

Nuclear Medicine Emphasis

Department of Health Promotion and Education
University HealthCare – Department of Radiology

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Nuclear Medicine Technology

Nuclear medicine procedures performed in hospitals and out patient clinics provide physicians with essential molecular level information about the structure and function of organs and body systems.

Technologists administer small amounts of radioactive materials to the patient by oral, IV or subcutaneously.

Nuclear medicine physician determines the results of the study.



Nuclear Medicine

Procedures often permit earlier identification of pathology than other exams.

Provides critical information to cardiologists, oncologists, pediatrics, psychiatry, orthopaedics and more.

Nuclear Medicine includes molecular imaging, PET/CT, and SPECT/CT

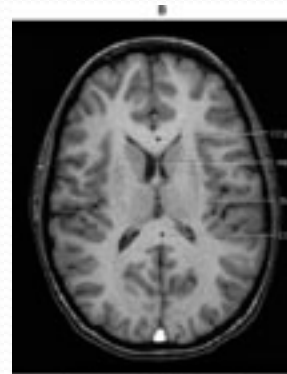


PET/CT

Positron Emission Tomography and Computerized Tomography

PET – Looks for spread of cancer to organs

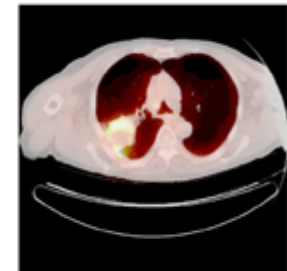
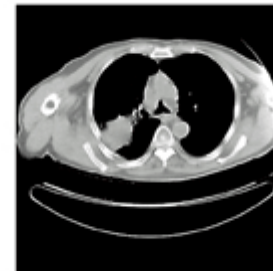
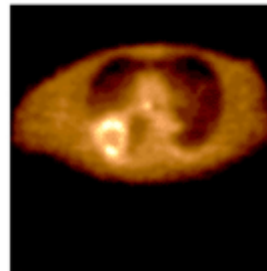
CT – visualizes where it is at in axial images.



Brain



Face/Neck



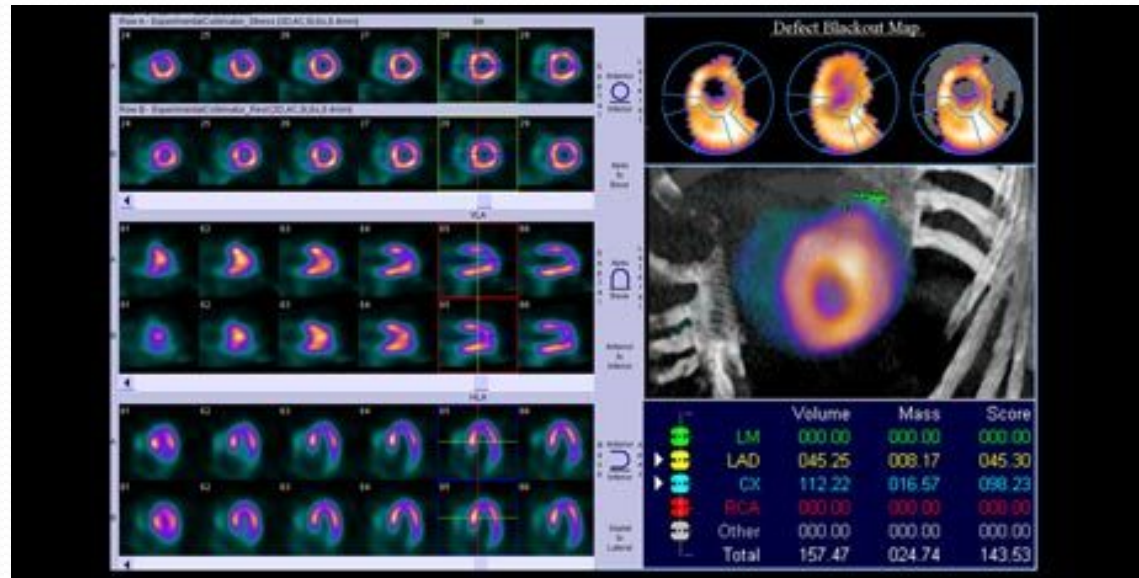
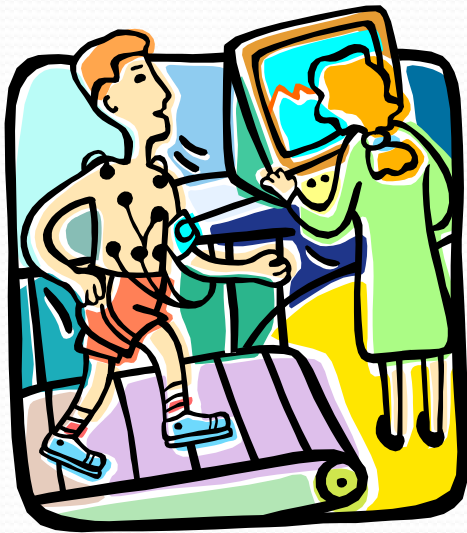
Thorax

