

Hysterosalpingography

Hysterosalpingography (HSG) evaluates the shape of the uterus and checks whether the fallopian tubes are open. It's also used to investigate miscarriages due to problems in the uterus.

Tell your doctor if you are pregnant and discuss any recent illnesses, medical conditions, allergies, and medications you're taking. Do not have this procedure if you think you may be pregnant or have an active pelvic infection. Tell your doctor if you are allergic to iodinated contrast material. Tell your doctor if you have a pelvic infection or an untreated sexually transmitted disease (STD). Wear loose, comfortable clothing and leave jewelry at home. You will need to wear a gown, like getting a pelvic exam.

What is Hysterosalpingography?

HSG is an x-ray exam of the uterus and fallopian tubes. It uses a special form of x-ray called fluoroscopy and a contrast material.

An x-ray exam helps doctors diagnose and treat medical conditions. It exposes you to a small dose of ionizing radiation to produce pictures of the inside of the body. X-rays are the oldest and most often used form of medical imaging.

Your doctor uses fluoroscopy to see your internal organs in motion. Your doctor will fill your uterus and fallopian tubes with a water-soluble contrast material. Your radiologist will then use fluoroscopy to view and assess them.

What are some common uses of the procedure?

Doctors primarily use this exam to examine why you might be having difficulty becoming pregnant. The doctor looks at the openness of the fallopian tubes, the shape and structure of the uterus, and any scarring within the uterine or nearby peritoneal (abdominal) cavity.

The exam also checks whether the fallopian tubes are open. The exam can also evaluate the effects of tubal surgery, procedure, or other conditions that lead to scarring. These effects include:

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

The exam can investigate repeated miscarriages resulting from congenital or acquired uterine problems such as:

- Uterine fibroids
- Endometrial (uterine) polyps
- Adhesions
- Congenital problems (uterine anomalies)
- Tumors

How should I prepare?

Schedule your exam for seven to 10 days after the first day of your menstrual period, but before ovulation. This is the best time for

the exam.

Do not have this procedure if you have an active pelvic infection. Tell your doctor and technologist if you have any signs of pelvic infection, or an untreated STD. Tell your doctor if you are allergic to iodinated contrast.

Before the procedure, you may take over-the-counter pain medication (acetaminophen, for example) to minimize any discomfort. Some doctors prescribe an antibiotic prior to and/or after the procedure.

Tell your doctor about all the medications you take. List any allergies, especially to iodine contrast materials. Tell your doctor about recent illnesses or other medical conditions.

You will need to remove some clothing and wear a gown for the exam. Remove any metal objects or clothing in the pelvis that might interfere with the x-ray images.

Women should always tell their doctor and technologist if they are pregnant. Doctors will not perform many tests during pregnancy to avoid putting the fetus at risk. If an x-ray is necessary, the doctor will take precautions to minimize radiation exposure to the baby. *See the Radiation Safety (<https://www.radiologyinfo.org/en/info/safety-radiation>) page for more information about pregnancy and x-rays.*

What does the equipment look like?

This exam typically uses a radiographic table, one or two x-ray tubes, and a video monitor. Fluoroscopy converts x-rays into video images. Doctors use it to watch and guide procedures. The x-ray machine and a detector suspended over the exam table produce the video.

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. The technologist carefully aims the x-ray beam at the area of interest. The machine produces a small burst of radiation that passes through your body. The radiation records an image on photographic film or a special detector.

Fluoroscopy uses a continuous or pulsed x-ray beam to create images and project them onto a video monitor. Your exam may use a contrast material to clearly define the area of interest. Fluoroscopy allows your doctor to view joints or internal organs in motion. The exam also captures still images or movies and stores them electronically on a computer.

Most x-ray images are electronically stored digital files. Your doctor can easily access these stored images to diagnose and manage your condition.

How is the procedure performed?

Your doctor will likely do this exam on an outpatient basis.

The procedure is like a gynecological exam. You will lie on your back on the exam table with your knees bent, or your feet will be held up with stirrups. Your doctor will insert a speculum into your vagina, clean the cervix and insert a catheter. The doctor will remove the speculum and carefully position you underneath the fluoroscopy camera. The doctor will fill the uterine cavity, fallopian tubes and peritoneal cavity with contrast material through the catheter and capture the fluoroscopic images. The doctor may ask you to shift position underneath the fluoroscopy camera.

When the procedure is complete, the doctor will remove the catheter and allow you to sit up.

When the examination is complete, the technologist may ask you to wait until the radiologist confirms they have all the necessary images.

The exam usually takes about 30 minutes.

What will I experience during and after the procedure?

This exam should cause only minor discomfort.

You may have some slight discomfort and cramping when the doctor places the catheter and injects the contrast material. This should not last long. There may also be slight irritation of the peritoneum, the lining of the abdominal cavity. This may cause lower abdominal pain. This should be minimal and brief. Most women experience vaginal spotting for a few days after the exam. This is normal.

Who interprets the results and how do I get them?

A radiologist (<https://www.radiologyinfo.org/en/info/article-your-radiologist>), a doctor trained to supervise and interpret radiology examinations, will analyze the images. The radiologist will send a signed report to your primary care or referring physician who will discuss the results (<https://www.radiologyinfo.org/en/info/article-read-radiology-report>) with you.

You may need a follow-up exam. If so, your doctor will explain why. Sometimes a follow-up exam further evaluates a potential issue with more views or a special imaging technique. It may also see if there has been any change in an issue over time. Follow-up exams are often the best way to see if treatment is working or if a problem needs attention.

What are the benefits vs. risks?

Benefits

- This exam is minimally invasive; complications are rare.
- It can offer valuable information on problems getting pregnant or carrying a fetus to term.
- It can potentially open blocked fallopian tubes to allow you to become pregnant in the future.
- No radiation stays in your body after an x-ray exam.
- 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, given the small amount of radiation used in medical imaging, the benefit of an accurate diagnosis far outweighs the associated risk.
- The radiation dose for this procedure varies. *See the Radiation Dose* (<https://www.radiologyinfo.org/en/info/safety-xray>) page for more information.
- Tell the doctor and technologist if you have a pelvic infection, inflammatory condition, or untreated STD. This will help you avoid making any such infection worse.
- Women should always tell their doctor and x-ray technologist if they are pregnant. *See the Radiation Safety* (<https://www.radiologyinfo.org/en/info/safety-radiation>) page for more information about pregnancy and x-rays.

A Word About Minimizing Radiation Exposure

Doctors take special care during x-ray exams 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 radiology professionals use.

Modern x-ray systems minimize stray (scatter) radiation by using controlled x-ray beams and dose control methods. This ensures that the areas of your body not being imaged receive minimal radiation exposure.

What are the limitations of Hysterosalpingography?

This exam only sees the inside of the uterus and fallopian tubes. Your doctor may use MRI or ultrasound to look at problems in the ovaries, uterine wall, and other pelvic structures. This exam cannot evaluate infertility problems due to low or abnormal sperm count or the inability of a fertilized egg to implant in the uterus.

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