Ultrasound

Diagnostic Ultrasound
- High frequency sound waves emitted from sound source (transducer)
- Transducer placed on patient’s body
- Sound waves echo off interfaces of internal structures and return to transducer
- Information is processed and displayed on a monitor based on time and intensity of returning echo
- Special terms used on ultrasound reports
  - Echogenic, Hyperechoic, Hypoechoic, Anechoic

Ultrasound Principles

Ultrasound Abdomen
Diagnostic Ultrasound

- Interfaces are the signal source
- Major applications:
  - Gall bladder evaluation
  - Fluid collections
  - Differentiation of cysts from solid
  - Fetal evaluation
  - Solid organ evaluation, heart, liver, pancreas, kidney
- Doppler ultrasound particularly useful for vascular flow

Ultrasound Machine

Ultrasound Machine in use

US 1st Trimester Fetus

Cystic Hygroma

Brain Parenchymal Hemorrhage
Normal Liver US

Normal Liver – Common Duct

Normal Gallbladder Ultrasound

Gall Bladder US

Gallstones

- Ultrasound upper abdomen
- Longitudinal scan
- Round echogenic structures in gallbladder = stones
- Acoustic shadowing
- Bile is dark (anechoic)

Normal Renal US
Normal Renal US

Renal Cyst

Endovaginal Imaging

Pelvic Ultrasound IUD

Pelvic Ultrasound

The Older Patient
Appendicitis

Mucoceole Appendix

Testicular Torsion/ Infarction