

## Discogram basic level

### Overview

Discogram is an invasive diagnostic test that uses x-rays to examine the intervertebral discs of your spine. A special dye is injected into the injured disc or series of discs. The dye makes the disc visible on a fluoroscope monitor and x-ray film. Discograms are used to locate precisely which discs are damaged and are causing back pain.

### How does a discogram work?

Regular x-rays of the spine only give a clear picture of bones, such as the vertebrae. Myelograms only give a clear picture of the spinal canal. Discograms, however, enable your doctor to view the disc itself. While viewing an x-ray monitor, called a fluoroscope, the doctor inserts the hollow needle through your skin into the center of the disc space. A fluoroscope machine, also called a C-arm, is an arc shaped piece of equipment that generates x-rays from one side and photographs them on the other side. Once the needle is in place, a dye (contrast agent) is injected into the disc that shows up white on the x-rays (Fig. 1).

A discogram works in two ways—both to view your disc and to find the source of your pain. Your doctor injects the dye into your disc space to try to recreate the pain. If you feel pain, then that disc is the likely source of your pain. If you don't feel the same kind of pain—even if that disc appears degenerated on the MRI scan—then other possible causes of your pain should be explored.

### What does a discogram show?

A discogram is used to evaluate a painful or degenerative disc. If the contrast dye spreads outside the center of the disc, it may indicate that the disc annulus has tears or has ruptured. The results of a discogram may confirm the need for surgery, as well as determine the exact cause of your back pain, which will increase the likelihood of a positive outcome from surgery.

### Who performs the test?

A radiologist will perform the test in the radiology department of the hospital or at an outpatient imaging center.



Figure 1. Contrast dye is injected into the center of a disc making it visible on an x-ray.

### How should I prepare for the test?

Do not eat any solid foods after midnight on the night before the test. Make arrangements to have someone drive you to and from the hospital. Come dressed comfortably in a warm-up suit, sweats or shorts. Please leave all jewelry and valuables at home. Before the test, you will be asked to change into a hospital gown and an intravenous (IV) line will be placed in your arm. The radiologist or nurse will discuss the test with you, explain the risks, answer any questions, and have you sign consent forms.

Tell your doctor about any medicine you take. You may need to stop taking certain pain medicines 7 to 10 days before the test because they can prevent your blood from clotting.

Try to relax. Although a discogram may be an uncomfortable procedure, it is usually over within 30 to 40 minutes.

## What happens during the test?

### Step 1: prepare the patient

You may be given a sedative to make you drowsy and relaxed. You will lie on your stomach and side during the test. A doctor and at least one technician will be in the room. After cleaning your back with a cooling antiseptic, the doctor will numb the area of your back where the needle will be inserted.

### Step 2: insert the contrast dye

Using fluoroscopy, the radiologist guides a needle into the disc or discs that will be examined. When the needles are in the correct place, the dye is injected. This will recreate the pain symptoms you have been experiencing or will intensify the symptoms you currently have. Although you may feel some discomfort, it is important that you lie still.

### Step 3: take x-ray pictures

Next, the needles are removed and x-rays are taken. At this point you should remain very still so that the x-ray images will not be blurred. Most people also have CT scans taken afterward.

## What happens after the test?

You will be taken back to a room and observed for 30 minutes. Be sure to drink plenty of water or fluids to help clear the dye from your body. You will be allowed to go home that day. You should take it easy for 24 hours following the test. Some people experience headache after the test. Don't take aspirin; take ibuprofen or Tylenol for relief.

## What are the risks?

While a discogram is relatively safe, there are some risks associated with the test. Some people are sensitive to the dye, or contrast agent, that is injected into the disc. Tell your doctor if you had an allergic reaction to x-ray dye or xylocaine, or if you are allergic to medication.

Be sure to tell the doctor if you are pregnant or have a history of allergies (to medications, previous iodine injections, or shellfish), diabetes, asthma, a heart condition, kidney problems, or thyroid conditions. Also tell them if you take any blood thinning medication such as aspirin or Coumadin.

There is a slight risk (less than one-tenth of one percent) of disc space infection. Also, because the needle passes so close to the nerve root, there is a small risk of nerve root damage. Notify your nurse if you notice any pain, swelling or bleeding.

## 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](http://www.radiologyinfo.org).

## Glossary

**contrast agent:** a liquid (usually iodine or gadolinium) that is injected into your body to make certain tissues show up clearly during diagnostic imaging (angiography, CT, myelogram, MRI).

**disc** (intervertebral disc): a fibrocartilagenous cushion that separate spinal vertebrae. Has two parts, a soft gel-like center called the nucleus and a tough fibrous outer wall called the annulus.

**fluoroscopy:** an imaging device that uses x-ray or other radiation to view structures in the body in real time, or "live". Also called a C-arm.

**iodine:** a non metallic element used in contrast agent that makes vessels and tissues show up on diagnostic imaging (angiogram, CT, myelogram).

**myelogram:** a diagnostic test in which a special dye is injected into the space around the spinal cord causing the nerves to show up white on an X-ray.

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

**vertebra** (plural vertebrae): one of 33 bones that form the spinal column, they are divided into 7 cervical, 12 thoracic, 5 lumbar, 5 sacral, and 4 coccygeal. Only the top 24 bones are moveable.

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

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