Editorial

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Radiologic technology

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Radiologic technology could also be a general term applied to the allied profession that encompasses the use of radiation (x-ray), sound or radio waves, radioactive substances to provide an image , and magnetic imaging. These resultant images are employed by the radiologist to help in making a diagnosis.

Radiologic technology may be a broad-based category that has general x-ray, ultrasound, mammography , medicine , computerized axial tomography (CAT scan), radiotherapy , and resonance imaging (MRI). General x-ray technology may be a primary link between the physician and therefore the diagnosis. X rays are often required in order that the physician can diagnose and treat the patient supported the patients' complaints or conditions.

The x-ray image is formed by the controlled and careful use of radiation through the part being examined. The image is captured on a movie , which is placed under the patient. The x-ray beam passes through the part being examined, and creates a latent image on the film. The latent image is processed, then is evaluated by the radiologist, with the written and/or verbal report given to the referring physician. Some samples of subspecialties of medical radiography are contrast studies, pediatrics, trauma, surgery, and special procedures (e.g., angiography or other interventional procedures).

Ultrasonography is that the imaging of anatomy using high-frequency sound waves. The sonographer obtains diagnostic images or patterns that the physician evaluates within the diagnosis of disease. A scan is made by using gel and a transducer, or probe, moving it over the surface of the relevant anatomy. The transducer bounces sound into and back from the anatomic area, and an image is then created on the monitor attached to the machine. This specialty has several distinct areas: abdominal ultrasound , adult and pediatric echocardiography , obstetrical-gynecological ultrasound, and vascular ultrasound.

Nuclear medicine is extremely different from medical radiography, because in radiography the x-ray beam from the machine is that the source of radiation. it's instantaneous, and is controlled by the technical factors selected by the radiographer. In medicine , the patient becomes the source of radiation, and thus the radiation itself is consistently emitted. The patient orally ingests or is intravenously injected with a radioactive substance, or radioisotope. the pictures are 'collected' via the drugs camera sorting radioactive signals from the patient. The radioactivity levels are different for the part or organs being imaged. the drugs technologist has protocols that are followed for selecting the type of radioisotope to inject, supported the exams ordered.

Mammography is another name for breast imaging and evaluation of breast disease. Mammographers are radiographers who are proficient in screening and diagnostic imaging, also intrinsically interventional procedures as needle localizations (pre-biopsy), core biopsies, and breast ultrasound.

Computerized axial tomography, or CAT scans, are studies that image the body using multiple projections of the x-ray beam to created sectional images of an organ or anatomic region. These axial sections are selected and manipulated by the technologist, using computer programs that direct the protocols for these exams.

The radiotherapy technologist applies therapeutic radiation doses in strictly controlled circumstances to cure

or arrest disease.

In daily or weekly contact with the cancer patient, and dealing directly with the physician, the technologist assists within the calculation of radiation dosage, and operates a spread of sophisticated radiation treatment equipment and instruments, including computers.

The Radiation Sciences Radiologic Technology (RT) degree tracks consists of two professional programs; RT and either Breast Imaging (BI), Cardiovascular Interventional (CVI), computerized tomography (CT), or resonance Imaging (MRI).

The scientist could even be knowledgeable , qualified by education and clinical experience to supply radiological services employing a sort of radiological procedures. The technologist operates and adjusts radiological equipment and determines proper exposure factors so as that optimum radiographic quality is achieved with a minimum of radiation exposure to the patient. Radiographers are employed primarily in hospitals, clinics, and doctors' offices, where they work closely with the opposite members of the health care team to assist diagnose and treat patients.

Each of the radiation sciences radiologic technology (RT) degree tracks contains three professional programs—RT and computerized tomography (CT), RT and resonance imaging (MRI), RT and cardiovascular interventional (CVI), or RT and breast imaging (BI). Each of those three-year programs is selective and competitive; acceptance isn't guaranteed.

Radiologic Technology and computed tomography

The radiologic technology component education in pathology, radiation biology, radiation protection, patient care, and ethics, radiographic procedures, imaging, and evaluation. The computerized tomography component concentrates on sectional anatomy, single and multislice CT, beam CT, physiologic and 3-D imaging, CT simulation, physics and imaging, and procedures and pathology.