



# BASIC IN ULTRASOUND



# WHAT IS ULTRASOUND ?

- Ultrasound is a diagnostic medical tool that makes use of high frequency sound waves.
- Real time images of various tissues and organs produced without the use of radiation.
- Shows the structure and movement of internal organs, as well as blood flow.





# EQUIPMENT & ACCESSORIES

Transmitter



Tranducer



Receiver/Processor



ULTRASOUND  
ROOM



ULTRASOUND  
GEL



TRANSDUCER /  
PROBE



ULTRASOUND  
MACHINE

# US PATIENT PREPARATIONS

- No preparation is required for most US examination
- However, simple preparation is required for examinations as below :

## ULTRASOUND OF ABDOMEN

- ☐ For optimal examination of the gallbladder, 6-8 hours of fasting is required before screening.



- **ULTRASOUND OF PELVIS**

The patient required to drink 1-2 pints of water and should not empty their bladder prior to scanning.

- **ULTRASOUND OF CHILDREN**

Parents are advised to help calm their children if necessary.

Sedation may be needed if child is uncooperative (rarely in practice).



# TYPE OF ULTRASOUND EXAMINATIONS

## 1. Ultrasound of cranium (routinely applicable on babies)

### **indications :**

- cerebral atrophy
- intracranial bleed / intraparenchymal bleed /
- intraventricular hemorrhage.
- Hydrocephalus
- Any abnormalities / infection within the brain.
- Evaluate an enlarging head.

## 2. Ultrasound of neck / thyroid

### **indications :**

- measuring the size of thyroid gland
- thyroid cyst/ lesion /nodules
- any abnormalities / growth within the neck

### 3. Ultrasound of breast

#### **indications :**

- breast cancer
- annual checking the breasts (to detect any of abnormal growth within breast tissues)
- breast lesion.

### 4. Ultrasound of lower limb / upper limb (vessels)

#### **indications :**

- varicose vein
- vein thrombosis
- measuring the velocity of the blood flow
- calcified plaque

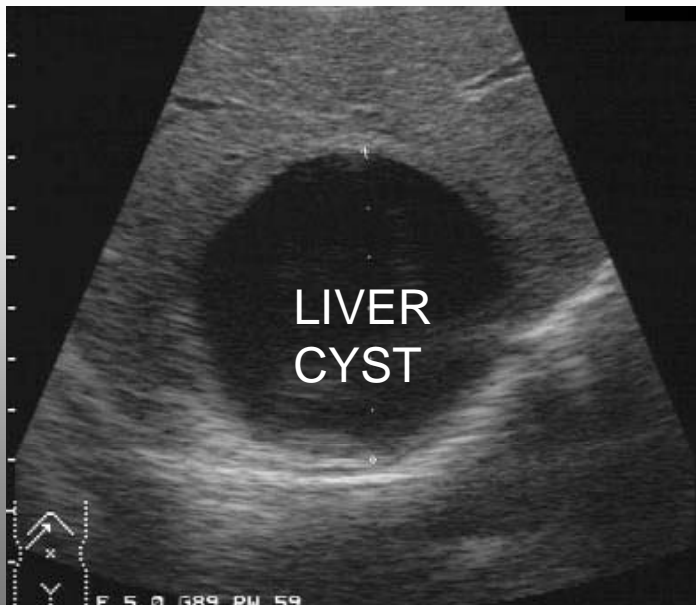
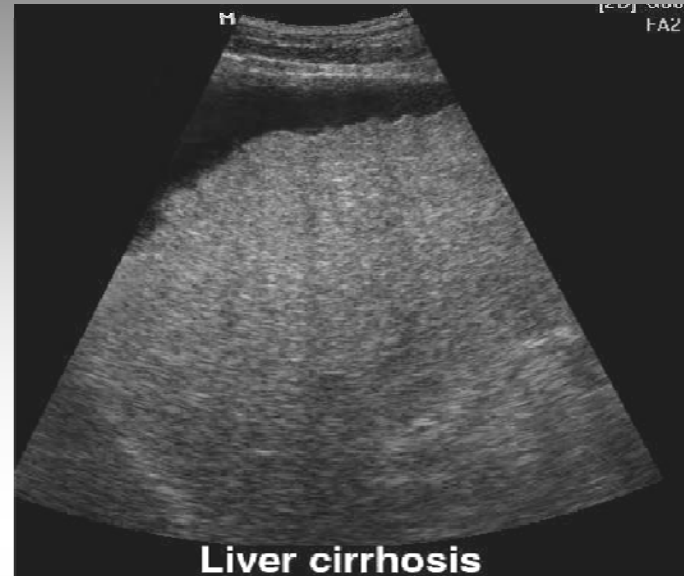
## 5. Ultrasound of Abdomen and Pelvis

