Applications of Diagnostic Imaging
Ultrasound

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Ultrasound

- No ionizing radiation
- Principles of fairly uniform speed of sound transmission in human tissues
- Ability to differentiate fairly subtle tissue differences based on echo reflection and interactions
- Application of Doppler principles for fluid motion
Ultrasound

- Primary applications:
  - First line evaluation of pregnancy and developing fetus
  - First line evaluation for differentiation of cystic from solid masses/structures
  - First line evaluation of liver and biliary tree
  - First line evaluation of kidneys and bladder
  - First line evaluation of thyroid gland
Ultrasound

- Primary applications:
  - Head & Neck
    - Thyroid
    - Adenopathy
    - Orbits & globe
    - Salivary glands
    - Fetal brain
    - Soft tissue masses
  - Thorax
    - Cardiac
    - Pleural effusions
    - Breast lesions
    - Soft tissue masses
Ultrasound

- Primary applications:
  - Pelvis
    - Pregnant uterus and fetus
    - Uterus
    - Fallopian tubes
    - Ovaries
    - Bladder
    - Prostate
    - Testes and scrotum
Ultrasound

- **Primary applications:**
  - Soft tissues, bones & joints
    - Tendons, Ligaments and supporting structures
    - Fluid collections and masses
    - Vascular malformations
    - Artery and vein evaluation
    - Foreign bodies