

## Hysterosalpingography

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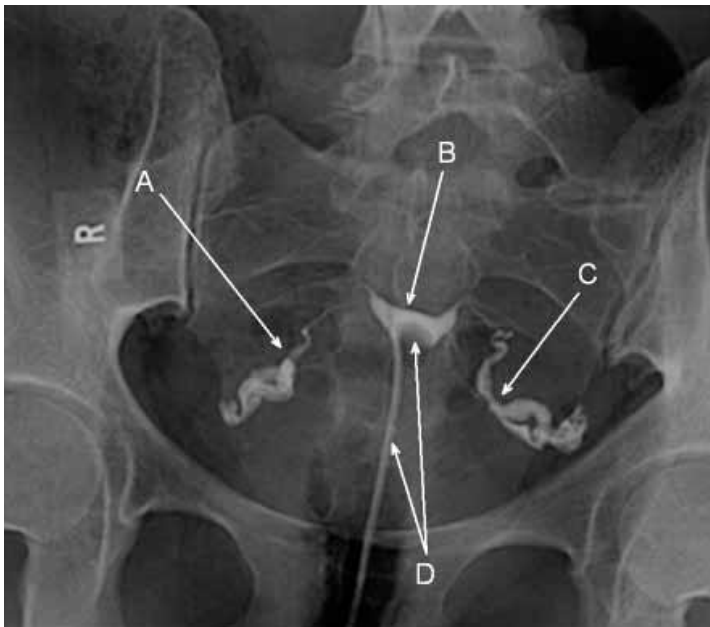
### *What is Hysterosalpingography?*

Hysterosalpingography, also called uterosalpingography, is radiography (or x-ray) of the uterus and fallopian tubes performed after the injection of radiopaque contrast material (for this examination iodine is used mixed with water or oil). X-ray images are still pictures of the body's interior structures acquired by using small, highly controlled amounts of radiation that are passed through the body and recorded on film.

Certain anatomic structures allow more radiation to pass through them than others, creating varying shades of lightness and darkness on an x-ray image. In

hysterosalpingography, a particular type of radiography, called fluoroscopy, is used.

The contrast material used for this procedure can be water-soluble. It is administered to the cervix through a small catheter to help the radiologist view the internal uterine structures.



*Hysterosalpingogram - contrast (iodine) has been injected into the uterus through a catheter and the uterine cavity and fallopian tubes are opacified - they look white on the image. (A: right tube, B: uterine cavity, C: left tube, D: catheter with balloon tip)*

### *What are some common uses of Hysterosalpingography?*

Hysterosalpingography is primarily used to examine women who have trouble becoming pregnant. It is able to show the shape and structure of the uterus, the patency (openness) of the Fallopian tubes, and any adhesions (scarring inside the body from prior surgery or infections) that may be present within the peritoneal cavity. The procedure can be used to investigate repeated miscarriages that can result from congenital abnormalities of the uterus. It can also be used to monitor the effects of tubal surgery—that is, the closure of the fallopian tubes in a sterilization procedure (tubal ligation), or the re-opening of the fallopian tubes after a sterilization reversal.

Hysterosalpingography is able to depict congenital abnormalities of the uterine cavity. It can also be useful to monitor a patient who has undergone surgery to re-open the fallopian tubes from a disease-related obstruction. If the uterus is positioned incorrectly as a result of tumor masses or adhesions, or if uterine fibroids are present in the uterine cavity, hysterosalpingography can be used to determine the presence and severity of these abnormalities.

### *How should I prepare for my Hysterosalpingography?*

The hysterosalpingography procedure is best performed one week after menstruation but before ovulation to make certain that you are not pregnant during the exam. Also, this procedure should generally not be performed if you have an active inflammatory condition. If you have a chronic pelvic infection or an untreated sexually transmitted disease at the time of the procedure, notify your physician or technologist.

The night before the procedure, it is common for a laxative or an enema to be given to remove all fecal material from the bowels, so that the uterus and surrounding structures can be seen clearly. Also, a mild sedative or over-the-counter medication may be provided prior to the exam to minimize any potential discomfort. For some patients, the referring gynecologist or the radiologist may prescribe antibiotics prior to and/or after the procedure.

### *How does the Hysterosalpingography procedure work?*

The contrast material that is injected into the uterine cavity will fill the uterus and surrounding structures so that the radiologist is able to see their shape, size and position in relation to each other. The material should fill the uterus first, followed by the fallopian tubes and the peritoneal cavity. If the contrast material does not advance properly, or if it is seen leaking out of these areas, then the radiologist should be able to see it and determine the source

of the abnormality. Also, if the shape of the uterus or surrounding structures is abnormal, the radiologist will be able to see it and determine the cause of the misshapeness, such as a uterine fibroid.

### *How is Hysterosalpingography performed?*

The patient is positioned on her back on the screening table, with her knees pulled to her chest or her feet held up with stirrups. A speculum is inserted into the vagina, and the catheter is then advanced into the cervix. The speculum is removed, and the patient is carefully situated underneath the fluoroscopy device. The contrast material is then injected into the cervix, and fluoroscopic images are acquired.

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 are no adhesions (or scarring) surrounding the ovaries.

When the procedure is complete, the catheter will be removed, and the patient will be allowed to sit up. Usually, the patient will be asked to wait while the images are reviewed to make sure that adequate images were acquired.

### *What will I experience during my Hysterosalpingography?*

The procedure should cause minimal discomfort. There may be slight discomfort 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, causing generalized lower abdominal pain, but this should also be minimal and not long lasting. X-ray is a painless type of imaging that causes no sensation when applied.

### *What are the benefits vs. risks of Hysterosalpingography?*

#### Benefits

- Hysterosalpingography is a minimally invasive and usually mildly uncomfortable examination 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.

- Minimal low-level radiation is used for this procedure.

#### Risks

- Women who are or may be pregnant should inform their physician or technologist before the procedure. See the Safety page for more information about pregnancy and x-rays.
- 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.

Radiation risks are further minimized by:

- the use of high-speed x-ray equipment that requires less radiation to produce an optimal image.
- established technique standards and guidelines designed by and continually reviewed by national and international radiology protection councils.
- modern, state-of-the-art x-ray systems that have tightly controlled x-ray beams with excellent filtration and dose control methods. Thus, scatter (or stray radiation) is minimized, and other parts of a patient's body not being imaged receive minimal exposure.

#### *What are the limitations of Hysterosalpingography?*

Reasons not to perform hysterosalpingography include pregnancy, menstruation, pelvic infection or untreated sexually transmitted disease, severe renal or cardiac disease, sensitivity to contrast material, recent dilation and curettage, and vaginal bleeding of unknown cause.