

X-ray (roentgenogram) basic level

Overview

An X-ray is a diagnostic test that uses radiation waves, called x-rays, to take pictures of your body tissues.

How does an X-ray work?

As an X-ray beam passes through your body, the body tissues and bones absorb and/or block the beam in varying amounts depending on its density. This creates a shadow that is picked up on film or a sensor placed on the opposite side of the beam—much like when you hold a flashlight up to your hand and cast a shadow on a wall.

What does an X-ray show?

On an X-ray, bones appear white, air appears black, and muscles / soft tissues appear grey. X-ray is used to detect bone fractures, arthritis, scoliosis, tumors, osteoporosis, fluid in the lungs, and infection.

Who performs the test?

A radiology technologist will perform the test at the hospital or at an outpatient imaging center.

How should I prepare for the test?

You should wear loose clothing and remove all objects that would get in the way of the X-ray, such as hairpins or jewelry. You may need to change into a hospital gown depending on what area of your body is being imaged.

What happens during the test?

You will be positioned in front of the x-ray machine. The technologist will leave the room or stand behind a barrier when the picture is taken. You will be asked to hold your breath before each picture. Pictures may be taken from different views (e.g., front and side) or from different body positions (e.g., flexion and extension).



Figure 1. An X-ray of the spine.

What are the risks?

X-rays expose you to a small amount of radiation—about the amount you get from a cross-country flight. The amount of radiation in an X-ray is too small to cause you any harm. Radiation in large doses can cause cancer and birth defects. Inform the doctor if you are or may be pregnant.

How do I get the test results?

The radiologist will promptly review your images and communicate directly with your referring doctor, who in turn will discuss the results with you.

Sources & links

If you have further questions about this diagnostic test, contact the doctor that ordered the test or visit www.radiologyinfo.org.

Glossary

X-ray: electromagnetic radiation used in diagnostic imaging to view shadows of tissue density in the body, also called roentgenogram.

radiologist: a doctor who specializes in reading X-rays and other diagnostic scans.

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