

Ultrasound: the basics

Patient Information Series – What you should know, what you should ask.

What is Ultrasound?

Ultrasound is an easy, non-invasive way to look inside your body. It works through sound waves (a bit like sonar or radar).

How does it work?

An ultrasound probe connected to an ultrasound machine is placed on the area being examined. The probe emits sound waves which travel through your body and bounce back off any structure they come in contact with. The returning sound waves (or echoes) are read by the machine and translated into a picture on the screen. The waves show the size of the object, how far away it is and how dense it is (Is it fluid, such as blood, or is it solid, such as bones). The images are captured in real time which allows doctors to see the movement of the fetus and the blood flow.

Source: Comprehensive Diagnostic Imaging (http://cdiok.com/?page_id=18)

- **Ultrasound Probes:**

These are the parts of the ultrasound machine that comes in contact with your body. There are many types of ultrasound probes. The best one for the purpose of the examination is used. Some are designed to be applied on the surface of the body. Others are made to be inserted in the vagina to have a closer and more precise look at the content of your pelvis or lower abdomen.

Who will do the scan?

Your examination may be carried out by a medical doctor, a specialized technician (a sonographer) or a specially trained nurse or midwife. In most cases there will just be one person present who will perform your ultrasound scan although in some clinics a female chaperone is offered. Many places will also have students involved in your examination, under the supervision of a qualified person.

Is it safe?

Yes. There are no known risks to ultrasound. Sound waves can generate heat as they cause small vibrations in your body. This heat is minimal and disappears quickly but can build up if the scan is performed over a long period of time. For this reason, scans should be performed only by trained healthcare practitioners.

A typical ultrasound scan involves exposure to ultrasound jelly and to latex. The latex is either in the gloves the practitioner may wear or in the probe cover when used. It is important you tell the person performing the scan if you have ever had any allergic reaction to ultrasound gel or to latex or latex products in the past. Alternatives are available if need be.

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How is the scan performed?

You will likely first be asked several questions to confirm your personal details and the reason for your scan. The exact questions you will be asked will vary but should confirm who you are and whether you have any allergies.

An ultrasound scan is performed by placing a small probe on your abdomen (an external or 'transabdominal' scan) or into the vagina (an internal or 'transvaginal' scan). In some cases both approaches are used but most gynecological ultrasound examinations involve an 'internal' scan as this provides more detailed information. Less frequently and for some specific gynecological conditions, the internal scan can be done by inserting the probe inside your rectum (a 'transrectal' scan).

What is involved?

- An external scan (Transabdominal scan)

For a 'transabdominal scan' a small amount of ultrasound jelly is applied over your abdomen. The jelly ensures contact between you and the probe and improves the quality of the images. You do not have to remove your clothes but the person performing the scan will need access to your abdomen so it is advisable to wear loose clothing and to cover your clothes to avoid getting jelly on them. You may be asked to have a comfortably full bladder. This helps improve the images obtained which can be hard to interpret when the bladder is empty. You should drink some water (2-3 regular glasses) up to the time of the scan but do not drink so much that you feel uncomfortable - you may not be able to use the toilet for another 20-30 minutes. If, however, you do need to go to the toilet then do not worry as you can start drinking straight afterwards. You should also let the person doing the ultrasound know if you become uncomfortable during the scan.

- An internal scan (transvaginal scan)

A 'transvaginal scan' is an internal scan. You will need to remove your underwear and any sanitary wear, and because of this some women find it easier to wear a dress or skirt. In contrast to the transabdominal scan, your bladder needs to be empty. You will likely be asked to empty your bladder before this portion of the scan starts. The 'transvaginal scan' involves the insertion of a relatively thin probe into the vagina. The probe is covered by a clean cover (like a condom). Ultrasound jelly is squirted into the cover and also applied to the end of the probe to improve the contact and images are obtained as with the transabdominal scanning. The probe is relatively long but only the very end is inserted; the length of the probe is simply to allow the person performing the scan to move it during the examination. Your scan should be conducted in a private room. Here again, you should let the person doing the ultrasound know if you become uncomfortable during the scan.

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Is it uncomfortable?

Most women do not find ultrasound scans uncomfortable. The transabdominal scan involves some pressure on your abdomen and can cause some discomfort with a full bladder and a sensation of needing to urinate. An internal scan may be uncomfortable for some women who have problems with generalized or specific areas of tenderness. Tenderness and discomfort does not necessarily mean there is a problem. If you do find the scan uncomfortable, tell the person performing the scan who may be able to change how the scan is performed to make it more comfortable. If the scan is very uncomfortable you can ask to stop the examination for a few seconds or altogether.

Can I see the pictures during or after the scan?

Most clinics use an ultrasound machine with a single screen. The screen faces the person performing the scan and may be difficult for you to see. Usually the screen can be turned to show you still or moving images.

Please ask them if you want to see anything in particular. If you want a picture for yourself you should ask at the time of the scan. This is not always possible and may incur a small charge dependent on local practice.

Will I be given my results there and then?

Not necessarily. Ultrasound examinations are sometimes interpreted right after the scan and sometimes later on. This will depend on how the ultrasound scan service is arranged locally and may differ for different doctors and clinics.

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