

Nuclear medicine tech



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Running head: Nuclear Medicine Technologist Nuclear Medicine Technologist

Sharda` Short Columbus State University Abstract In this paper I will explain and describe how nuclear medicine uniquely provides information about both the structure and function of virtually every major organ system within the body. It is this ability to characterize and quantify physiologic function which separates nuclear medicine from other imaging modalities, such as x-ray.

Nuclear medicine procedures are safe; they involve little or no patient discomfort and do not require the use of anesthesia.

The Nuclear Medicine Technologist is a highly specialized healthcare professional who works closely with the nuclear medicine physician. The Nuclear Medicine Technologist Nuclear medicine technology involves the use of radioactive materials, called radiopharmaceuticals, to create images of organs, study body functions, analyze biological specimens and treat disease. Nuclear medicine technologists (NMTs) apply the art and skill of diagnostic imaging and therapeutics through the safe and effective use of radionuclides.

For organ-imaging procedures, radiopharmaceuticals are administered to patients intravenously, orally or by inhalation. The radioactive material concentrates in a specific organ or organ system. Instruments called scintillation cameras can detect the radiation emitted by the radiopharmaceutical concentrated in the organ. The camera produces a computer image of the organ. The images allow medical professionals to study the structure and measure the function of the organ, and to identify tumors, areas of infection or other disorders. The radiation dose is small, and the patient experiences little or no discomfort during the procedure. Field

Description Nuclear Medicine technologists are searching for blockages or damaged areas of the body and many organs and systems. They use many radioactive tracer drugs which are extremely helpful. This program travels to the technologist to find out how technicians use radiopharmaceuticals to conduct examinations. A thallium study is performed to highlight some of the proficiencies necessary for a career in this field. Avenues for career growth that are open to nuclear medicine technologists are also considered.

A nuclear medicine technician is trained to help diagnose health issues by using medical imaging technology coupled with radioactive materials (Hines, 1994). Radiopharmaceuticals are administered to patients, and the technician then captures images of how it disperses throughout the body, (Smith 2001). These professionals are highly trained in safety procedures to ensure minimal exposure and proper handling of radiopharmaceuticals.

Nuclear medicine technicians work closely with physicians and are required to document all procedures on patient medical records. Education

Nuclear medicine technicians are trained to use radiopharmaceuticals and medical imaging to help detect health issues. The field of nuclear medicine technology requires specialized training from an associate's or bachelor's degree program. Graduates must then gain certification before they can pursue a career as a nuclear medicine technician, (Hines, 1994). Individuals interested in becoming nuclear medicine technicians should first enroll in an education and training program that has been accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT).

Candidates can enroll in either an associate's or bachelor's degree program for nuclear medicine technology. These programs provide in-class work as well as clinical on-site training. Radiopharmaceuticals, tomographic imaging, radiation physics and human anatomy are common courses found in an undergraduate degree program, (Anderson, Charles & Johnson 2003).

Nuclear medicine technician programs prepare graduates for taking two national certification exams hosted by the American Registry of Radiologic Technologists (ARRT) and Nuclear Medicine Technologist Certification Board (NMTCB) (Hines, 1994).

Passing at least one of these exams is required to work as a nuclear medicine technician; some professionals choose to acquire both credentials to improve employment prospects. Earnings According to the United States Department of Labor, annual salaries are between \$49, 130 and \$91, 970 with the median of \$68, 560. Salaries depend on employer and location, as well as work experience. According to a recent survey conducted by the Nuclear Medicine Technology Certification Board, many survey respondents had over 20 years of experience, indicating significant job retention and satisfaction.

Nuclear medicine technologist salary rates vary based on experience, location, and training, and currently average approximately \$70, 000 per year, according to the Bureau of Labor Statistics. Higher nuclear medicine technologist salaries are frequently available to clinicians with advanced skills and/or specializations. Advance Opportunities With experience, a nuclear medicine technologist may be promoted to a supervisory position.

Advanced education can help one become a department administrator or director.

While employment growth for nuclear medicine technologists is expected to take place at a rate faster than the average for all occupations through 2018, competition for jobs will be keen (Hines, 1994). There will be an abundance of job openings but more than enough people who are trained to fill them. From 2008-2018, employment opportunities in nuclear medical technology are projected to grow 16%, according to the U. S. Bureau of Labor Statistics. However, there may be heavy competition for open positions due to an increase in trained individuals.

More opportunities might exist for nuclear medicine technicians skilled in several diagnostic technologies, such as nuclear cardiology or diagnostic medical sonography. Nuclear medicine technologist job duties require the use of complex, high-tech medical equipment to aid diagnosis of injuries and diseases. Gamma cameras are typically used to obtain functional images; computer processing of acquired image data and preparation and administration of radiopharmaceuticals are also involved, (Smith 2001).

Nuclear medicine tech jobs also require spending significant time working with patients who may display physical and mental stress but still require personal, professional care. References Anderson, Charles & Johnson (2003). *The Impressive Nuclear Medicine Career*. Chicago: Lucerne Publishing. Cambridge Educational (Firm), Films for the Humanities & Sciences (Firm), & Films Media Group. (2006). *Nuclear medicine*. New York, N. Y. : Films Media Group. Edward Hines, J. (1994). *Nuclear medicine technology program*.

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