

What is fluoroscopy?

Fluoroscopy is a study of moving body structures--similar to an X-ray "movie." A continuous [X-ray](#) beam is passed through the body part being examined. The beam is transmitted to a TV-like monitor so that the body part and its motion can be seen in detail. Fluoroscopy, as an imaging tool, enables physicians to look at many body systems, including the skeletal, digestive, urinary, respiratory, and reproductive systems.

Fluoroscopy may be performed to evaluate specific areas of the body, including the bones, muscles, and joints, as well as solid organs, such as the heart, lung, or kidneys.

Other related procedures that may be used to diagnose problems of the bones, muscles, or joints include X-rays, myelography ([myelogram](#)), computed tomography ([CT scan](#)), magnetic resonance imaging ([MRI](#)), and arthrography.

What are the reasons for a fluoroscopy?

Fluoroscopy is used in many types of examinations and procedures, such as [barium X-rays](#), [cardiac catheterization](#), [arthrography](#) (visualization of a joint or joints), [lumbar puncture](#), placement of intravenous (IV) catheters (hollow tubes inserted into veins or arteries), [intravenous pyelogram](#), hysterosalpingogram, and biopsies.

Fluoroscopy may be used alone as a diagnostic procedure or may be used in conjunction with other diagnostic or therapeutic media or procedures.

In [barium X-rays](#), fluoroscopy used alone allows the doctor to see the movement of the intestines as the barium moves through them and allows the doctor to position the patient for spot imaging.

Other uses of fluoroscopy include, but are not limited to, the following:

- Locating foreign bodies
- Image-guided anesthetic injections into joints or the spine

There may be other reasons for your doctor to recommend fluoroscopy.

What are the risks of fluoroscopy?

You may want to ask your doctor about the amount of radiation used during the procedure and the risks related to your particular situation. It is a good idea to keep a record of your past history of radiation exposure, such as previous scans and other types of X-rays, so that you can inform your doctor. Risks associated with radiation exposure may be related to the cumulative number of X-ray examinations and/or treatments over a long period of time.

If you are pregnant or suspect that you may be pregnant, you should notify your doctor. Radiation exposure during pregnancy may lead to birth defects.

If contrast dye is used, there is a risk for allergic reaction to the dye. Patients who are allergic to or sensitive to medications, contrast media, iodine, or latex should notify their doctor. Also, patients with kidney failure or other kidney problems should notify their doctor.

Certain factors or conditions may interfere with the accuracy of a fluoroscopy procedure. A recent barium X-ray procedure may interfere with exposure of the abdominal or lower back area.

There may be other risks depending on your specific medical condition. Be sure to discuss any concerns with your doctor prior to the procedure.

Medically appropriate fluoroscopy examinations provide clinical benefits that outweigh the risk from the radiation received during the examination. When used by highly trained, board certified radiologists and radiologic technologists, fluoroscopic examinations provide substantial diagnostic benefit to patients and is instrumental in guiding treatment plans. Patients and parents of pediatric patients should talk with their personal physician and their radiologist about the examination.

All fluoroscopy machines are regulated by the Food and Drug Administration (FDA) and must meet specific criteria to be considered safe and effective. Johns Hopkins radiology equipment meets all federal and state requirements.

How do I prepare for a fluoroscopic exam?

PRECAUTIONS: If you are pregnant or think you may be pregnant, please check with your doctor before scheduling the exam. Other options will be discussed with you and your doctor.

CLOTHING: You may be asked to change into a patient gown or scrubs. A gown or scrubs will be provided for you. Lockers are provided to secure your personal belongings. Please remove all piercings and leave all jewelry and valuables at home.

EAT/DRINK: Specific instructions will be provided based on the examination you are scheduled for.

ALLERGIES: Notify the radiologist or technologist if you are allergic or sensitive to medications, contrast dyes or iodine.

What examinations might include fluoroscopy?

Exams that might include the use of fluoroscopy as part of the procedure include:

- [Esophogram](#)
- [Barium swallow](#)
- [Lumbar puncture](#)
- [Interventional radiology procedures](#)
- [Interventional neuroradiology procedures](#)
- [Myelogram](#)
- [Upper gastrointestinal series](#)
- [Small bowel series](#)

During the procedure

Fluoroscopy may be performed on an outpatient basis or as part of your stay in a hospital. Procedures may vary depending on your condition and your doctor's practices.

Generally, fluoroscopy follows this process:

- You will be asked to remove any clothing or jewelry that may interfere with the exposure of the body area to be examined.
- If you are asked to remove clothing, you will be given a gown or scrubs to wear.
- A contrast substance may be given, depending on the type of procedure that is being performed, via swallowing, enema, or an intravenous (IV) line in your hand or arm.

- You will be positioned on the X-ray table. Depending on the type of procedure, you may be asked to assume different positions, move a specific body part, or hold your breath at intervals while the fluoroscopy is being performed.
- For procedures that require catheter insertion, such as cardiac catheterization or catheter placement into a joint or other body part, an additional line insertion site may be used in the groin, elbow, or other site.
- A special X-ray machine will be used to produce the fluoroscopic images of the body structure being examined or treated.
- A dye or contrast substance may be injected into the IV line in order to better visualize the organs or structures being studied.
- In the case of arthrography (visualization of a joint), any fluid in the joint may be aspirated (withdrawn with a needle) prior to the injection of the contrast substance. After the contrast is injected, you may be asked to move the joint for a few minutes in order to evenly distribute the contrast substance throughout the joint.
- The type of procedure being performed and the body part being examined and/or treated will determine the length of the procedure.
- After the procedure has been completed, the IV line will be removed.

While fluoroscopy itself is not painful, the particular procedure being performed may be painful, such as the injection into a joint or accessing of an artery or vein for angiography. In these cases, the radiologist will take all comfort measures possible.

After the procedure

The type of care required after the procedure will depend on the type of fluoroscopy that is performed. For most procedures, our patients are able to drive themselves to and from with minimal to no post-procedure observation time.

If you notice any pain, redness, and/or swelling at the procedure site after you return home following your procedure, you should notify your doctor as this could indicate an infection or other type of reaction.

Your doctor will give more specific instructions related to your care after the examination or procedure.