



Fact Sheet

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The Patient Education Website of the American Society for Reproductive Medicine

Hysterosalpingogram (HSG)

What is a hysterosalpingogram (HSG)?

A hysterosalpingogram or HSG is an x-ray procedure used to see whether the fallopian tubes are patent (open) and if the inside of the uterus (uterine cavity) is normal. HSG is an outpatient procedure that usually takes less than 5 minutes to perform. It is usually done after the menstrual period ends but before ovulation.

How is a hysterosalpingogram done?

A woman is positioned under a fluoroscope (a x-ray imager that can take pictures during the study) on a table. The gynecologist or radiologist then examines the patient's uterus and places a speculum in her vagina. Her cervix is cleaned, and a device (cannula) is placed into the opening of the cervix. The doctor gently fills the uterus with a liquid containing iodine (a fluid that can be seen by x-ray) through the cannula. The contrast will be seen as white on the image and can show the contour of the uterus as the liquid travels from the cannula, into the uterus, and through the fallopian tubes. As the contrast enters the tubes, it outlines the length of the tubes and spills out their ends if they are open. Abnormalities inside the uterine cavity may also be detected by the doctor observing the x-ray images when the fluid movement is disrupted by the abnormality. The HSG procedure is not designed to evaluate the ovaries or to diagnose endometriosis, nor can it identify fibroids that are outside of the endometrial cavity, either in the muscular part of the uterus, or on the outside of the uterus. Often, side views of the uterus and tubes are obtained by having the woman change her position on the table. After the HSG, a woman can immediately return to normal activities, although some doctors ask that she refrain from intercourse for a few days.

Is it uncomfortable?

An HSG usually causes mild or moderate uterine cramping for about 5-10 minutes. However, some women may experience cramps for several hours. These symptoms can be greatly reduced by taking medications used for menstrual cramps before the procedure or when they occur. Women should be prepared to have a family member or friend drive them home after the procedure in the event that they are experiencing cramping.

Does a hysterosalpingogram enhance fertility?

It is controversial whether this procedure enhances fertility. Some studies show a slight increase in fertility lasting about 3 months after a normal HSG. However, most doctors perform HSG only for diagnostic reasons.

What are the risks and complications of HSG?

HSG is considered a very safe procedure. However, there is a set of recognized complications, some serious, which occur less than 1% of the time.

- **Infection** - The most common serious problem with HSG is pelvic infection. This usually occurs when a woman has had previous tubal disease (such as a past infection of chlamydia). In rare cases, infection can damage the fallopian tubes or make it necessary to remove them. A woman should call her doctor if she experiences increasing pain or a fever within 1-2 days of the HSG.

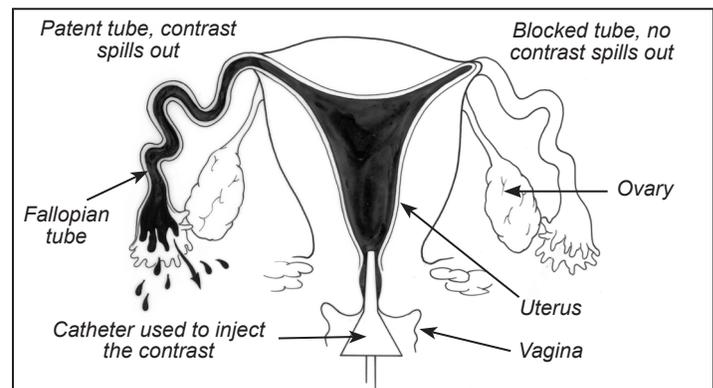
- **Fainting** - Rarely, the woman may get light-headed during or shortly after the procedure.
- **Radiation Exposure** - Radiation exposure from an HSG is very low, less than with a kidney or bowel study. This exposure has not been shown to cause harm, even if a woman conceives later the same month. The HSG should not be done if pregnancy is suspected.
- **Iodine Allergy** - Rarely, a woman may have an allergy to the iodine contrast used in HSG. A woman should inform her doctor if she is allergic to iodine, intravenous contrast dyes, or seafood. Women who are allergic to iodine should have the HSG procedure performed without an iodine-containing contrast solution. If a woman experiences a rash, itching, or swelling after the procedure, she should contact her doctor.
- **Spotting** - Spotting sometimes occurs for 1-2 days after HSG. Unless instructed otherwise, a woman should notify her doctor if she experiences heavy bleeding after HSG.

What is the next step if my tubes are blocked?

If your tubes are blocked, your doctor will likely recommend either a surgical procedure to directly view the tubes (laparoscopy) or to bypass the tubes and perform in vitro fertilization (IVF). This is a complex decision that should be discussed with your doctor. For more information, please see the ASRM booklet *Laparoscopy and hysteroscopy* and fact sheet *What do I need to know about conceiving after tubal surgery?*

Are there other options to evaluate tubal patency?

Laparoscopy can also determine if tubes are open, using a procedure called chromopertubation. An alternative procedure to evaluate tubal patency is a sonohysterosalpingogram (SHG). For SHG, a catheter (narrow tube) is placed in the uterus through the vagina and saline and air are injected. In women who have open fallopian tubes, tiny air bubbles may be seen going through the fallopian tubes during the ultrasound. However, this procedure is inferior to HSG for assessment of tubal patency.



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