TEST

Fetal echocardiography

A fetal echocardiogram is a detailed ultrasound that examines a baby's heart before birth.

WHAT IT MEASURES
Fetal heart structure, heartbeat, function, and blood flow

SAMPLE
None; this is an imaging test

FASTING NEEDED?
No

HOW LONG IT TAKES
Usually 30 to 60 minutes

RESULTS IN
Often same day; reporting varies by imaging service

USED FOR
Screening, diagnosis, and monitoring in higher-risk pregnancies

MAIN LIMITATION
Some heart problems are not visible before birth

Overview

Fetal echocardiography, also called a fetal echocardiogram or fetal echo, is a detailed ultrasound examination of a baby's heart during pregnancy. It uses sound waves, not radiation, to create moving images.

The scan looks at the heart's chambers, valves, major blood vessels, heartbeat, pumping action, and blood flow. It is more detailed than the basic heart views included in a routine pregnancy ultrasound.

Fetal echocardiography is commonly performed during the middle of pregnancy. It may be done earlier or later when there is a specific reason. An early examination often needs to be repeated because the heart is very small and continues to develop.

Why the test is ordered

The test may be ordered when a routine pregnancy ultrasound suggests that the heart needs a closer look. This does not always mean that a heart condition is present. A baby's position or

unclear images can also lead to a referral.

A fetal echo may also be offered when there is a higher chance of a structural heart condition or a problem with heart rhythm or function. It can help the pregnancy team plan further monitoring, birth arrangements, and care after delivery if needed.

If a heart condition has already been identified, repeat scans may be used to follow changes in heart function, blood flow, or rhythm.

Who should have the test

Not everyone needs fetal echocardiography. Referral criteria differ between services and should be considered alongside your pregnancy history and routine ultrasound findings.

Reasons for offering the test can include:

A risk factor does not mean that your baby has a heart condition. It means that a detailed examination may provide useful information.

- A possible heart difference seen during a pregnancy ultrasound
- An unusual fetal heartbeat or rhythm
- A suspected genetic or chromosome condition
- Certain abnormalities affecting other fetal organs
- A parent, sibling, or previous pregnancy affected by congenital heart disease
- Diabetes present before pregnancy
- Certain infections, health conditions, or medicine exposures during pregnancy
- Increased fluid behind the fetal neck on an early ultrasound
- Some twin or multiple pregnancies with shared placental circulation

How to prepare

You can usually eat and drink normally. Fasting is not needed, and you can generally take your usual medicines unless your maternity service gives different instructions.

A full bladder is usually unnecessary for a standard abdominal fetal echo. It may sometimes help during an early pregnancy scan, so follow the instructions in your appointment letter.

Wear clothing that allows easy access to your abdomen. Bring relevant ultrasound reports and details of medicines if the imaging service does not already have them.

What happens during the test

You will usually lie on an examination bed with your abdomen uncovered. The sonographer or fetal heart specialist places gel on your skin and moves an ultrasound probe over your abdomen.

The examination shows the heart from several directions. Doppler ultrasound may be used to assess the direction and speed of blood flow. Colour on the screen represents blood-flow information; it does not show the heart's actual colour.

The scan usually takes 30 to 60 minutes, but it can take longer. The baby's position and movement affect how quickly the required images can be obtained. You may be asked to turn onto your side, walk around, or return later.

An internal, or transvaginal, ultrasound is occasionally used for an early examination. A covered ultrasound probe is gently placed inside the vagina.

Understanding your results

A specialist may discuss the findings during or shortly after the examination. A written report may follow later.

Results may show:

A normal fetal echo is reassuring, but it cannot rule out every heart condition. Small openings between heart chambers, mild valve problems, and some narrowing of the major blood vessels may be difficult or impossible to identify before birth.

Measurements are interpreted using the baby's gestational age, size, heart rhythm, and the rest of the scan. Interpretation also varies with the imaging service, pregnancy circumstances, medicines, and clinical context. There is no single universal reference range for every fetal heart measurement.

