RadiologyInfo.org
For patients

Sonohysterography



Hysterosonography, also called sonohysterography, uses sound waves to produce pictures of the inside of the uterus and help diagnose many problems, including unexplained vaginal bleeding, infertility, and repeated miscarriages. Hysterosonography is performed very much like a gynecologic exam. Your doctor will insert a speculum into your vagina and insert a catheter into the cavity of the uterus. Using a small tube inserted into the vagina, your doctor will inject a small amount of sterile saline into the cavity of the uterus and study the lining of the uterus using the ultrasound transducer. Ultrasound does not use ionizing radiation, has no known harmful effects, and provides a clear picture of soft tissues that don't show up well on x-rays.

It is best to perform hysterosonography immediately after your period and within 10 days after the first day of your period to minimize the risk of infection and unintended loss of a very early pregnancy. Little or no special preparation is required for this procedure. Inform your doctor if there's a possibility you are pregnant. Leave jewelry at home and wear loose, comfortable clothing. You may be asked to wear a gown.

What is Sonohysterography (Ultrasound of the Uterus)?

Ultrasound imaging is a noninvasive medical test that helps physicians diagnose and treat medical conditions. It produces pictures of the inside of the body using sound waves. Ultrasound imaging is also called sonography (http://www.radiologyinfo.org) . It uses a small probe called a transducer and gel placed between the transducer and the body. High-frequency sound waves travel from the probe through the gel into the body. The probe collects the sounds that bounce back. A computer uses those sound waves to create an image. Ultrasound exams do not use radiation (http://www.radiologyinfo.org) (x-rays (http://www.radiologyinfo.org)). Because ultrasound captures images in real-time, it can show the structure and movement of the body's internal organs. The images can also show blood flowing through blood vessels.

Sonohysterography is also known as saline infusion sonography. It is a special, minimally invasive (http://www.radiologyinfo.org) ultrasound technique that provides pictures of the inside of the uterus.

A Doppler ultrasound (http://www.radiologyinfo.org) study may be part of a sonohysterography exam.

Doppler ultrasound is a special ultrasound technique that evaluates blood as it flows through a blood vessel.

What are some common uses of the procedure?

It is a valuable technique for evaluating unexplained vaginal bleeding that may be the result of uterine abnormalities such as:

- polyps (http://www.radiologyinfo.org)
- fibroids (http://www.radiologyinfo.org)
- endometrial adhesions (or scarring)
- malignant lesions/masses
- congenital (http://www.radiologyinfo.org) defects

Copyright© 2026, RadiologyInfo.org

Sonohysterography is also used to investigate uterine abnormalities in patients who experience infertility or multiple miscarriages.

Doppler ultrasound images can help the physician to see and evaluate:

- blockages to blood flow (such as clots).
- blood flow in polyps, tumors, and malformations.
- pelvic varicose veins and aneurysms.

How should I prepare?

Wear comfortable, loose-fitting clothing. You may need to remove all clothing and jewelry in the area to be examined.

You may need to change into a gown for the procedure.

It is best to perform sonohysterography (hysterosonography) immediately after your period and within 10 days after the first day of your period to minimize the risk of infection and unintended loss of a very early pregnancy. At this time in the menstrual cycle, the endometrium (http://www.radiologyinfo.org) is at its thinnest, which is the best time to determine if the endometrium is normal. The timing of the exam may vary, however, depending on the symptoms and their suspected origins. Sonohysterography should not be performed if you are pregnant.

No special preparation is required prior to the exam. You may be advised to take an over-the-counter medication shortly before the procedure to minimize any potential discomfort.

What does the equipment look like?

Ultrasound machines consist of a computer console, video monitor and an attached transducer (http://www.radiologyinfo.org) . The transducer is a small hand-held device that resembles a microphone. Some exams may use different transducers (with different capabilities) during a single exam. The transducer sends out inaudible, high-frequency sound waves into the body and listens for the returning echoes. The same principles apply to sonar used by boats and submarines.

The ultrasound technologist applies a small amount of gel to the area under examination and places the transducer there. The gel allows sound waves to travel back and forth between the transducer and the area under examination. The ultrasound image is immediately visible on a video monitor. The computer creates the image based on the loudness (amplitude), pitch (frequency), and time it takes for the ultrasound signal to return to the transducer. It also considers what type of body structure and/or tissue the sound is traveling through.

Some ultrasound procedures, such as transvaginal or transrectal exams, require the doctor to insert the transducer into the body. In these cases, the doctor will cover the device with a sterile sheath and lubricate it.

The doctor will infuse saline into the uterus (http://www.radiologyinfo.org) using a small, lightweight catheter (http://www.radiologyinfo.org) .

How does the procedure work?

Ultrasound imaging uses the same principles as the sonar that bats, ships, and fishermen use. When a sound wave strikes an object, it bounces back or echoes. By measuring these echo waves, it is possible to determine how far away the object is as well as its size, shape, and consistency. This includes whether the object is solid or filled with fluid.

Doctors use ultrasound to detect changes in the appearance of organs, tissues, and vessels and to detect abnormal masses, such as tumors.

Copyright© 2026, RadiologyInfo.org

In an ultrasound exam, a transducer (http://www.radiologyinfo.org) both sends the sound waves and records the echoing (returning) waves. When the transducer is pressed against the skin, it sends small pulses of inaudible, high-frequency sound waves into the body. As the sound waves bounce off internal organs, fluids and tissues, the sensitive receiver in the transducer records tiny changes in the sound's pitch and direction. A computer instantly measures these signature waves and displays them as real-time pictures on a monitor. The ultrasound technologist typically captures one or more frames of the moving pictures as still images. They may also save short video loops of the images.

