



What is an Ultrasound?



Ultrasound is an imaging technique that uses high-frequency sound waves and a computer to see images of various organs, vessels and tissues within the body. Because it does not involve injecting substances or exposure to radiation, it is a safe, effective way to see the organs as they work and to assess blood flow.

In an ultrasound study, a probe (also called a transducer) both sends the sound waves and receives the echoing waves. When the probe is pressed against the skin, it directs small pulses of inaudible, high-frequency sound waves into the body. As the sound waves bounce off of internal organs, fluids and tissues, the sensitive microphone in the probe records tiny changes in the sound's pitch and direction. These signature waves are instantly measured and displayed by a computer, which in turn creates a real-time picture on the monitor. One or more frames of the moving pictures are typically captured as still images. Small loops of the moving "real time" images may also be saved.

The image is created based on the amplitude (loudness), frequency (pitch) and time it takes for the ultrasound signal to return from

the area being examined to the transducer, as well as the composition of body tissue through which and the type of body structure the sound travels through.

Doppler ultrasound, a special application of ultrasound, measures the direction and speed of blood cells as they move through vessels. The movement of blood cells causes a change in pitch of the reflected sound waves (called the Doppler Effect). A computer collects and processes the sounds and creates graphs or colour pictures that represent the flow of blood through the blood vessels.



Ultrasound is used to detect changes in appearance of organs, tissues, and vessels or detect abnormal masses, such as tumours. Parts of the body that can be examined using ultrasound include the breast, thyroid, abdomen, female pelvic area, prostate, scrotum, as well as arteries and veins. Medical conditions that can be detected with ultrasound include heart problems (e.g. clots, defects); abdominal problems in the kidney, pancreas, or spleen; and blood vessel problems (e.g., enlargement or narrowing of arteries). Ultrasound is also used to check

the health and well-being of an unborn baby, including the foetus size, growth rate, positioning, and breathing.

What does an Ultrasound scanner look like?

Ultrasound scanners consist of a console containing a computer and electronics, a video display screen and a probe that is used to do the scanning. The probe is a small hand-held device that resembles a microphone, attached to the scanner by a cord.

The ultrasound image is immediately visible on a video display screen that looks like a computer or television monitor.

IS Ultrasound SAFE?

There are no known risks to ultrasound. It uses sound waves only and no radiation.

How do I prepare for my scan?

To ensure the best quality images generated by the sound waves, certain preparation is required depending on the type of exam you are having.



Upper Abdominal Scan:

For a study of the upper abdomen (i.e. liver, gallbladder, spleen, pancreas) you are required to fast for at least 8 hours before the



exam. During that time, only drink clear, still water or black tea. Do not drink any dairy products (laban, yogurt, milk) or fizzy carbonated drinks.

Lower Abdominal / Pelvic Scan:

For a study of the lower abdomen (i.e. kidneys, ureters, bladder, prostate, renal) or pelvic area ((i.e. pelvis, reproductive or gynaecological system) you are required to drink 1 ½ litres of water one hour before the exam to fill your bladder. **It is essential that you have a full bladder during the scan.**

Full Abdominal (Upper and Lower) Scan:

For a study of the upper and lower abdomen you are required to fast as per the above instructions for the upper abdominal scan as well as fill your bladder as per the above instructions for the lower abdominal scan.



Obstetric (Pregnancy) Scan:

You will be required to drink approximately 6-8 glasses of water to fill your bladder. It is essential that you have a full bladder during the exam. **It is essential that you have a full bladder during the scan.**

It is very important to bring the request form from your Clinician as

well as all previous related imaging reports and images on CD or film with you on the day of your Ultrasound study for the Radiologist to review and compare for a comprehensive impression of your health.

How long will the scan take?

Ultrasound procedures typically take 15 to 20 minutes. More complicated scans may take up to 30 to 45 minutes, depending on the part of the body being scanned.

What can I expect during my scan?

The attending Sonographer or Radiologist will position you on the examination table in a comfortable position and will explain the procedure to you.

Next, warm gel will be applied to the surface of your skin. This gel acts as a conductor of sound and prevents air from getting between the skin and the probe. The Sonographer will move the probe over the area of interest to produce the images, which are viewed on a computer screen in real time by the Sonographer.



Although the Sonographer can see the images on the computer screen, she is not at liberty to discuss any of the results with you. However, the Sonographer will answer any other questions

that arise during the procedure. Ultrasound studies are painless and non-invasive. You may be asked to change positions during the exam. The gel will be wiped off your skin after the exam.

At Allied Medical Center, all Women's Ultrasound Imaging is performed by an experienced female clinical team.



What happens after my scan?

You may eat and drink as usual and return to your normal daily routine straightaway.

When will I get my results?

We strive to complete reports within 24-48 hours and a written report will be sent to your referring Clinician upon completion. You will be asked to wait a few minutes while we burn your images on a CD which will be given to you to take back to your Clinician at your follow-up appointment. Your Clinician will discuss the findings with you.

Any other questions?

If you have any other questions, worries or doubts do not hesitate to ask one of our staff.

We want you to feel as comfortable as possible.