



## Hysterosalpingography

Hysterosalpingography uses a real-time form of x-ray called fluoroscopy to examine the uterus and fallopian tubes of a woman who is having difficulty becoming pregnant. It's also used to investigate miscarriages resulting from abnormalities within the uterus and to determine the presence and severity of tumor masses, adhesions and uterine fibroids. Hysterosalpingography can occasionally open blocked fallopian tubes to allow the patient to become pregnant afterwards.

Tell your doctor if there's a possibility you are pregnant and discuss any recent illnesses, medical conditions, allergies and medications you're taking. This procedure should not be performed if you have an active inflammatory condition. Tell your physician or technologist if you have a chronic pelvic infection or an untreated sexually transmitted disease. Wear loose, comfortable clothing and leave jewelry at home. You may be asked to wear a gown.

## What is Hysterosalpingography?

Hysterosalpingography, also called uterosalpingography, is an x-ray examination of a woman's uterus and fallopian tubes that uses a special form of x-ray called fluoroscopy and a contrast material.

An x-ray (radiograph) is a noninvasive medical test that helps physicians diagnose and treat medical conditions. Imaging with x-rays involves exposing a part of the body to a small dose of ionizing radiation to produce pictures of the inside of the body. X-rays are the oldest and most frequently used form of medical imaging.

Fluoroscopy is a special x-ray technique that makes it possible to see internal organs in motion. During a hysterosalpingogram, the uterus and fallopian tubes are filled with a water-soluble contrast material and the radiologist is able to use fluoroscopy to view and assess their anatomy and function.

## What are some common uses of the procedure?

Hysterosalpingography is primarily used to examine women who have difficulty becoming pregnant by allowing the radiologist to evaluate the shape and structure of the uterus, the openness of the fallopian tubes, and any scarring within the uterine or peritoneal (abdominal) cavity.

The procedure can be used to investigate repeated miscarriages that result from congenital or acquired abnormalities of the uterus and to determine the presence and severity of these abnormalities, including:

- Tumor masses
- Adhesions
- Uterine fibroids

Hysterosalpingography is also used to evaluate the openness of the fallopian tubes, and to monitor the effects of tubal surgery, including:

- Blockage of the fallopian tubes due to infection or scarring
- Tubal ligation
- The closure of the fallopian tubes in a sterilization procedure and a sterilization reversal
- The re-opening of the fallopian tubes following a sterilization or disease-related blockage

## How should I prepare?

The hysterosalpingography procedure is best performed one week after menstruation but before ovulation to make certain that you are not pregnant during the exam.

This procedure should not be performed if you have an active inflammatory condition. You should notify your physician or technologist if you have a chronic pelvic infection or an untreated sexually transmitted disease at the time of the procedure.

On the night before the procedure, you may be asked to take a laxative or an enema to empty your bowels, so that the uterus and surrounding structures can be seen clearly.

Prior to the procedure, you may be given a mild sedative or over-the-counter medication to minimize any potential discomfort. Some physicians prescribe an antibiotic prior to and/or after the procedure.

You should inform your physician of any medications being taken and if there are any allergies, especially to iodinated contrast materials. Also inform your doctor about recent illnesses or other medical conditions.

Also, tell your doctor if you have any signs of pelvic infection or pelvic inflammatory disease.

You will be asked to remove some of your clothes and to wear a gown during the exam. You may also be asked to remove jewelry, removable dental appliances, eye glasses and any metal objects or clothing that might interfere with the x-ray images.

Women should always inform their physician and x-ray technologist if there is any possibility that they are pregnant. Many imaging tests are not performed during pregnancy so as not to expose the fetus to radiation. If an x-ray is necessary, precautions will be taken to minimize radiation exposure to the baby. See the Safety page for more information about pregnancy and x-rays.

## What does the equipment look like?

The equipment typically used for this examination consists of a radiographic table, one or two x-ray tubes and a television-like monitor that is located in the examining room. Fluoroscopy, which converts x-rays

into video images, is used to watch and guide progress of the procedure. The video is produced by the x-ray machine and a detector that is suspended over a table on which the patient lies.

## How does the procedure work?

X-rays are a form of radiation like light or radio waves. X-rays pass through most objects, including the body. Once it is carefully aimed at the part of the body being examined, an x-ray machine produces a small burst of radiation that passes through the body, recording an image on photographic film or a special detector.