For sonohysterography, the doctor injects sterile saline into the cavity of the uterus to enlarge it. The saline outlines the endometrium (the lining of the uterine cavity) and allows for easy visualization and measurement. It also identifies any polyps or masses within the cavity. The doctor may also inject saline and air or an ultrasound contrast agent into the uterus so they can look for air bubbles passing through the fallopian tubes. This helps evaluate patency (http://www.radiologyinfo.org) of the fallopian tubes.

Doppler ultrasound, a special ultrasound technique, measures the direction and speed of blood cells as they move through vessels. The movement of blood cells causes a change in pitch of the reflected sound waves (called the Doppler effect). A computer collects and processes the sounds and creates graphs or color pictures that represent the flow of blood through the blood vessels.

How is the procedure performed?

The doctor will usually perform a baseline (http://www.radiologyinfo.org) transvaginal (http://www.radiologyinfo.org) ultrasound without infusing saline first. This is performed to view the endometrium (http://www.radiologyinfo.org) (uterus lining), including its thickness, and any associated ovarian (http://www.radiologyinfo.org) abnormality.

Doctors perform transvaginal ultrasound very much like a gynecologic exam. The doctor will insert the transducer into the vagina (http://www.radiologyinfo.org) after you empty your bladder. The tip of the transducer is smaller than the standard speculum (http://www.radiologyinfo.org) that a Pap test (http://www.radiologyinfo.org) uses. The doctor places a protective cover over the transducer, lubricates it with a small amount of gel, and inserts about two to three inches of the transducer into the vagina. The doctor obtains images from different angles to get the best views of the uterus (http://www.radiologyinfo.org) and ovaries. During transvaginal ultrasound, you will usually lie on your back, possibly with your feet in stirrups similar to a gynecologic exam.

The doctor can also perform Doppler sonography through the transvaginal transducer. *See the Pelvic Ultrasound (https://www.radiologyinfo.org/en/info/pelvus) page for more information.*

The doctor then performs sonohysterography as a more in-depth investigation of the abnormalities and their potential causes. Determining the locations of certain abnormalities, such as fibroids or polyps, can be important when establishing a treatment or management strategy for a patient's condition.

Following the baseline exam, the doctor will remove the transvaginal probe and insert a sterile speculum (http://www.radiologyinfo.org) . You will lie on your back with your knees bent or your feet in stirrups. The doctor will clean the cervix (http://www.radiologyinfo.org) and insert a catheter into the uterine cavity. Once the catheter is in place, they will remove the speculum and re-insert the transvaginal probe into the vaginal canal. They will then inject sterile saline through the catheter into the uterine cavity as they perform an ultrasound.

This ultrasound exam usually takes about 30 minutes.

What will I experience during and after the procedure?

Most ultrasound exams are well-tolerated.

Doctors often use transvaginal (http://www.radiologyinfo.org) ultrasound to look at the uterus and ovaries. However, the

Copyright© 2026, RadiologyInfo.org

sonogram itself should not be painful or significantly increase your discomfort. A vaginal sonogram is usually more comfortable than a manual gynecologic exam.

During the sonohysterogram, you may feel occasional cramping because of the introduction of the saline. Over-the-counter pain medication should minimize any discomfort associated with the procedure. You may have vaginal spotting for a few days after the procedure. This is normal.

If the doctor performs a Doppler ultrasound exam, you may hear pulse-like sounds that change in pitch as they monitor and measure the blood flow.

After an ultrasound exam, you should be able to resume your normal activities immediately.

Who interprets the results and how do I get them?

A radiologist, a doctor trained to supervise and interpret radiology exams, will analyze the images. The radiologist will send a signed report to the doctor who requested the exam. Your doctor will then share the results with you. In some cases, the radiologist may discuss results with you after the exam.

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

- Most ultrasound scanning is noninvasive (no needles or injections).
- Occasionally, an ultrasound exam may be temporarily uncomfortable, but it should not be painful.
- Ultrasound is widely available, easy to use, and less expensive than most other imaging methods.
- Ultrasound imaging is extremely safe and does not use radiation.
- Ultrasound scanning gives a clear picture of soft tissues that do not show up well on x-ray images.
- Sonohysterography is a simple, minimally invasive procedure that patients usually tolerate well. It has very few complications.
- Sonohysterography is a relatively short procedure that provides an excellent view of the uterus and endometrial lining.
- Many uterine abnormalities that may not be seen adequately with routine transvaginal ultrasound may be viewed in detail with sonohysterography.
- Sonohysterography can prevent unnecessary surgery. It can also help surgeons remove all polyps and fibroids.

Risks

- Standard diagnostic ultrasound (http://www.radiologyinfo.org) has no known harmful effects on humans.
- Rarely (0.95%), sonohysterography is complicated by infection.

What are the limitations of Sonohysterography?

Patients with active pelvic inflammatory disease should not undergo sonohysterography.

Sonohysterography may have a few limitations in certain clinical situations. In patients with stenosis (http://www.radiologyinfo.org) of the cervix, it may be difficult to insert the catheter into the cervical canal to inject saline. Inadequate expansion of the uterine cavity via saline injection may also prevent the doctor from obtaining good quality

Copyright© 2026, RadiologyInfo.org

ultrasound images. This can occur especially with uterine scarring or fibroids, which may partially obscure the uterine cavity.

Also, sonohysterography is limited in the assessment of the patency, or openness, of the fallopian tubes because of their size and structure. In cases where your doctor suspects an abnormality of the fallopian tubes, they may recommend hysterosalpingography (http://www.radiologyinfo.org) for further evaluation.

Disclaimer

This information is copied from the RadiologyInfo Web site (http://www.radiologyinfo.org) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at **http://www.radiologyinfo.org** to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright ® 2026 Radiological Society of North America, Inc.