable if movement increases your pain.

Can I drive afterward?

Yes. The x-ray itself does not affect your ability to drive. If pain limits your movement, or if you took a sedating medicine for another reason, arrange transport.

Will I need an injection or contrast dye?

No. A standard lumbosacral spine x-ray does not require an injection or contrast material.

Why might I need an MRI after a normal x-ray?

An x-ray may look normal even when there is a problem involving a disc, nerve, bone marrow, or other soft tissue. An MRI can show these structures in greater detail.

Sources

- American College of Radiology. ACR Appropriateness Criteria: Low Back Pain
- National Institute for Health and Care Excellence. Low back pain and sciatica in over 16s: assessment and management, NICE guideline NG59
- RadiologyInfo.org. Spine X-ray
- U.S. Food and Drug Administration. Medical X-ray Imaging
- MedlinePlus Medical Encyclopedia. Lumbosacral spine x-ray