Fluoroscopy uses a continuous or pulsed x-ray beam to create a sequence of images that are projected onto a fluorescent screen, or television-like monitor. When used with a contrast material, which clearly defines the area being examined by making it appear dark (or by electronically reversing the image contrast to white), this special x-ray technique makes it possible for the physician to view joints or internal organs in motion. Still images or movies are also captured and stored electronically on a computer.

Until recently, x-ray images were maintained on large film sheets (much like a large photographic negative). Today, most images are digital files that are stored electronically. These stored images are easily accessible and are frequently compared to current x-ray images for diagnosis and disease management.

## How is the procedure performed?

This examination is usually done on an outpatient basis.

The procedure is like a gynecological exam. The patient is positioned on her back on the exam table, with her knees bent or her feet held up with stirrups and a speculum is inserted into the vagina. The cervix is then cleansed, and a catheter is inserted into the cervix. The speculum is removed and the patient is carefully positioned underneath the fluoroscopy camera. The contrast material then begins to fill the uterine cavity, fallopian tubes and peritoneal cavity through the catheter and fluoroscopic images are taken.

In some cases, if certain abnormalities are encountered, the patient will be asked to rest and wait up to 30 minutes so that a delayed image can be obtained. This delayed image may provide clues to a patient's condition that the original images with contrast material do not. On occasion, an x-ray will be taken the next day to ensure that there is no scarring surrounding the ovaries .

When the procedure is complete, the catheter will be removed and the patient will be allowed to sit up.

When the examination is complete, you may be asked to wait until the radiologist determines that all the necessary images have been obtained.

The hysterosalpingogram is usually completed within 30 minutes.

## What will I experience during and after the procedure?

This exam should cause only minor discomfort.

There may be slight discomfort and cramping when the catheter is placed and the contrast material is injected, but it should not last long. There may also be slight irritation of the peritoneum, the lining of the abdominal cavity, causing generalized lower abdominal pain, but this should also be minimal and not long lasting. Most women experience vaginal spotting for a few days after the examination, which is normal.

## Who interprets the results and how do I get them?

A radiologist, a physician specifically trained to supervise and interpret radiology examinations, will analyze the images and send a signed report to your primary care or referring physician, who will discuss the results with you.

Follow-up examinations may be necessary. Your doctor will explain the exact reason why another exam is requested. Sometimes a follow-up exam is done because a potential abnormality needs further evaluation with additional views or a special imaging technique. A follow-up examination may also be necessary so that any change in a known abnormality can be monitored over time. Follow-up examinations are sometimes the best way to see if treatment is working or if a finding is stable or changed over time.

## What are the benefits vs. risks?

### Benefits

- Hysterosalpingography is a minimally invasive procedure with rare complications.
- Hysterosalpingography is a relatively short procedure that can provide valuable information on a variety of abnormalities that cause infertility or problems carrying a fetus to term.
- Hysterosalpingography can occasionally open fallopian tubes that are blocked allowing the patient to become pregnant afterwards.
- No radiation remains in a patient's body after an x-ray examination.
- X-rays usually have no side effects in the typical diagnostic range for this exam.

### Risks

- There is always a slight chance of cancer from excessive exposure to radiation. However, the benefit of an accurate diagnosis far outweighs the risk.
- The effective radiation dose for this procedure varies. See the Safety page for more information about radiation dose.
- In the event of a chronic inflammatory condition, pelvic infection or untreated sexually transmitted disease, be certain to notify the physician or technologist before the procedure to avoid worsening of infection.

- Women should always inform their physician or x-ray technologist if there is any possibility that they are pregnant. See the Safety page for more information about pregnancy and x-rays.

## A Word About Minimizing Radiation Exposure

Special care is taken during x-ray examinations to use the lowest radiation dose possible while producing the best images for evaluation. National and international radiology protection organizations continually review and update the technique standards used by radiology professionals.

Modern x-ray systems have very controlled x-ray beams and dose control methods to minimize stray (scatter) radiation. This ensures that those parts of a patient's body not being imaged receive minimal radiation exposure.

## What are the limitations of Hysterosalpingography?

Hysterosalpingography only sees the inside of the uterus and fallopian tubes. Abnormalities of the ovaries, wall of the uterus, and other pelvic structures may be evaluated with MRI or ultrasound. Infertility problems may be from causes not evaluated with hysterosalpingography, including, but not limited to, low or abnormal sperm count or the inability of a fertilized egg to implant in the uterus.

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