### **indications :**

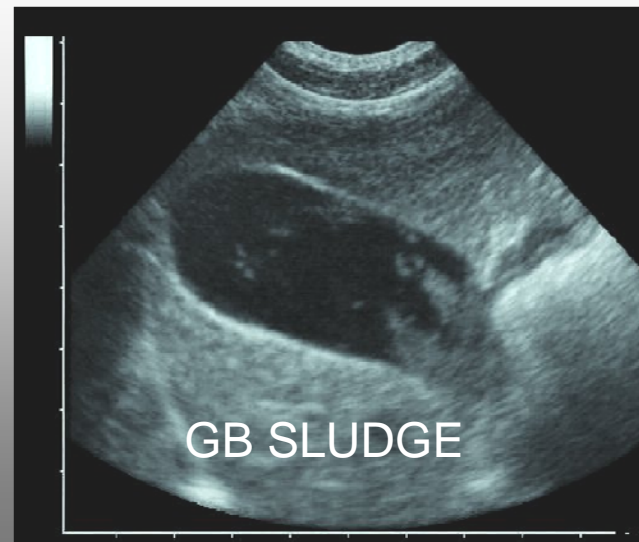
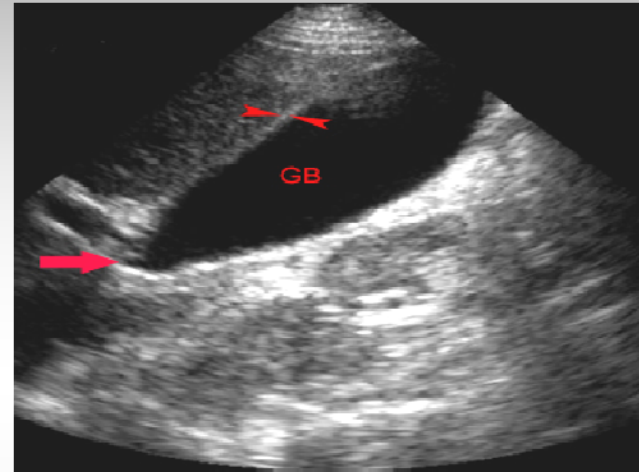
- liver lesion / cyst / liver cirrhosis
- hepatomegaly
- renal parenchymal disease
- renal stones / cyst
- splenomegaly
- cholelithiasis
- ovarian cyst
- uterine fibroid / endometrial polyps
- pelvic abscess
- measuring the size of prostate
- any abnormalities within the abdomen and pelvic area.



