CERTSWARRIOR

Medical Technology

ARRT-Radiography
Radiography Exam

Questions & Answers PDF

For More Information:

https://www.certswarrior.com/

Features:

- 90 Days Free Updates
- 30 Days Money Back Guarantee
- Instant Download Once Purchased
- 24/7 Online Chat Support
- Its Latest Version

Latest Version: 6.0

Question: 1

As part of the routine evaluation of automatic film processing equipment, how often should pH values be tested in developer tanks, fixer tanks, and replenishers?

A. Once per hour
B. Twice per day
C. Once per day
D. Once per week

Answer: C

Explanation:
Whether a radiography facility uses manual or automated processing of films, chemical checks of processing solutions are vital to ensure that images will be of high quality. In the case of automatic processors, testing the pH of developing and fixing solutions and replenishers should be performed daily. Other chemical tests of the solutions should include silver levels and specific gravity. The optimal values for all of these properties vary, depending on the type of developer and fixer used, and should be maintained according to the recommendations supplied by the manufacturer.

Question: 2

How often must projection x-ray equipment be calibrated?

A. Every day
B. Once per week
C. Once per month
D. Once per year

Answer: D

Explanation:
If a projection x-ray machine is being used constantly and producing images of consistent quality, its parts, such as the x-ray tube, must be inspected often. Since the interior glass becomes coated with tungsten, which can lead to instable function, the tube needs to be checked often because it may need to be replaced. If such checking is performed, and if regular radiation checks are taken for the room and of workers, the machine is taken to be working well. Thus, the Department of Health requires calibrations every 2 years, although annual calibration of equipment is prudent.

Question: 3

Sensitometric checks to evaluate the quality of film processing in automatic processors require measurements of temperature, average gradient, and speed. Which of these four properties must be plotted against the other three to create three sets of graphs that can be compared with figures supplied by the manufacturer?

A. Temperature
B. Fogging
C. Average gradient
D. Speed

Answer: A

Explanation:
Development fog, also called "true fog," results from events in the development room or in automatic processing equipment, such as chemical contamination, high temperature of developing fluid, or too much time in the developing fluid. The average film density is related to how the film density changes as the amount of exposure changes. Specifically, it is the average slope between two chosen optical density values. For medical radiography, it ranges from 0.25 and 2. Film speed is an expression of how quickly a film develops. Since all three values vary based on the temperature of processing solutions, each is plotted against temperature in intervals of I°C.

Question: 4

Standard, flat film radiography is performed commonly in the workup for all of the following conditions EXCEPT?

A. A fracture of the triquetrum bone of the wrist
B. Pneumonia
C. A torn anterior cruciate ligament (ACL) in the knee
D. Osteosarcoma in a long bone of an extremity

Answer: C

Explanation:
Radiography utilizing x-rays is extremely useful in the visualization of dense tissue, particularly bone. For this reason, simple, flat radiographs are used in the diagnosis of bone fractures, in which case the fracture appears as an area less radiodense than the rest of the bone. Since osteosarcoma tends to develop in long bones, simple, flat radiography often is all that is needed to identify it, prior to surgical biopsy (which allows for histopathologic characterization, which influences the treatment plan). Pneumonia is easily identified with simply, flat film radiography because the inflammatory effect in lung tissue increases the radiodensity. However, x-rays are not very effective in the imaging of soft tissue pathology, such a tear in the anterior cruciate ligament (ACL) of a knee.

Question: 5

The quality of an x-ray image that a radiographer can obtain can be compromised easily by which of the following conditions?

A. Obesity
B. Diabetes mellitus
C. Atherosclerosis
D. All of the above

Answer: A

Explanation:
With an estimated incidence of 5 percent of the United States population, obesity is a major problem, both from the perspective of public health and for clinical practice. In the case of radiology and radiography, a high amount of body fat adds technical complications to routine imaging. While most health care practitioners are well aware of the difficulty that obesity brings to imaging with ultrasonography, imaging modalities that use radiation are similarly compromised. This includes nuclear imaging, computed tomography, plain film radiography, and fluoroscopy. Magnetic resonance imaging is least affected by obesity, though it is subject to increased noise. While diabetes mellitus and atherosclerosis both are common, major health problems, each presents no particular issue with respect to the acquisition of radiographic images.

Question: 6

Media made from radio-opaque material are used frequently with x-rays in the acquisition of images for the purpose of:

A. Protecting the patient against biological effects of radiation
B. Providing positive contrast for the imaging of structures or fluids that normally are not imaged easily
C. Providing negative contrast to enable the imaging of dense structures that may be hidden
D. Making certain anatomic structures temporarily radioactive to enhance their visualization

Answer: B

Explanation:
Contrast media, also called contrast agents, are helpful in the imaging of various anatomic structures and body fluids. There are two types of contrast media. Positive contrast media are radio-opaque, and increase the visibility of whatever they touch, or within whatever fluid they flow (blood, for instance). Negative contrast agents are less radio-opaque than the tissue that the touch, or through which they flow, and are dark on films. Contrast media do not protect patients against radiation, but often reduce the amount of radiation that is necessary to project in order to produce an image. Unlike radiotracers, which are used in nuclear imaging. contrast media are not radioactive.

Question: 7

X and gamma radiation differ in that:

A. X-rays are part of the electromagnetic spectrum, whereas gamma radiation consists of particles known as gamma particles
B. X-rays are of lower energy and thus of shorter wavelength as compared with gamma rays
C. Gamma rays are of higher energy and thus of higher frequency as compared with x-rays
D. X-rays are generated from electrons external to atomic nuclei, whereas gamma rays come from atomic nuclei, or from the annihilation of opposite subatomic particles

Answer: D

Explanation:
When they were first discovered, and for many years after, x radiation and gamma radiation were distinguished in terms of their relative energy, with x being of longer wavelength, and thus lower frequency and energy, compared with gamma rays. The electromagnetic spectrum ran from x-rays into gamma rays, with the division defined at a certain point. In subsequent years, however, it was discovered that x-rays of very short wavelength could be produced, while gamma rays with wavelength longer than what normally were thought of as x-rays were found to be emitted by certain radioactive nuclei. Today, the distinction between these two forms of electromagnetic radiation is based on how each is produced, x-rays from electrons and gamma rays from atomic nuclei. Gamma rays also are produced in the process of annihilation, wherein W.ro opposite particles, such as an electron and a positron, meet up, resulting in the annihilation of both and their mass converted to energy in the form of gamma radiation.

CERTSWARRIOR

FULL PRODUCT INCLUDES:

Money Back Guarantee

Instant Download after Purchase

90 Days Free Updates

PDF Format Digital Download

24/7 Live Chat Support

Latest Syllabus Updates

For More Information – Visit link below:

https://www.certswarrior.com

16 USD Discount Coupon Code: U89DY2AQ