TEST

Ultrasound pregnancy

A pregnancy ultrasound uses sound waves to check the pregnancy, baby, placenta, and surrounding fluid.

WHAT IT MEASURES
Pregnancy location, growth, anatomy, heartbeat, placenta, and fluid

SAMPLE
None; images are made with sound waves

FASTING NEEDED?
No, unless another same-day procedure requires it

HOW LONG IT TAKES
Usually 20 to 45 minutes

RESULTS IN
Often same day; report timing varies by imaging service

USED FOR
Screening, dating, diagnosis, and monitoring

MAIN LIMITATION
Fetal position or body tissues may hide important views

Overview

A pregnancy ultrasound uses high-frequency sound waves to create images of the uterus and pregnancy. It does not use X-rays or ionizing radiation.

Ultrasound can show where a pregnancy is developing, whether there is more than one baby, and how the baby is growing. Depending on the stage of pregnancy, it may also examine the baby's anatomy, heartbeat, movement, placenta, amniotic fluid, cervix, and blood flow.

There are two main ways to perform the scan. A transabdominal ultrasound moves a probe over the lower abdomen. A transvaginal ultrasound places a narrow covered probe into the vagina. An internal scan often provides clearer images in early pregnancy because the probe is closer to the uterus.

The word "baby" is used here for readability. Early ultrasound reports may instead use medical terms such as embryo or fetus.

Why the test is ordered

Pregnancy ultrasound may be offered as part of routine antenatal care. The number and timing of routine scans differ between countries and healthcare services.

A scan may be used to:

Some scans have a specific purpose. An early dating scan estimates gestational age. A mid-pregnancy anatomy scan examines the baby's body in detail. Later scans may monitor growth, fluid, placental position, or blood flow when there is a clinical reason.

- confirm that the pregnancy is inside the uterus
- estimate how far along the pregnancy is and calculate an expected due date
- look for twins or other multiple pregnancies
- check the heartbeat, growth, movement, and position
- screen for certain physical conditions
- locate the placenta and assess amniotic fluid
- investigate bleeding, pain, or a difference between expected and measured growth
- guide procedures such as chorionic villus sampling or amniocentesis

Who should have the test

Most pregnant people are offered at least one routine ultrasound, but local screening programs are not identical. Your maternity service should explain which scans are offered, when they are done, and what each scan can and cannot find.

Additional scans may be suggested if there is bleeding or pain, uncertainty about pregnancy dates, a multiple pregnancy, a low-lying placenta, concern about growth, or another health issue affecting the pregnancy.

Ultrasound screening is optional. Before deciding, you can ask what the scan looks for, what results you might receive, and what choices may follow. Declining a screening scan does not prevent you from seeking medical assessment later if symptoms develop.

How to prepare

Follow the instructions in your appointment letter. Preparation changes with the stage of pregnancy and the type of scan.

For some early transabdominal scans, you may be asked to arrive with a full bladder. A full bladder can move the uterus into a position that is easier to see. For a transvaginal scan, you will usually be asked to empty your bladder.

You can normally eat, drink, take prescribed medicines, and exercise as usual. Fasting is only needed if another procedure scheduled for the same visit requires it.

Wear clothing that allows easy access to your lower abdomen. Tell the sonographer if you would like a chaperone, need help changing position, or have concerns about an internal examination. You should be asked for consent before a transvaginal scan.

What happens during the test

For an abdominal scan, you lie on an examination couch with your abdomen uncovered. The sonographer applies water-based gel and moves a handheld probe across your skin. You may feel pressure, especially if your bladder is full, but the scan should not usually be painful.

For a transvaginal scan, you undress from the waist down and are given privacy and a covering. A narrow probe is covered, lubricated, and gently inserted a short distance into the vagina. You can ask for the examination to pause or stop at any time.

The sonographer takes measurements and saves selected images. Doppler ultrasound may sometimes be used to assess blood flow. The appointment commonly takes 20 to 45 minutes, although a detailed or multiple-pregnancy scan may take longer.

Understanding your results

The meaning of the scan depends on why it was performed and how far the pregnancy has progressed. One image or measurement is rarely interpreted by itself.

An early scan may report the pregnancy's location, the number of embryos, measurements used for dating, and whether cardiac activity is visible. If it is too early to reach a clear conclusion, another scan or blood tests may be needed. An uncertain early result does not always mean that something is wrong.

A mid-pregnancy scan may describe the baby's measurements and visible anatomy, as well as the placenta and amniotic fluid. Some findings are normal variations. Others need a more detailed scan or specialist review.