Cardiology

Molecular Heart Function

Stress the Heart

Images assist with prevention
and diagnosis



SPECT Imaging

Single Photon Emission Computed Tomography

Chest – Pulmonary Emboli

Orthopaedics – Pain and Fusion

Figure 10

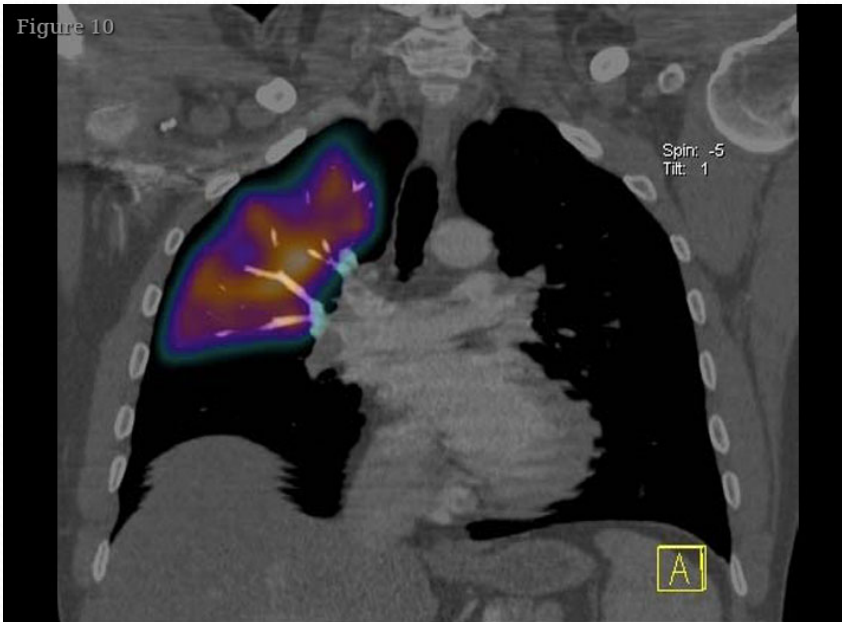


Figure 3



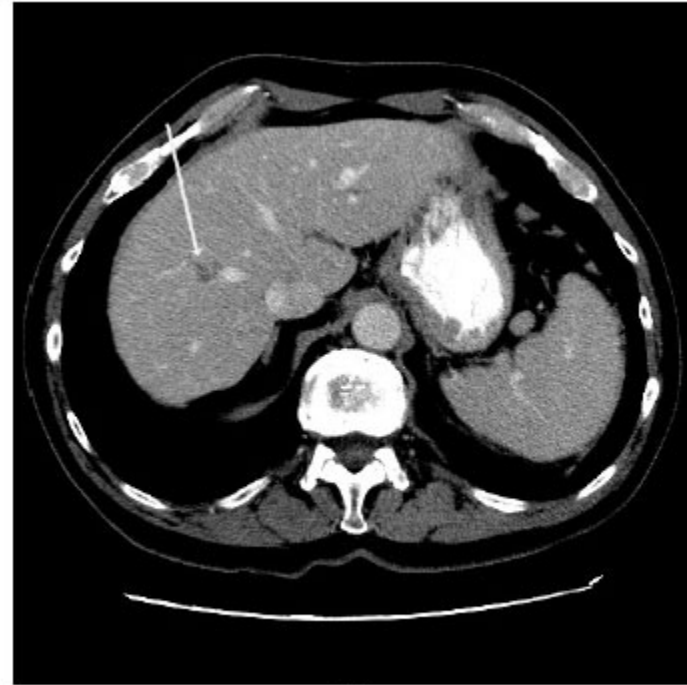
Molecular Imaging

Biomarkers – Treating Cancer without Surgery or Radiation

Y-90 procedure – Liver. Pre and Post Imaging



(a)



(b)

What does a Nuclear Medicine Technologist do?

Nuclear Medicine Technologists

Prepare and administer radiopharmaceuticals.

