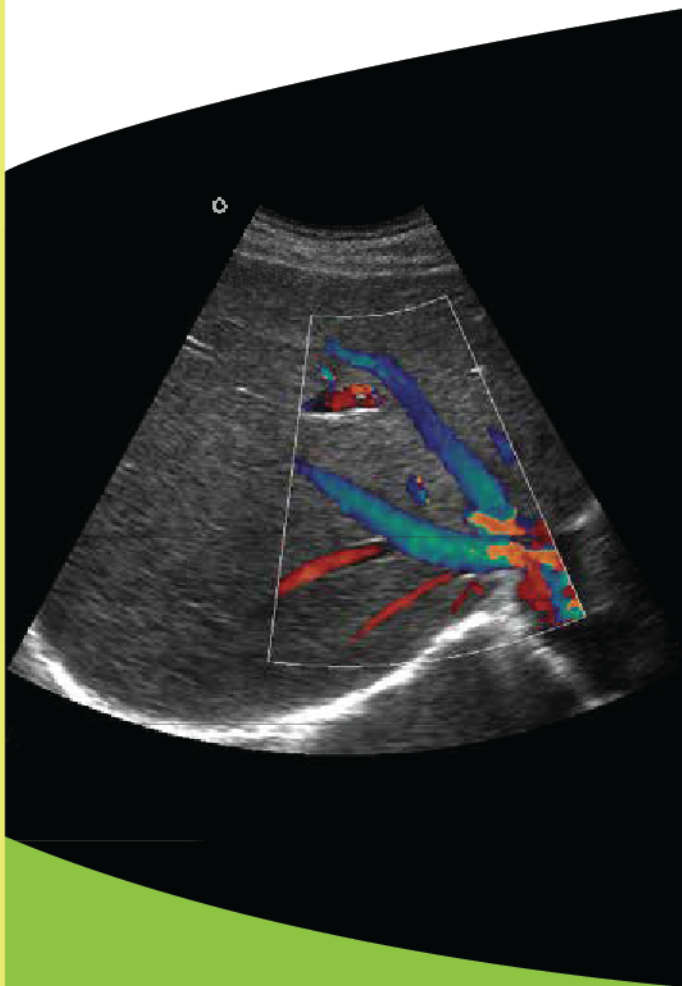


# Ultrasound



# What is Ultrasound?

Ultrasound (US) imaging, also called ultrasound scanning or sonography, is a method of “seeing” inside the human body through the use of high-frequency sound waves. The sound waves are recorded and displayed as a real-time visual image. No ionizing radiation is involved in ultrasound scanning.

In most ultrasound examinations, a transducer, a lightweight device which produces sound waves, is placed on the patient’s skin. There are also special transducers which can be put into the vagina or rectum to image these areas of the body.

## What are some common uses of Ultrasound scanning?

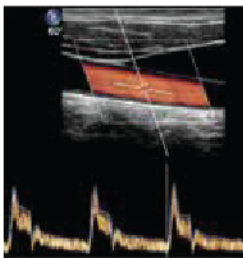
- Abdominal organs e.g, liver, gallbladder, spleen, pancreas, kidneys, bladder.
- Pelvic organs e.g., prostate, uterus and ovaries.
- During pregnancy to monitor the development of the embryo or fetus.
- Superficial organs e.g., breast, thyroid, joints (shoulder, ankle).
- Heart.
- Blood Flow. Doppler ultrasound is a special technique used to examine blood flow. Doppler images can help to see and evaluate blockages to blood flow, such as clots, and build-up of plaque inside the vessels.
- Biopsy. It can also be used to guide procedures such as needle biopsies, in which a needle is used to sample cells from an organ for laboratory testing.

## How should I prepare for the procedure?

- You should wear comfortable, loose-fitting clothing.
- For Gallbladder examination, a fasting period of 4-6 hours is required to visualize your gallbladder, otherwise no fasting is required.
- For pelvic ultrasound, you may be asked to drink up to six glasses of water prior to your exam and avoid urinating, so that your bladder is full when the scan begins.