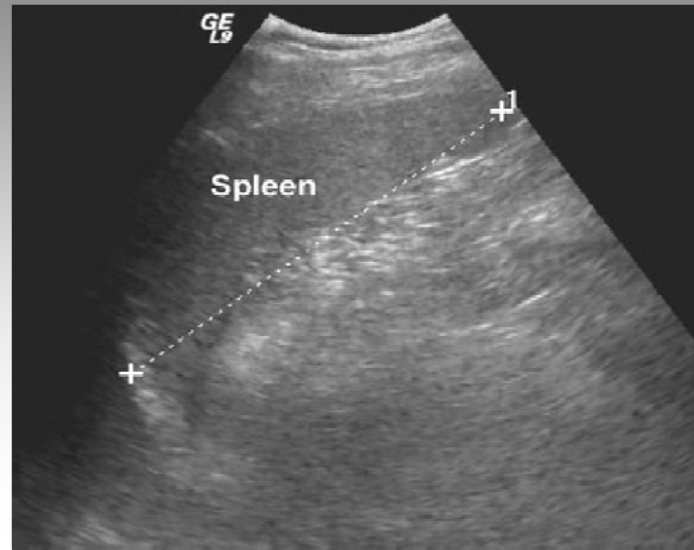
# ULTRASOUND OF THE LIVER



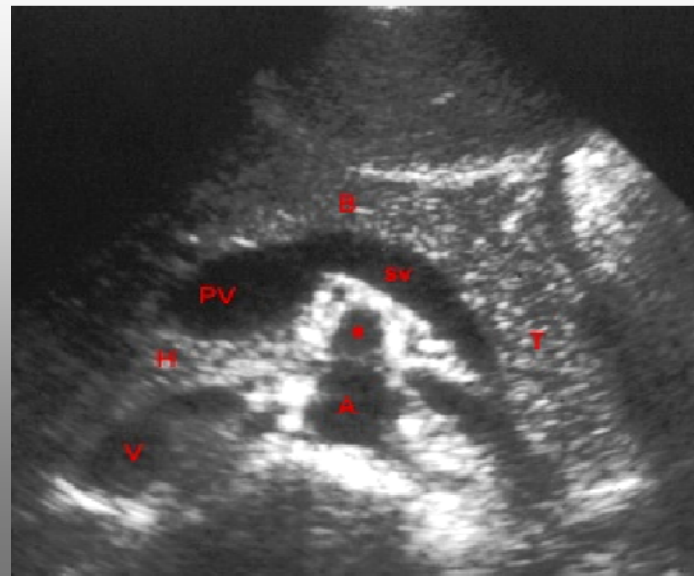
# ULTRASOUND OF THE GALLBLADDER



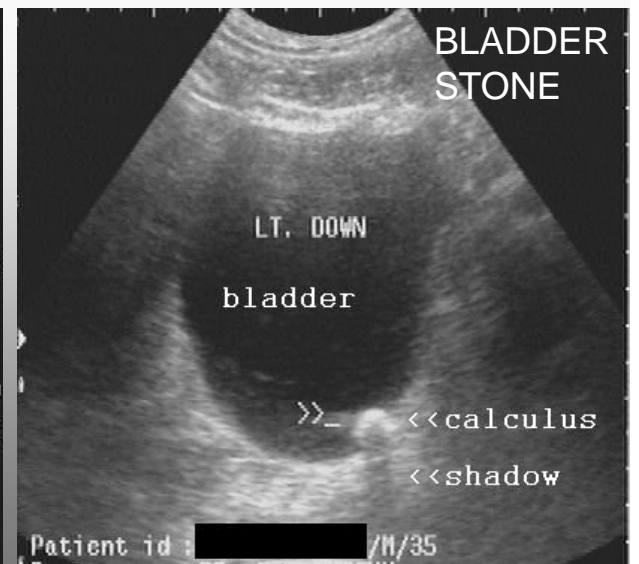
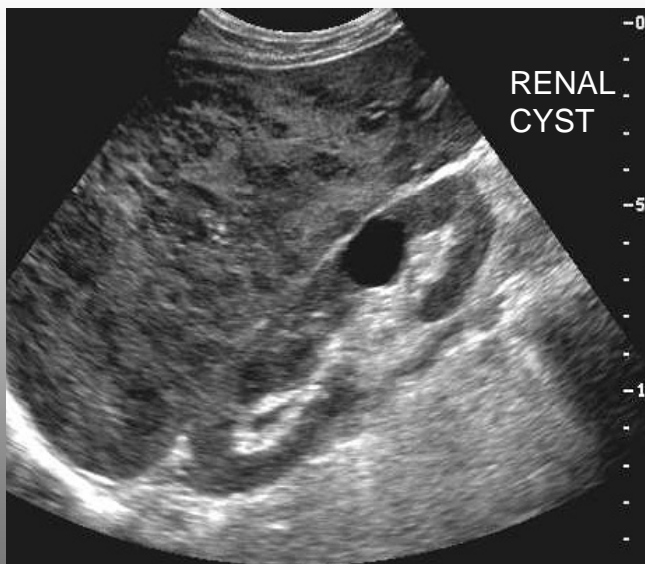