Perform IV procedures.

Perform imaging procedures working directly with patients.

Computer processing.

Provides information to the physician.

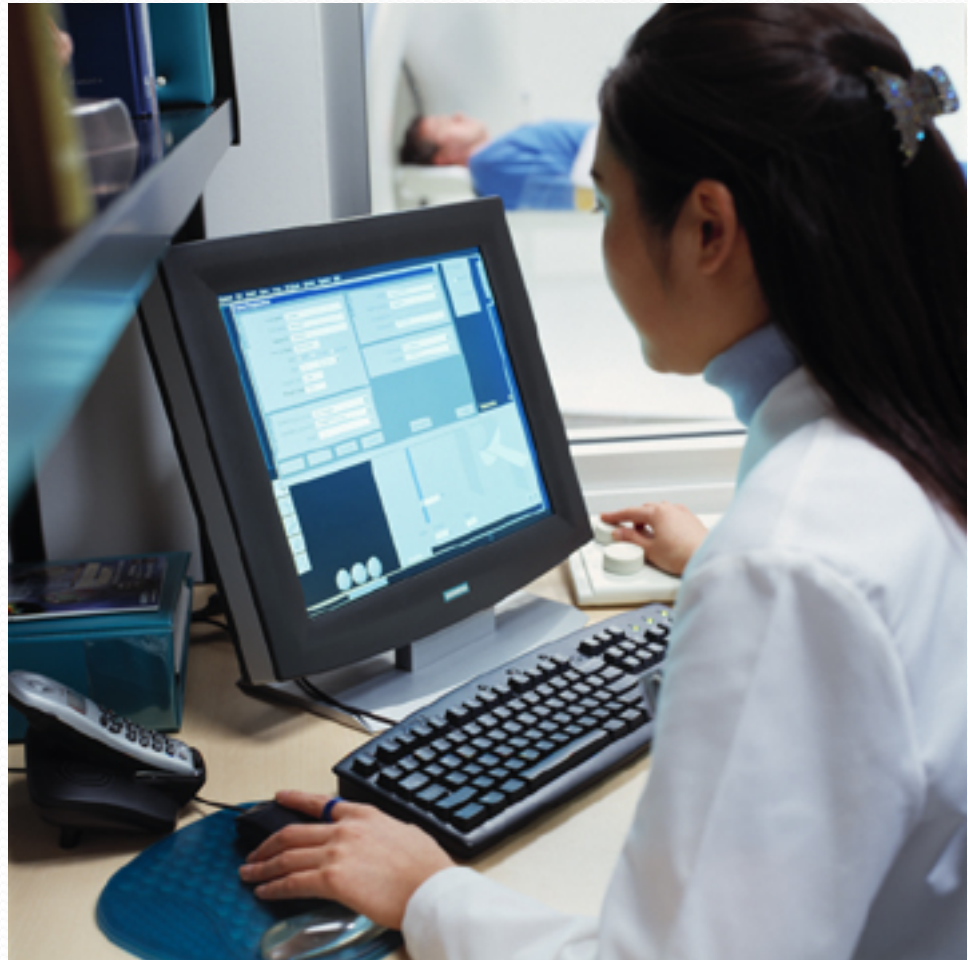
Monitors patient physical condition.

Maintains standards of a “hot lab”.

Handles radioisotopes.

Perform quality control procedures.

Tends to patients safety and care needs.



How do you become a nuclear medicine technologist?

Accredited Program National Exam

Nuclear Medicine programs must :

Be Accredited for Students qualify for national exam.

