

Hysterosonography

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What is Hysterosonography?

Ultrasound, otherwise known as ultrasonography or sonography, is a procedure in which sound waves are used to show structures in the human body. The sound waves reflect off of internal organs and other anatomic structures to create images, which a radiologist can use to determine if the internal anatomy looks normal or abnormal. No ionizing radiation is used in an ultrasound procedure.

Ultrasound is a real-time imaging method, meaning the images are obtained continuously in a manner similar to a video camera. Real-time ultrasound can show the movement of internal tissues and organs, such as the flow of blood in arteries and veins, or the movement of a baby in a mother's uterus.

Hysterosonography, also known as sonohysterography or saline infusion sonography, is a minimally invasive ultrasound technique used in women to view the inside of the uterus. Sterile saline is injected into the endometrial cavity through a small catheter while a transvaginal ultrasound is performed. This allows real-time imaging of the uterus as the saline is put inside. The saline fills and distends (expands) the endometrial cavity, providing good visualization of the anatomic structures within.

What are some common uses of Hysterosonography?

Hysterosonography is often used to investigate uterine abnormalities in women who experience infertility or multiple miscarriages. It is also a valuable technique in the evaluation of unexplained vaginal bleeding. Such

conditions can result from uterine abnormalities such as congenital defects, masses, adhesions (or scarring), polyps, fibroids or atrophy.

Hysterosonography is performed by inserting a small catheter into the uterus and filling it with sterile saline. When the saline is inserted, it pushes the walls of the endometrium apart and allows a clear picture to be formed of its shape and size. If any part of the endometrial cavity appears irregular, it should be apparent to the radiologist or sonographer.

Usually, a baseline transvaginal ultrasound examination is performed first to view the endometrium, or the lining of the uterus. When further evaluation of the endometrium is required—such as if irregular thickening of the endometrium is seen or if displacement by fibroids is found—hysterosonography can be used as a more in-depth investigation method to view 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 particular condition.

How should I prepare for my Hysterosonography?

It is best to perform hysterosonography one week after menstruation to avoid the risk of infection. At this time in the menstrual cycle, the endometrium 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.

Hysterosonography 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.

How does the Hysterosonography procedure work?

Ultrasound is based on high-frequency inaudible sound waves that are directed into the body with the transducer and recorded as they bounce off of various fluids, tissues, and anatomic structures. The waves are displayed continuously on the monitor and can be recorded on videotape or on a computer disk. Still frames can be frozen and recorded by the radiologist or sonographer for later review.

Hysterosonography is performed by inserting a small catheter and filling the uterine cavity with sterile saline. When the saline is introduced, it pushes the walls of the endometrial lining apart and allows a clear picture to be formed

of its shape and size. If any part of the endometrial cavity appears irregular, it should be apparent on the resultant images.

How is the Hysterosonography performed?

A baseline transvaginal ultrasound procedure will be performed first to demonstrate the sonographic characteristics of the endometrium, its thickness, and any associated ovarian abnormality.

Following the baseline exam, the transvaginal probe will be removed, and a sterile speculum will be inserted as the patient lies on her back with her knees held to her chest or her feet in stirrups. The cervix will be cleansed, and a catheter will be inserted into the uterine cavity. Once the catheter is in place, the speculum will be removed, and the transvaginal probe will be re-inserted into the vaginal canal. Sterile saline will then be injected into the catheter as ultrasound is being performed. The ultrasound waves are painless as they pass through the tissues. The average time required to perform hysterosonography is 10-15 minutes.

What will I experience during my Hysterosonography procedure?

Hysterosonography should not cause any significant pain or discomfort. You may feel occasional cramping as a result of saline introduction, but over-the-counter medication should be sufficient to minimize any discomfort associated with the procedure.

What are the benefits vs. risks of Hysterosonography?

Benefits

- Hysterosonography is a simple, minimally invasive procedure that is well tolerated by patients and has very few complications.
- Hysterosonography does not involve the use of ionizing radiation.
- Hysterosonography 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 hysterosonography.
- Hysterosonography can prevent unnecessary surgery, and it can ensure that all polyps and fibroids are removed at surgery.

Risks

- Hysterosonography should typically not be performed in women with active pelvic inflammatory disease.

What are the limitations of Hysterosonography?

Hysterosonography may have a few limitations in certain clinical situations. In women with stenosis of the cervix, it may be somewhat difficult to insert the catheter into the cervical canal so that saline may be injected. Inadequate distension (expansion) of the uterine cavity from the saline injection may also prevent good-quality ultrasound images from being obtained. This can occur especially with uterine adhesions (scarring) or large leiomyomas (also called benign tumors or fibroids), which may partially obliterate the uterine cavity.

Also, hysterosonography is limited in the assessment of the patency, or openness, of the fallopian tubes because of their size and structure. In such cases where an abnormality of the fallopian tubes is suspected, a procedure such as hysterosalpingography might be recommended for further evaluation.