

When reviewing for our first test please make sure you cover the following topics:

#### Computers:

1. Binary System
2. Word vs. Byte
3. 2 to the power of n -1 formula
4. Hardware: input/output devices, storage, memory, CPU
5. x,y,z signals
6. matrix size vs pixel size vs count rate
7. image acquisition modes
8. networking

#### Nuclear Angiography:

1. Circulatory pathways
2. Arteries vs. Veins
3. Circulation through the heart
4. Properties of Tc99m MAA
5. Properties of Tc99m RBC (methods of tagging and efficiencies)
6. Dorsal Vein Technique
7. Tc99m RBC Venography
8. Shunt Imaging
9. First Pass

#### Musculoskeletal Imaging:

1. Function of bones
2. Composition of bones
3. Bone types
4. Bone metabolism
5. Types of skeleton classification
6. Types of joints
7. Indications for bone imaging
8. Properties of current radiopharmaceuticals
9. Whole body imaging vs. Three (four) phase imaging
10. Patient prep
11. Whole body imaging procedure and special views
12. Three phase bone imaging procedure and special views
13. Interpretation of results

### Respiratory System Review:

1. Complete overview of respiratory anatomy and physiology.
2. Complete review of respiratory system blood flow.
3. Mechanism and properties of lung perfusion imaging.
  - a. Pulmonary blood pressure.
  - b. MAA properties.
4. All techniques of ventilation studies.
  - a. DTPA
  - b. Xenon
  - c. Krypton
5. Be able to identify all views on a lung scan.
6. Understand Mismatching and Matching defects.
7. Lung scans for PE vs. lung scans for Quantification.

### Infection and Oncology:

1. Pathogenesis of cancer.
2. Pathogenesis of abscess.
3. Method of localization of Gallium Citrate.
4. All properties (decay, energy, instrumentation, etc) of Gallium.
5. Indications and imaging parameters of Gallium imaging.
6. Method of localization of In111-wbc
7. Method of In111wbc tagging.
8. Indications and imaging parameters of In-111 wbc imaging.
9. Tc99m Ceretec WBC imaging.
10. Usefulness and importance of Bone Marrow imaging with Sulfur Colloid.
11. Octreotide imaging.
12. Lymphoscintigraphy imaging (all three)
13. Breast imaging with Miraluma (aka sestamibi)

### Genitourinary System:

1. Functional Renal Imaging
  1. Indications, Isotopes, Techniques, Interpretation
    1. Plain Renal scan
    2. Lasix Renal scan
    3. Captopril Renal scan
2. Morphological Renal Imaging

1. Indications, Procedure, Interpretation
3. Direct Method Cystography