



The American College of
Obstetricians and Gynecologists



FREQUENTLY ASKED QUESTIONS
FAQ025
SPECIAL PROCEDURES

Ultrasound Exams

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What does ultrasound show?

Ultrasound creates pictures of the internal organs of the body from sound waves. There is no radiation involved. The sound waves are directed into a specific area of the body through a **transducer**.

The sound waves hit tissues, body fluids, and bones. Waves then bounce back, like echoes, and are converted into pictures of the internal organs and—during pregnancy—the **fetus**.

The images appear on a screen similar to a computer monitor. Dark areas show liquid, like **amniotic fluid**. Gray or light areas show denser material, like tissue or bone.

The type of ultrasound that is used most often combines still pictures to show movement, like the single frames that make a movie. This is called real-time ultrasound.

When is ultrasound used in obstetrics?

Ultrasound is used in obstetrics to examine the growing fetus inside the woman's **uterus**. A standard ultrasound exam can provide information about the fetus's health and well-being, including:

- Age of the fetus
- Rate of growth of the fetus
- Placement of the **placenta**
- Fetal position, movement, breathing, and heart rate
- Amount of amniotic fluid in the uterus
- Number of fetuses
- Some birth defects

Other uses of ultrasound during pregnancy include a fetal cardiogram. This is a detailed ultrasound exam of the heart that may be done if heart problems are suspected in the fetus. Ultrasound also may be used for diagnosing an **ectopic pregnancy** or determining the cause of bleeding or pain during pregnancy.

When is ultrasound used in gynecology?

Ultrasound is used in gynecology to examine the pelvic organs. An ultrasound exam can help

- identify a pelvic mass
- find causes of pelvic pain
- find causes of abnormal bleeding or other menstrual problems

- find the position of an **intrauterine device**
- diagnose and treat infertility

What types of ultrasound are there?

There are many different types of ultrasound exams. The type of ultrasound you have will depend on what types of images your health care provider needs and why the exam is being done. Types of ultrasound are listed as follows:

- Transabdominal—The transducer is placed on the abdomen.
- Transvaginal—The transducer is placed in the vagina.
- Doppler ultrasound—For this exam, high-intensity sound waves are used to study the movement of blood (usually through the **umbilical cord** or between the uterus and placenta). Doppler ultrasound also can be used to listen to the baby's heartbeat.
- Sonohysterography—For sonohysterography, you first will have a transvaginal ultrasound exam. A catheter (a small tube) then will be inserted through the **cervix**, and a saline solution (salt water) will be injected through the catheter. The saline solution fills the uterus so abnormal findings can be seen inside the uterus. It also acts as a contrast material, which makes it easier to see anything abnormal.
- Three-dimensional and four-dimensional (3D and 4D) ultrasound: These are types of transabdominal ultrasound. A 3D ultrasound exam takes thousands of images at once. These are stored and shaded to make a 3D image, which looks more lifelike. A 4D image is similar to a 3D image, but it also shows movement.

What is involved in the preparation for transabdominal ultrasound?

If you are having a transabdominal ultrasound, wear loose-fitting clothes. This will allow your abdomen to be exposed easily. You may need to drink up to six glasses of water during the 2 hours before your exam. This will make your bladder full. A full bladder is necessary for the following reasons:

- It pushes loops of the bowel up and out of the way, making the uterus easier to see
- If you are pregnant, it moves the uterus higher in the belly, making the fetus easier to see

For this exam, you will lie on a table with your abdomen exposed from the lower part of the ribs to the hips. Mineral oil or a gel is applied to the surface of the abdomen. This improves contact of the transducer with the skin surface. Sound waves cannot move through air, so the gel helps get rid of air between the skin and the transducer.

What is involved in the preparation for transvaginal ultrasound?

For a transvaginal ultrasound, you will be asked to change into a hospital gown or undress from the waist down. You or your health care provider may wish to have a chaperone present during the exam. You will lie on your back with your feet in stirrups, like a pelvic exam. The transducer for this exam is shaped like a wand. It is covered with latex, like a condom, and lubricated before it is inserted into the vagina. This type of ultrasound can give a closer look at the pelvic organs and fetus.

Glossary

Amniotic fluid: Water in the sac surrounding the fetus in the mother's uterus.

Cervix: The opening of the uterus at the top of the vagina.

Ectopic Pregnancy: A pregnancy in which the fertilized egg begins to grow in a place other than inside the uterus, usually in the fallopian tubes.

Fetus: The developing offspring in the uterus from the ninth week of pregnancy until the end of pregnancy.

Intrauterine Device: A small device that is inserted and left inside the uterus to prevent pregnancy.

Placenta: Tissue that provides nourishment to and takes waste away from the fetus.

Transducer: A device that emits sound waves and translates the echoes into electrical signals.

Umbilical Cord: A cordlike structure containing blood vessels that connects the fetus to the placenta.

Uterus: A muscular organ located in the female pelvis that contains and nourishes the developing fetus during pregnancy.

If you have further questions, contact your obstetrician–gynecologist.

FAQ025: Designed as an aid to patients, this document sets forth current information and opinions related to women's health. The information does not dictate an exclusive course of treatment or procedure to be followed and should not be construed as excluding other acceptable methods of practice. Variations, taking into account the needs of the individual patient, resources, and limitations unique to the institution or type of practice, may be appropriate.

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