## How is the procedure performed?

- You will lie on your back on an examination table.
- A clear gel is applied to your body in the area to be examined, to help the transducer make secure contact with the skin. The sound waves produced by the transducer cannot penetrate air, so the gel helps eliminate air pockets between the transducer and the skin. The gel is water soluble, safe and harmless and can be easily wiped off after the scan with a paper towel.
- The radiographer presses the transducer firmly against the skin and sweeps it back and forth to image the area of interest.
- Transvaginal and transrectal ultrasound involves the insertion of the transducer into the vagina and rectum respectively. A protective cover is placed over the transducer, lubricated with a small amount of gel and then inserted in the vagina or rectum. The images are obtained from different orientations to get the best views of the uterus and ovaries or the best view of the prostate gland.
- For pelvic ultrasound, it may be done transabdominal or transvaginal to see the uterus and ovaries. Similarly for prostate gland it may be done transabdominal or transrectal.
- When the examination is complete, the gel can be easily cleaned with the use of tissue and you may be asked to dress and wait while the ultrasound images are reviewed.



## What will I experience during the procedure?

- Ultrasound imaging is painless, fast, and easy. The radiographer will spread some gel on your skin and then press the transducer firmly against your body, moving it until the desired images are captured. There may be varying degrees of discomfort from pressure as the radiographer guides the transducer over your abdomen, especially if you are required to have a full bladder.
- There is no pain.
- The examination usually takes about 30 minutes. If blood flow visualization is required, this may take up to 60 minutes.

## When can I expect results?

The radiologist will review the images and the report will be sent to your doctor who will then discuss the scan results with you.

## What are the benefits versus risks?

### BENEFITS

- Ultrasound scanning is non-invasive (no needles or injections in most cases) and is usually painless.
- Ultrasound is widely available and easy to use.
- Ultrasound imaging uses no ionizing radiation and is the preferred image modality for diagnosis and monitoring of pregnant women and their unborn infants.
- Ultrasound provides real-time imaging, making it a good tool for guiding minimally invasive procedures such as needle biopsies.
- Ultrasound images can visualize structure, movement and live function in the body's organs and blood vessels.

### RISKS

- For standard diagnostic ultrasound there are no known harmful effects on humans.



## SERVICE IS AVAILABLE AT:

### **Radiology Department, Gleneagles Hospital**

6A Napier Road Singapore 258500

Tel: (65) 6388 4333 Fax: (65) 6470 5749

### **Radiology Department, Mount Elizabeth Hospital**

3 Mount Elizabeth, Level 2 Radiology Department  
Singapore 228510

Tel: (65) 6388 4333 Fax: (65) 6732 3368

### **Department of Radiology & Nuclear Medicine**

#### **Mount Elizabeth Novena Hospital**

38 Irrawaddy Road, Level 2, Singapore 329563

Tel: (65) 6388 4333 Fax: (65) 6933 0526

### **Radiology Department, Parkway East Hospital**

321 Joo Chiat Place Singapore 427990

Tel: (65) 6388 4333 Fax: (65) 6340 8670

### **Radiologic Clinic, Breast Imaging Centre**

290 Orchard Road #07-04/05/06 Paragon Singapore 238859

Tel: (65) 6732 1166 Fax: (65) 6732 5933

### **Radiologic Clinic, The Arcade**

11 Collyer Quay #18-02 The Arcade Singapore 049317

Tel: (65) 6507 9750 Fax: (65) 6224 0861

### **Radiologic Clinic, Gleneagles Hospital**

6A Napier Road #02-25/26

Singapore 258500

Tel: (65) 6388 4333 Fax: (65) 6471 1151

### **Radiologic Clinic, Jurong Gateway**

130 Jurong Gateway Road, #01-219 Singapore 600130

Tel: (65) 6569 0300 Fax: (65) 6569 7593

### **Radiologic Clinic, Mount Elizabeth Medical Centre**

3 Mount Elizabeth, #01-01

Singapore 228510

Tel: (65) 6388 4333 Fax: (65) 6235 5279

### **Radiologic Clinic, Mount Elizabeth Novena Hospital**

38 Irrawaddy Road

#01-03/04

Singapore 329563

Tel: (65) 6388 4333 Fax: (65) 6266 3085

[www.parkwayhealthradiology.com.sg](http://www.parkwayhealthradiology.com.sg)

BUSINESS REG NO. 32871800M