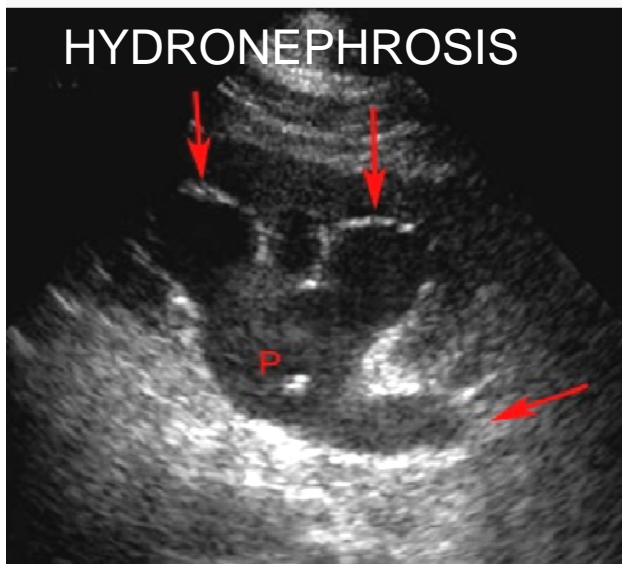
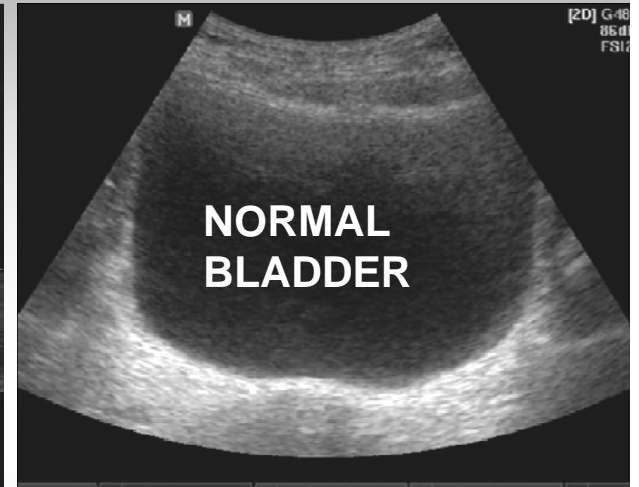
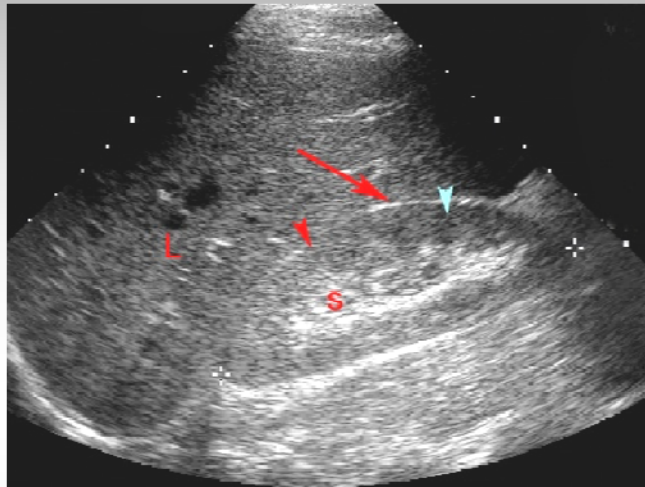
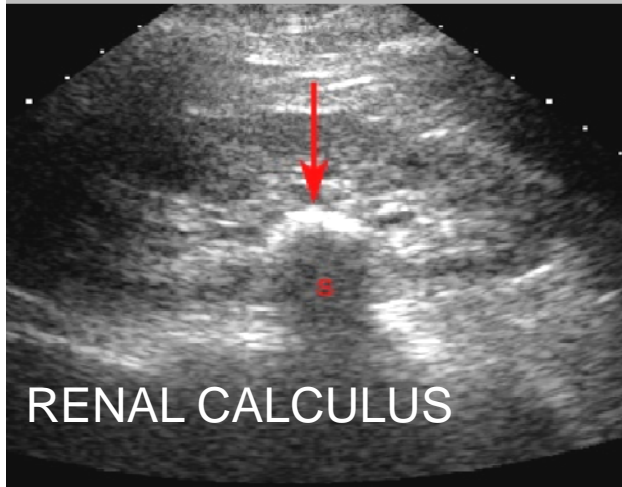
# ULTRASOUND OF THE SPLEEN



