

Reproductive Facts

Patient fact sheet developed by the
American Society for Reproductive Medicine



Hysterosalpingogram (HSG)

What is a hysterosalpingogram (HSG)?

A hysterosalpingogram (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?

The female is positioned under a fluoroscope (an x-ray imager that can take pictures during the study) on a table. The gynecologist or radiologist then places a speculum in the vagina. The 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.

Is it uncomfortable?

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

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 patient 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 the tubes. Patients should call their doctor if they experience increasing pain or a fever within 1-2 days of the HSG.
- **Fainting** - Rarely, the patient 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 x-ray study. This exposure has not been shown to cause harm, even if a patient conceives later the same month. The HSG should not be done if pregnancy is suspected.
- **Iodine Allergy** - Rarely, a patient may have an allergy to the iodine contrast used in HSG. Patients should

Often, side views of the uterus and tubes are obtained by having the patient change position on the table. After the HSG, the patient can immediately return to normal activities, although some doctors ask that they refrain from intercourse for a few days.

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inform their doctor if they are allergic to iodine, intravenous contrast dyes, or seafood. Patients who are allergic to iodine should have the HSG procedure performed without an iodine-containing contrast solution. If a patient experiences a rash, itching, or swelling after the procedure, they should contact their doctor.

- **Spotting** - Spotting (vaginal bleeding separate from menstrual period) sometimes occurs for 1-2 days after HSG. Unless instructed otherwise, patients should notify their doctor if they experience heavy bleeding after HSG.

What is the next step if my tubes are blocked?

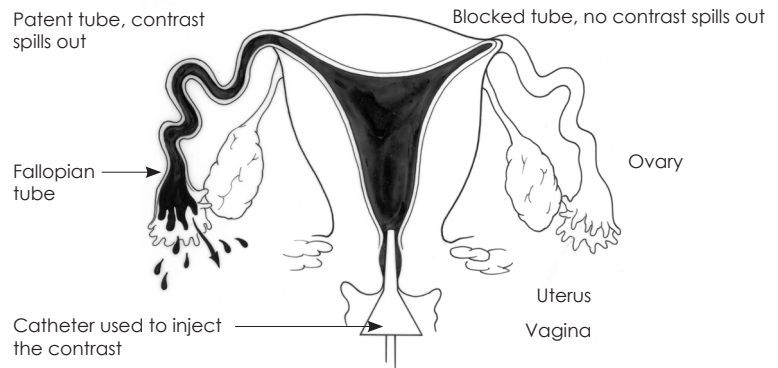
If your tubes are blocked, your doctor will likely recommend either a surgical procedure to directly view the tubes (laparoscopy) or to bypass the tubes and perform in vitro fertilization (IVF) if you desire pregnancy. This is a complex decision that should be discussed with your doctor. For more information, 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 help determine if tubes are open, using a procedure called chromopertubation in which

a colored dye is passed through the fallopian tubes to determine if they are open. 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 into the uterus.

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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