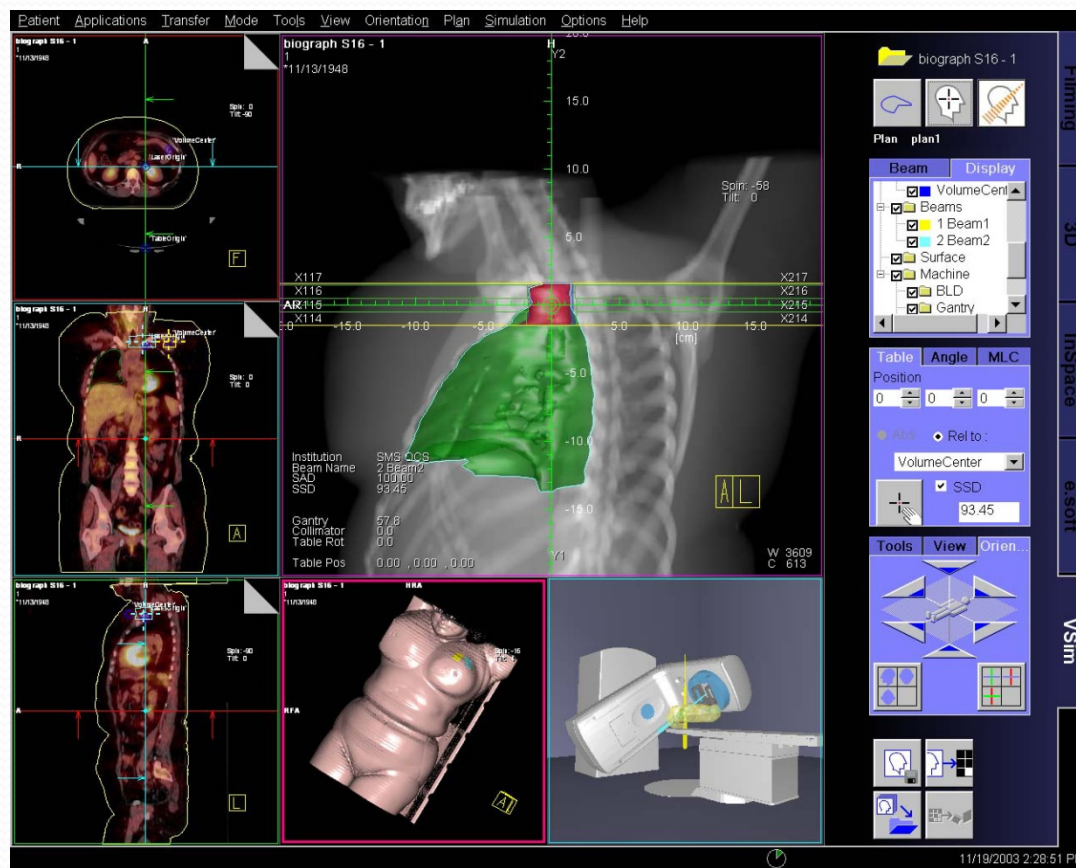
Department of Radiology
JRCNMT Accredited (1978)

Department of Health
Promotion and Education and
Radiology created a program
in 2010

BS with Nuclear Medicine
Emphasis

Or Certificate have BS already

2015 all must be **BS** minimum
**Department of Radiology –
Certificate
COH - BS**



Department of Radiology will maintain sponsorship

- Accreditation is granted to the sponsoring institution that assumes primary responsibility for curriculum planning and selection of course content; coordinates classroom teaching and supervised clinical education; appoints faculty to the program; receives and processes applications for admissions; and grants certificate or degree.

University HealthCare

- Academic Affiliation Agreement with the College of Health Department of Health Promotion and Education, students are able to complete the program and earn college credit towards a BS degree in nuclear medicine.

University of Utah

Two Student Tracks

Working on BS degree

BS degree option

**Department of Health
Promotion and Education**

- Complete 3 years
- Pre-Reqs
- Apply and accepted
- Complete 4th year with Radiology
- Earn BS

**Students who already have
nuclear certification.**

- Attended nuclear medicine program previously.
- Want to pursue the BS option as they only hold the certificate.
- Refer them to the Department of Health Promotion and Education or Marlene Johnson

Student Background



- Nuclear Medicine requires a science background in anatomy, physiology, chemistry, Math 1050, physics and computer applications
- Healthcare worker with direct patient care.

