

# **Introduction to Radiologic and Imaging Sciences and Patient Care 7th Edition Adler Test Bank**

## **Chapter 01: Introduction to Imaging and Radiologic Sciences**

### **Adler: Introduction to Radiologic and Imaging Sciences and Patient Care, 7th Edition**

#### **MULTIPLE CHOICE**

1. The use of X-rays to create a medical image on patients is referred to as
  - a. electrocardiography.
  - b. radiography.
  - c. sonography.
  - d. magnetic resonance imaging.

ANS: B

Radiography is the making of records, known as radiographs, of internal structures of the body by passage of X-rays or gamma rays through the body to act on, historically, specially sensitized film or, most commonly, on a digital imaging plate or detector. In the diagnostic radiography department, images are created using X-rays that pass through the body.

REF: p. 3

2. Particular care must be taken when using radiation for medical imaging. This is the result of radiation's ability to create \_\_\_\_\_ in human tissue and possible biochemical changes.
  - a. ionizations
  - b. radio waves
  - c. sound waves
  - d. thermal changes

ANS: A

Some forms of electromagnetic energy, including X-rays, have the ability to ionize atoms in matter. These ionizations have the ability to disrupt the composition of matter and are capable of disrupting life processes. Special protection should be provided to prevent excessive exposure to ionizing radiation.

REF: p. 3

3. In the diagnosis of patient disease states, physicians can select from an array of medical diagnostic modalities. Some of these involve the use of ionizing energy to create a medical image. If a physician is concerned about the use of ionizing radiation, he or she may choose to order any of the following diagnostic modalities *except*
  - a. thermograms.
  - b. medical sonography.
  - c. radiography.
  - d. magnetic resonance imaging.

ANS: C

Radiography is the making of records, known as radiographs, of internal structures of the body by passage of X-rays or gamma rays through the body to act on, historically, specially sensitized film or, most commonly, on a digital imaging plate or detector. In the diagnostic radiography department, images are created using X-rays that pass through the body (Fig. 1.2). Proper radiation protection is essential.

REF: p. 3

4. The Greek physician Hippocrates is regarded as the father of Western medicine. All of the following choices represent his medical beliefs *except* the
  - a. use of high ethical standards of conduct.
  - b. important medical value of sorcery and witchcraft.
  - c. importance of closely monitoring a patient's condition and recovery.
  - d. value of diet and exercise and allowing nature to take its course in recovery.

ANS: B

The Hippocratic Corpus is writings that they emphasize rational and natural explanations for the treatment of disease and reject sorcery and magic. The Hippocratic Oath still governs the ethical conduct of physicians today.

REF: p. 5

5. Throughout the history of medicine, remarkable achievements have been recorded. These events have led to our current understanding of the human organism and disease. As this research continues, much of it will most likely focus on
  - a. proper sanitation and public health.
  - b. immunology and the development of vaccines.
  - c. germ theory and infection.
  - d. human genes and genetic engineering.

ANS: D

Although the Human Genome Project is finished, analyses of the data will continue for many years. The replacement of faulty genes through gene therapy offers promises of cures for a variety of hereditary diseases, and through genetic engineering, important pharmaceuticals continue to be developed. Medical research will continue to focus on the genetic code in all cells.

REF: p. 5 | p. 6

6. Wilhelm C. Roentgen's discovery of the X-ray is regarded as one of medicine's most