# ULTRASOUND OF THE PANCREAS

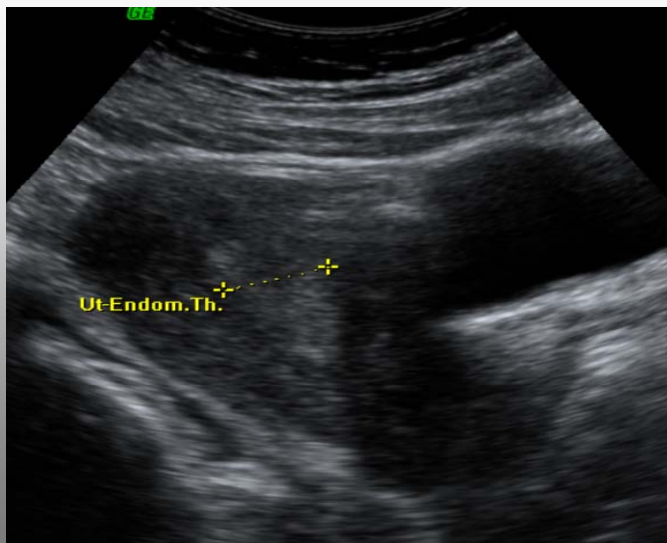
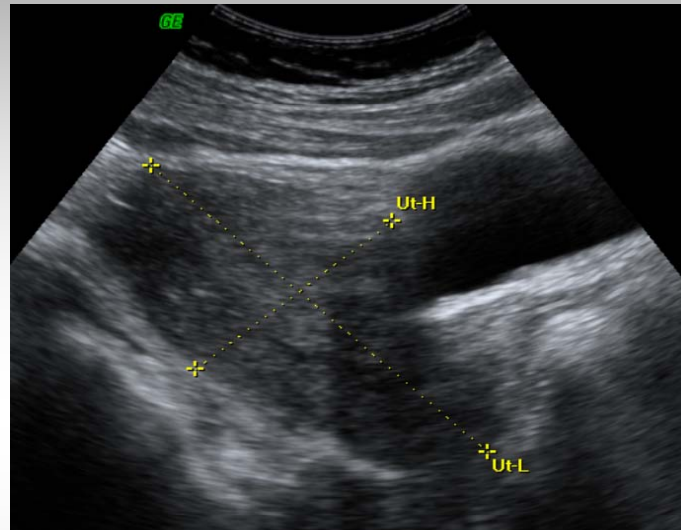
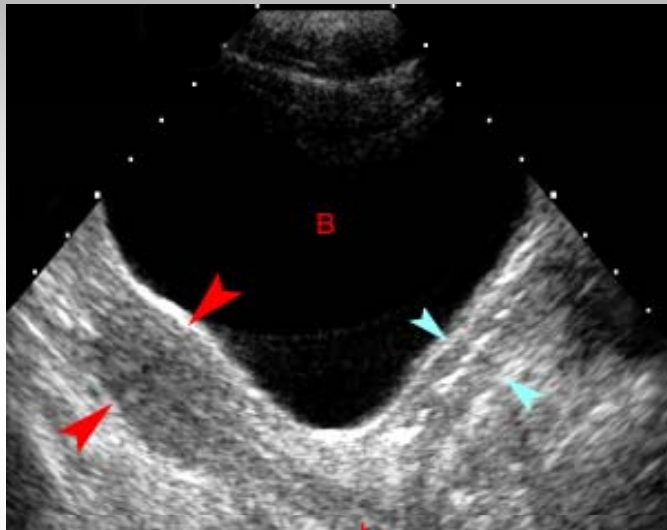


# ULTRASOUND OF THE KIDNEYS / BLADDER





# ULTRASOUND OF THE UTERUS / OVARIES





# Ultrasound of the Prostate / Testis

