Special Examinations

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Objectives

- Describe the use of ultrasonography to evaluate conditions and functions of soft tissue
- Describe the use of thermography to evaluate temperature of soft tissues
- Describe the use of endoscopy to evaluate conditions and functions of hollow organs, tissues, and joints
Diagnostic Imaging

- Ultrasonography (Ultrasound)
  - Utilizes sound waves
  - Produces images (sonograms) of soft tissues
    - Motion images
    - Still images
  - Examination of heart, bladder, uterus, and tendons
  - Detection of tissue damage, cysts, abscesses, tumors, calculi, and pregnancy
Computerized Axial Tomography (CAT) Scan
- Utilizes X-rays
- Produces cross-sectional images of soft tissue and bone

Magnetic Resonance Imaging (MRI) Scan
- Utilizes radio waves
- Produces images in any plane of body

Thermography
- Utilizes heat sensitive scanner
- Produces shades of red images of soft tissue
- Detection of increased tissue temperature due to inflammation
Diagnostic Endoscopy

- Utilizes camera scope
- Internal, visual examination
  - Hollow organs
    - Lungs
    - Stomach
    - Large intestine
    - Bladder
    - Uterus
  - Bone joint cavities
Diagnostic Cardiogram

- Utilizes electrocardiac machine
- Produces electrocardiogram (ECG, EKG) of heart
- Detection of heart rate and rhythm
Clinical Chemistry

- Utilizes blood-chemical tests
- Detection of elevated or lowered chemicals in blood
  - BUN and creatinine – kidney
  - SGPT and SAP – liver
  - SGOT – muscle
  - Lipase and amylase – pancreas
  - Vitamins, minerals, glucose, protein, cholesterol, triglycerides
Cytology

- Biopsy of tissue
  - Utilizes histopath tissue stained slide and stained slide smear
  - Detection of abnormal tissue cells and pathogen cells

- Body fluid aspirate
  - Utilizes centrifuge and stained slide smear of sediment
  - Detection of abnormal fluid, tissue cells, and pathogen cells
Questions?