- No heart abnormality identified
- An incomplete examination requiring another scan
- A difference that appears minor or needs monitoring
- A suspected structural, rhythm, or heart-function problem
- A finding that requires assessment after birth

What affects the results

Several factors can make the images incomplete or make a finding harder to interpret without anything being wrong with the ultrasound equipment.

Gestational age matters. Very early in pregnancy, the heart is small. Later in pregnancy, the baby's bones and position can limit some views.

The main factors include:

Some medicines and maternal health conditions can affect the baby's heartbeat or heart function. They do not usually make the image falsely abnormal, but they may change how the findings are interpreted.

A technically limited scan is not the same as an abnormal result. It means that the specialist could not obtain all the views needed to reach a confident conclusion.

- The baby's position, movement, and heart rate
- The stage of pregnancy and fetal size
- Low or high amounts of amniotic fluid
- Twins or other multiple pregnancies
- Abdominal scar tissue
- Greater distance between the probe and the baby
- The ultrasound equipment and the examiner's experience
- An intermittent rhythm problem that does not occur during the scan

Accuracy and limitations

Fetal echocardiography finds many important structural heart conditions, but accuracy is not the same for every condition. Larger or more complex differences are generally easier to see than small holes, mild valve changes, or conditions that develop later.

A false-negative result means the scan appears normal even though a heart condition is present. This can happen when the difference is too small, is hidden by fetal position, or does not become apparent until later pregnancy or after birth.

A false-positive result means the scan raises concern but later assessment does not confirm a significant problem. Unclear images and the changing circulation before birth can contribute to this.

Fetal circulation is different from circulation after birth. Some openings and blood vessels that

are normal and necessary before birth close afterward. For this reason, certain conditions are better assessed with an echocardiogram after delivery.

The test does not replace genetic testing. If a heart difference is associated with a possible genetic condition, separate screening or diagnostic testing may be discussed.

Risks and complications

A standard fetal echocardiogram has no known harmful effects when performed for a medical reason by trained staff. It does not use ionising radiation.

Pressure from the probe may feel uncomfortable, especially over a tender abdomen. A transvaginal scan may cause brief discomfort and, occasionally, light spotting.

What happens next

If the examination is normal and complete, you will usually continue with your planned pregnancy care. A newborn examination is still important because some heart conditions only become apparent after birth.

If the images are incomplete, a routine repeat appointment may be arranged. This is common when the baby's position prevents clear views and does not by itself indicate a heart problem.

If a possible abnormality is found, you may meet a fetal cardiologist, maternal-fetal medicine specialist, genetic counsellor, or newborn specialist. They can explain what is known, what remains uncertain, whether another scan is needed, and whether delivery or newborn care should be planned at a specialist hospital.

The scan itself does not cause urgent symptoms. Contact your maternity assessment service promptly if you have reduced fetal movement, vaginal bleeding, fluid leaking from the vagina, regular painful contractions, or severe abdominal pain. Seek emergency help for heavy bleeding, collapse, severe breathing difficulty, or another life-threatening symptom.

Common questions

Can I eat or drink coffee before a fetal echocardiogram?

Yes. Food and coffee do not usually affect the images, and fasting is not required. Follow any different instructions provided for another test scheduled on the same day.

Do I need a full bladder?

Usually not for a standard abdominal examination. A full bladder may occasionally be requested for an early pregnancy scan.

Does the time of day matter?

No particular time is more accurate. The baby's position and movement at the appointment matter more than the time of day.

Can I exercise beforehand?

Normal activity is generally fine. Recent exercise does not usually distort the heart's structure, although it may briefly change maternal and fetal heart rates. Allow time to settle if you have exercised vigorously.

Can the scan always find a heart problem?

No. It can identify many important conditions, but small or developing problems may not be visible before birth. A newborn examination and, when indicated, a postnatal echocardiogram provide additional information.

Can my partner or support person come with me?

Many services allow one support person, but local rules and room size differ. Check the appointment information before attending.

Sources

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