

## What is an Ultrasound examination?

An ultrasound examination uses high frequency sound waves to produce an image onto a screen that shows the inside of your body.

An ultrasound examination is performed by a trained health professional (sonographer) using a smooth, hand-held device called a transducer that they move across the body with a sliding and rotating action. The transducer transmits the high-frequency sound waves into your body. The sound waves are then reflected from the different tissues of your anatomy in different ways. The sound waves are converted to electrical impulses, which are used to produce a moving image onto the screen. Ultrasound can take high quality pictures or images of most parts of your body, which makes it an excellent diagnostic test.

The sonographer will be there with you and you have the opportunity to communicate any concerns that you may have.

## Why am I having an Ultrasound?

An ultrasound examination could be requested for many reasons. You will be most familiar with its use in obstetrics (medical care during pregnancy and childbirth). Ultrasound is an ideal examination to look at the baby as it grows throughout the various stages of pregnancy. In the first part of pregnancy, it can be used for confirming the age of the baby and therefore the most likely date of the birth, and for Down Syndrome screening. Later in pregnancy it is used to carefully exam how

the foetus (baby) is developing and to ensure the foetus is growing in a healthy manner. Irrespective of the timing of the ultrasound, an obstetric scan is a wonderful opportunity to meet your forming baby.

There are also many other reasons that an ultrasound examination may be requested. For example, it is used to examine abdominal and other organs. Colour Doppler ultrasound can be used to watch blood flow in any of the arteries or veins throughout the various parts of your body. High-resolution ultrasound can be used to evaluate the musculoskeletal system (muscles, bones and joints related). Breast ultrasound is an important part of the assessment of any breast lump.

## What happens during an Ultrasound?

Before you have the examination, the sonographer will ask you questions about why you have come for the ultrasound scan. They will then explain the procedure you are having in detail and answer any questions you have before they start the examination.

You are normally asked to lie down on a bed and the area to be examined is exposed while the rest of the body is covered. Clear gel is applied to the area of your body which is being imaged. The sonographer will then place the transducer onto this area using gentle pressure. The transducer is moved across the area with a sliding and rotating action to allow the image to project onto the

screen. The sonographer takes still photos from the moving images on the screen. During the examination you may be asked to perform some simple movements to improve the quality of the imaging. These movements you will be asked to perform will be simple, for example –

- “Taking a bigger breath” to assist during an abdominal ultrasound and allow the areas underneath the rib cage to be clearly viewed;
- during an obstetric examination you may be asked to roll around to encourage the foetus or unborn baby to roll into a position appropriate for imaging;
- in musculoskeletal ultrasound, the transducer moving over any painful areas often provides valuable insights into the true source of the pain.

However, if any of these movements cause you concern or discomfort, you should let the sonographer know immediately.

## How long does an Ultrasound take?

Typically, an ultrasound examination will take about 30 minutes. However, some examinations, especially vascular imaging (blood vessel related), may take longer than this because of the detailed imaging that is required and the number and size of the organ or organs being examined.

It is best to ask the hospital or radiology practice when you make your ultrasound appointment how long the type of ultrasound you are having normally takes.

### What are the benefits of an Ultrasound?

An ultrasound examination has many advantages. There is no radiation, which means that it is very safe, there are no injections and there is no pain. The high-frequency sound waves ensure the information is of very high detail, capable of looking at the very tiniest parts of your body. Imaging can be performed while there is movement so it is excellent for the imaging of babies and children.

Ultrasound provides excellent imaging of the soft tissues of the human body and is often the best and most appropriate diagnostic test.

Ultrasound can be performed with patient movement so it is ideal for imaging babies and children. Imaging movement is also very valuable in musculoskeletal (muscles, bones and joints related), gynaecological (women's health, especially of the reproductive organs) and vascular (blood vessel related) ultrasound. Dynamic imaging (moving pictures) provided by images using ultrasound sound waves gives the opportunity for looking at the inside of the body in positions or with movements where there is pain or movement restriction.

### Are there any after effects of an Ultrasound?

Ultrasound is a safe examination which provides excellent imaging without any significant risk to the patient. There are no proven harmful effects of sound waves at

the levels used in ultrasound performed in a proper clinical setting. In most situations, there should not be any after effects from an ultrasound examination. Occasionally, patients report a little tenderness in the area that has been examined, but this is uncommon and rarely persists beyond the first hours after the examination.

### When can I expect the results of my Ultrasound?

The time that it takes your doctor to receive a written report on the test or procedure you have had will vary, depending on:

- the urgency with which the result is needed;
- the complexity of the examination;
- whether more information is needed from your doctor before the examination can be interpreted by the radiologist;
- whether you have had previous X-rays or other medical imaging that needs to be compared with this new test or procedure;
- how the report is conveyed to your doctor (in other words, email, fax or mail).

It is important that you discuss the results with the doctor who referred you, either in person or on the telephone, so that they can explain what the results mean for you.



## Ultrasound

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