A later scan may compare growth with earlier measurements. Growth charts and reference ranges vary by gestational age, population, equipment, and clinical setting. Interpretation can

also be influenced by fetal sex, multiple pregnancy, parental characteristics, medicines, and pregnancy complications.

Ultrasound estimates, including fetal weight and the expected due date, are not exact measurements.

What affects the results

Ultrasound depends on sound waves reaching the area being examined and returning to the probe. Several factors can make the images incomplete without there being anything wrong with the equipment or the pregnancy.

Important factors include:

If the required views cannot be obtained, you may be asked to walk around, change position, empty your bladder, or return for another scan.

Coffee, meals, ordinary exercise, iron deficiency, kidney function, and most medicines do not directly change pregnancy ultrasound images. A recent blood transfusion also does not affect the scan in the way it can affect some blood tests.

- the baby's position or movement during the scan
- performing the scan earlier or later than intended
- an empty bladder when a full one was requested
- abdominal tissue, scars, fibroids, or bowel gas blocking views
- low amniotic fluid or crowding in a multiple pregnancy
- the location of the placenta
- image quality, equipment settings, and the operator's experience

Accuracy and limitations

Pregnancy ultrasound provides useful information, but it cannot find every condition. Some physical differences are too small to see, develop later, or remain hidden because of the baby's position. A result reported as reassuring cannot guarantee that the baby has no health condition.

Ultrasound can also show something that later proves to be normal. This is sometimes called a false-positive result. Other findings remain uncertain until a repeat or specialist scan is completed.

Early measurements can estimate pregnancy dates, but the due date remains an estimate. Later estimates of fetal weight can differ from the baby's actual weight. Predicting the baby's sex from ultrasound is not always possible or correct.

Ultrasound does not replace genetic screening or diagnostic testing. If a scan suggests a chromosome or genetic condition, blood screening, chorionic villus sampling, or amniocentesis may provide different information. Fetal MRI may sometimes show anatomy that ultrasound cannot display clearly.

Risks and complications

Diagnostic ultrasound does not use ionizing radiation, and no harmful effects have been established when it is medically indicated and performed appropriately. Professionals use the lowest ultrasound exposure needed to obtain the required information.

An abdominal scan may cause temporary discomfort from probe pressure or a full bladder. A transvaginal scan can feel uncomfortable and may occasionally be followed by light spotting. It is not known to increase the risk of miscarriage.

Non-medical "keepsake" scanning is not a substitute for a clinical examination. It may use unnecessary exposure or provide false reassurance if the person performing it is not trained to assess pregnancy health.

What happens next

Many routine scans need no action beyond continuing normal antenatal care. Your maternity team may confirm the pregnancy dates and explain when your next scheduled appointment or scan will be.

If views were incomplete, a repeat scan may simply be arranged so the sonographer can finish the examination. If a finding needs clarification, you may be offered a specialist ultrasound, fetal medicine review, blood test, or diagnostic procedure. You should receive an explanation of what was found and what the available choices mean.

Do not wait for a routine scan if you develop heavy bleeding, severe or worsening abdominal pain, one-sided pain with dizziness, shoulder-tip pain, fainting, or feel seriously unwell. Seek urgent medical assessment. Later in pregnancy, urgent advice is also appropriate for a marked reduction in the baby's usual movements or a possible leak of amniotic fluid.

Common questions

Can I drink coffee before a pregnancy ultrasound?

Usually, yes. Coffee does not directly affect the images. If you have been told to arrive with a full bladder, include coffee only as part of the fluids allowed by your imaging service.

Does the time of day matter?

Usually not. The stage of pregnancy, the baby's position, and the reason for the scan matter more than the appointment time.

Can I exercise beforehand?

Ordinary exercise does not usually affect the result. If exercise causes pain, bleeding, dizziness, or other concerning symptoms, stop and seek advice rather than waiting for the scan.

Why do I need a full bladder?

A full bladder can improve the view during some early abdominal scans. Not every pregnancy ultrasound needs this, so follow your appointment instructions.

Is an internal ultrasound safe in early pregnancy?

A transvaginal ultrasound is widely used in early pregnancy and is not known to increase miscarriage risk. You may feel pressure or mild discomfort, and you can ask for the examination to stop.

Can the scan tell me the baby's sex?

Sometimes, depending on gestational age, position, image quality, and local policy. It is not guaranteed to be possible or completely accurate.

Sources

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- U.S. Food and Drug Administration. Ultrasound Imaging . Medical uses, benefits, limitations, and safety considerations.