Applications -

Accept 6 students

Annually

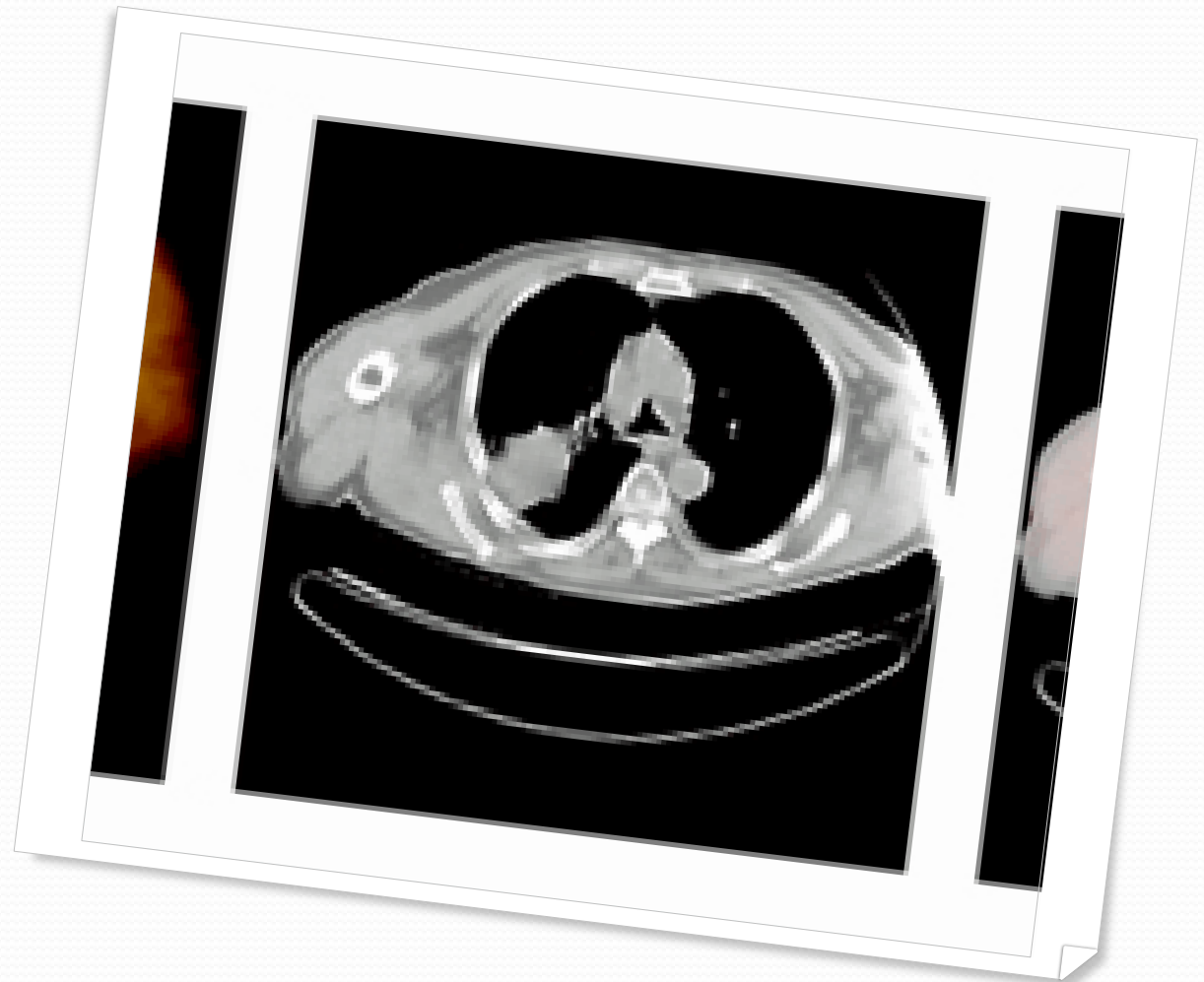
- Student Applications are due January 15th of each year.
- Students apply through Radiology at the Hospital.
- Students can apply if they are finishing coursework that semester.
- Students will be notified before the start of the Summer semester if they have been accepted.



Department of Radiology Class/Clinical Schedule

3 days clinical (6:30
– 3:00) 4 – 6 Hours
of class/week

Huntsman
Hospital, University
Hospital, VA,
Radiopharmacy.



Program Uniqueness

Includes CT (Computerized Tomography) training at the end of the Nuclear medicine portion.

Obtain certification in CT and NM.

Some states require CT to perform PET/CT

Clinical emphasis – 24 hours/week

Starting pay approx 65K year.

One of few in Western region.

**Jobs are tight right now in Utah.



Academic Faculty

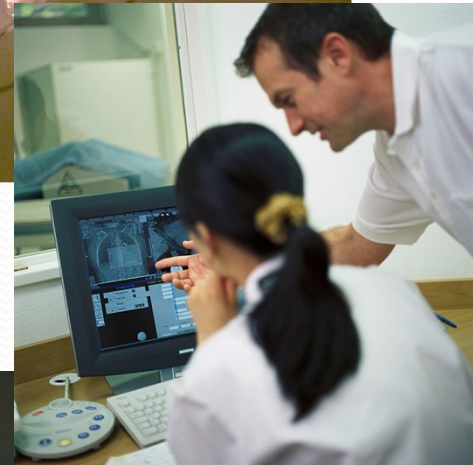
Physicists – Protection and Physics

Technologists - registered in Nuclear Medicine – instrumentation, anatomy and procedures.

Radiologists – Pathology and Physics of CT

Certified Technologists – Clinical Education

Education Director – Administrates





Notes and Questions